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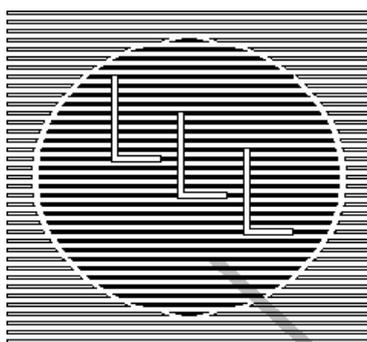


ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

DIRECTION DE L'ÉDUCATION
DIRECTORATE FOR EDUCATION

**The Danish Ministry of Education
The Danish Technological Institute**

The Role of National Qualifications Systems in Promoting Lifelong Learning



Background Report for Denmark

March 2004

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Introduction

This background report on the role of the national qualification system in promoting lifelong learning has been prepared as a contribution to the OECD's working group on lifelong learning.

The report has been commissioned by the Danish Ministry of Education to the Danish Technological Institute. It has been prepared by Hanne Shapiro from the Technological Institute, December, 2003, in cooperation with the Danish Ministry of Education.

The report falls in three main sections following a common guideline provided by the OECD. Section I deals with a description of the Danish qualification system, participation and outcomes. Section II deals with the impact of qualification systems. Section III deals with current pressures and initiatives.

December 2003

Hanne Shapiro

COMPONENT 1: DESCRIPTION OF QUALIFICATIONS SYSTEMS, PARTICIPATION AND OUTCOMES.

37. Background description

Denmark has a population of app. 5.3 million people. Denmark has one of the highest labour market participation rates in the world.

The Danish economy is characterised by sustained low inflation and low interest rates. Industry's share of production is smaller in Denmark than in other small European countries. The high-wage high-skill economy has resulted in relatively high levels of investments in new production technologies to automate work functions; in addition, production and manufacturing functions requiring lower skills levels have been outsourced to other countries, as for example in the textiles industry. In terms of employees the largest industries are metal, including electrical and electronic equipment, food & beverages, and graphics. Danish industry is dominated by small and medium-sized enterprises with relatively few world-wide players such as Carlsberg Breweries, Grundfoss, Danfoss, NovoNordisk and LEGO. These companies play a central role in industrial R&D.

Denmark's export constitutes around 30% of its GDP, and about 80% of the exports are industrial products covering a very broad range of products.

The distribution of employment on economic sectors in 2000:

Primary sector:	5,2%
Manufacturing:	21%
Building and Construction:	5,1%
Services	46,2%
Public Sector	22,6%

Source: Statistics Denmark

In the age-group 16-66, 73, 6% participated in the labour force according to figures from 2001. The labour market is highly organised and until recently was characterised by centralised negotiations. In recent years there has been a marked shift towards more decentralised structures, and contractual bargaining has encompassed not only wages but also broader issues such as training and education and flexibility in working arrangements.

Education is seen as the foundation for a modern Danish welfare society.

The Danish Education system is primarily publicly funded either by the State, the counties, or the municipalities. The system provides nationally recognised qualifications from basic general qualifications to specialised scientific qualifications.

Educational traditions and approaches, particularly in adult education, still have their roots in the Danish Folkehøjskole tradition (OECD 2000).¹ Education is not just seen as an instrument for economic development. A central objective of education is to contribute to the furthering of the individual's personal development in its broadest sense so that he or she can actively participate in and contribute to a democratic society. This objective is held true in primary education and in upper secondary education, whether generally qualifying or vocationally oriented. In the transition from an agricultural economy to an industrial economy, and most lately to what many characterise as a service and knowledge economy, the general policy focus and the outcomes of contractual bargaining processes have been high-skills and relatively high-wage strategies compared to other OECD countries. Many low skilled, labour intensive jobs have disappeared through automation in the 80s and 90s and through outsourcing and re-location in other countries. Provision of adult education and training ensuring a qualified and adaptable workforce has as long as since the 60s formed an integral part of public policies. In a scenario and vision-building process for the Danish Confederation of Industry in 2002², leading industrialists formulated a common vision that "*Industry- Location Denmark*" in the future would prosper through sustainable and ethical products and services. Its success would build on its creative and skilled labour force, on a network and alliances strategy, and on the immaterial value-added that could be embedded in products and services to the benefit for a wider global society. This vision

¹ Background report, Denmark- OECD Adult Learning, 2001

² Dansk Industri- 2002- *Virksomhederne i Videnøkonomien 2020*. Teknologisk Institut, Shapiro, Hanne, Iversen, Svava Jonas

takes into account a skill strategy that encompasses all levels of the work force and not just the specialists. It also builds on the notion that it is not just traditional numeracy and literacy skills that matter to a successful economy in the 21st century, but also creativity and communicative skills.

Critical research on education and learning, especially that conducted primarily at Roskilde University up through the 80ties and later, has had a great impact on the understanding of education and the notion of learning. Their research approaches have been heavily influenced by the German researchers Negt and Kluge and their work on adult learning (“*exemplarischer lernung*”). As a result, project and problem-oriented learning has come to play a central role in all parts of the educational system from primary school to university and adult education. This form of learning implies a focus on the individual’s background, resources and development, and is in many instances based on cross-curricula activities and new forms of exams.

The employment level corresponds to 2,7 mill. employees or self-employed, while 150,000 were unemployed (2002 figures). From 1994 and until 2001 the unemployment rates were dramatically reduced. Since 2002 the unemployment level has risen to about 170,000.

Denmark is one of the countries with the lowest level of wage differentiation, though there has been a growing polarity since 1994, not least if company-based pension schemes are taken into account.

The overall high participation level in the labour market is an indicator of the public sector’s high level of activities in relation to care for children, the sick, and the elderly. In other countries such care is to a much greater extent the responsibility of the family. It is also an indicator that the legislation in general is supportive towards female participation. This concerns for example rights to maternity leave including the option to share maternity leave with the father, rights of leave on a child’s first day of illness for families with small children, and publicly supported and controlled infant and child care. Four out of five women in the age bracket 25-44 are in the labour market in Denmark. On an average Denmark does not use more of its GDP on the welfare services – app. 30% - than other North European countries, but more expenditure is in favour of family and childhood support, according to figures from the Danish government.

During the last decade the educational system has undergone a series of reforms in all parts of the system, moving towards a framework and management by objectives in all levels of the system also in order to pave the way for new pedagogical approaches.

In 2002 the present government launched a comprehensive action plan for reforms of the Danish qualification system under the heading “*Better Education*”. The strategy comprises a number of initiatives within the entire educational system. It includes cross-cutting initiatives on credit transfer and recognition of prior learning to ensure greater flexibility, higher proficiency levels, and stronger coherence and progression in the proficiency and competence requirements with clearer formulation of targets and clearer criteria for the assessment of targets.

The action plans states:

“It is the goal that the Danish education system match the best in the world, also when evaluation and benchmarking are carried out cross-nationally”.

Of particular relevance to the understanding of lifelong learning and the role of qualification systems, the policy document on *Better Education*” states:

“We must move away from the concept of competences that are created solely within the education system. The focus must to a greater extent be on what a person can do rather than what he or she has in the form of certifications”.

Instruments for this are modularisation, recognition of prior learning, flexible entry and exit pathways in the qualification system through stepwise qualifications, output management, increased use of e-learning, and credit transfer.³

38. Qualifications: Recognition of formal learning

This section provides a short overview of the main qualifications and in particular for the recognition of formal learning within these qualifications.

³ The Danish Government’s vision of *Better Education*”. September 2002

Primary Education and lower secondary education

Primary and lower secondary education is compulsory for nine years in Denmark. The one-year pre-school class is voluntary, but is in fact attended by more than 98% of all children and forms part of the act on the Danish *Folkeskole* (primary and lower secondary education). The municipal *Folkeskole* is responsible for most of the provision. Pupils are normally between 6 and 17 years old when they attend primary and lower secondary education.

There is a voluntary 10th form. Across the entire basic sector (public and private schools) 64% choose to continue in the 10th form.

The private school sector offers teaching comparable to what is required in the *folkeskole*, but the teaching framework is often organised according to particular societal ideologies or pedagogical principles. The legislation on *Folkeskolen* has been reformed this year. One of the most important elements has been to raise the level of attainment level in subject matters by introducing national proficiency output levels which each student should meet at particular stages during the obligatory school programme.⁴

Continuation schools are boarding schools which normally offer teaching at the 8th to 10th form levels. Increasing numbers of young people complete school with their last year(s) at a continuation school.

Special schools offering extensive special education for pupils with severe handicaps only cater for a small proportion - in 2002/03 this figure was 1.6% of all basic school pupils.

The pre-school class corresponds to level 0 in the international ISCED97-classification, and the basic school corresponds to levels 1 (1st to 6th forms) and 2 (7th to 10th forms).

Certifications are offered at two levels after the 9th form and the 10th form. Exams are oral and written plus an independent project. Both oral and written exams have an external censor plus the teacher.

⁴ *Financing Higher education- a comparative study, Frinking, Erik; Shapiro, Hanne; Stasz, Cathy, RAND Europe for the Dutch Ministry of Education. 2002*

Youth education (upper secondary education)

The youth education programmes are structured as follows:

- A general academic line of programmes (*Gymnasium* and *HF* with different lines of specialisations). These programmes offer a general qualification. The diploma the student receives gives the student a principle right to continue in higher education. (most higher education programs have special admission requirements concerning grades and specific subject combinations at specific levels).
- A line of programmes that includes both academic and vocational components either technically oriented (*HTX*) or commercially oriented (*HHX*). These programmes lead to a diploma that gives the student a principle right to continue in higher education. (see previous comment on admission). Some students also continue to in-company apprentice programmes following the completion of a degree.

A line of programmes (I-VET) which offer students a vocational qualification but which may also include single subjects from HF, HHX, or HTX.

General Programme Structure and Objectives

All upper secondary programmes emphasise the development of the pupils' personal qualifications, not least learning-to-learn qualifications. Through a differentiated supply of programmes and learner-oriented pedagogical strategies it is possible to take into account the abilities and desires of the vast majority of students. Students are typically between 16 and 19 years of age, but increasingly many are older when they enter into an I-VET programme and come with different qualification backgrounds.

The *vocational upper secondary programmes* comprise:

- The technical vocational programmes
- Commerce and trade including the financial sector
- Social and health education programmes
- Agriculture and maritime programmes.

These programmes are meant to provide young people with solid professional, personal and general qualifications which are nationally recognised and address changing demands in the labour market. They prepare directly for specific jobs within the different branches of trade. All vocational upper secondary programmes lead to formal vocational qualifications. They must also prepare the students for education at a higher level.

The requirement for admission to a vocational upper secondary programme is normally that the applicant has completed compulsory education.

The *vocational education and training programmes* (VET - technical programmes plus commerce and trade) make up the major part of the vocational upper secondary programmes. At present there are 90 different programmes within the commercial and technical areas with a total of more than 200 specialisations.

As of January 1, 2001 a new act on vocational education and training came into force. It is based on the form of the commerce and trade programmes in 1996. The upper secondary technical vocational programmes were subsequently reduced to only having six access channels into the basic course:

- Building and Construction
- Communication and Technology
- From Earth to Table
- Transport, Mechanics and Logistics
- Service
- Crafts and Technique

In addition there is an entryway into Commerce and Trade.

With a reform of the basis social and health care programmes in 2001 these programmes were also adapted to the same entryway structure as the upper secondary technical vocational programmes. The outcomes of this reform are under evaluation⁵ in 2004.

⁵ "Evaluering af tilfredsheden med Reformen af Social og Sundhedsuddannelserne," Teknologisk Institut, 2004-Work in progress.

These entryways may lead to different main courses/specialisations. One of the elements in the legislation has been to individualise the programmes for the student.

Today, the vocational education and training programmes are of 2-5 years' duration, the most normal being 3 ½-4 years. With the latest reform there is an increasing tendency not to measure programmes and credits in terms of duration, but rather in terms of output with options for flexible certified and nationally recognised entries and exits along a lifelong learning pathway.

The dual principle

Vocational education and training programmes may be used as a basis for further studies leading to for instance a technician's qualification and/or a degree in engineering. This principle covers all the upper secondary vocational programmes.

A vocational education and training programme starts either at a vocational college or in a practical apprentice place, depending among other things on whether the young person has found an apprentice place or not. A total of approx. 30-50% of the time is spent at school and 50-70% is spent in the business enterprise or in a combination agreement between two enterprises. The duration may vary considerably, though, depending upon the particular student programme laid out in the personal educational plan and on transfer credits for previous competences. If the student does not find an apprentice place during the basic programme, the student may start the apprentice programme under a school apprentice scheme. This is not the case, however, in areas with job shortages. This option is offered provided the student is still actively searching for an apprentice place in a company, is willing to move location for an apprentice place and is willing to change to another specialisation within a programme.

Qualifications and job profiles

The commercial and clerical programmes are directed at office jobs, for instance different types of ICT or accountancy-oriented jobs, jobs in retail or wholesale trade in shops and businesses, or jobs in the finance sector. Within the main programmes there are several options for specialisation.

The technical programmes lead to jobs such as smiths, bakers, carpenters, agricultural assistants, hairdressers, photographers, electrical engineers, transport workers, data technicians, etc.

Parallel with the vocational education and training programmes there are the basic social and health education programmes. These were reformed in 2001 and are constructed on the same principles as the Vocational programmes (SOSU) in which practical training alternates with theoretical education at school. The programme leading to the qualification as social and health care help is of one year's duration. It forms the basis for the 1 ½-year program which leads to the qualification of social and health care assistant. Young people who come directly from compulsory school must start the programme for social and health care helper with an introductory year which requires a contract with a municipality. Admission to the social and health education programmes requires a training contract with a municipality or a county. The SOSU-programmes replace the former programmes leading to qualifications such as home care assistants, practical nurses, nursing home assistants and occupational therapy assistants.

The social and health training programmes also include the programme leading to the qualification of educator assistant (PGU). The PGU-programme is a basic program which aims at qualifying the students for pedagogical and care related work with children and adults. The PGU leads to qualifications such as educator assistants, registered child minders and special needs care assistants. The programme alternates between theoretical education at school and practical training in an institution with a total of 1 year's theoretical education and 6 months of practical training.

In addition to the VET-programmes and the SOSU-programmes there are also a number of *agricultural, forestry, home economics and maritime programmes*. The maritime programmes lead to the qualifications such as able seaman, engineer, and telegraph operator. The agricultural programmes may be completed with "the green certificate" for farmers.

EUD+

A new element to reduce the number of school apprentice agreements and at the same time offer a sort of educational guarantee in upper secondary vocational education is the so-called EUD+

Students who have completed the first level of qualification in a vocational programme that has several defined qualification steps, each corresponding to a recognised job profile, can return to school with or without an apprentice agreement.

To return to EUD+ the student must be under 25 years of age and the student must have had at least six months of paid employment obtained on the basis of the “*step 1. Qualification*”.

The student will go through a competence assessment that will form the basis for a personal educational plan. The personal educational plan describes school modules plus eventual requirements concerning additional employment or practical vocationally oriented activities at the school or in a company. The plan will also include conditions concerning the content of the students’ practical work under EUD+. EUD+ must include a maximum of two months of practical education. Other praxis experience has to be obtained through paid employment. EUD+ may comprise elements from vocational education and training programmes as well as from adult vocational training programmes. It is expected that the first students can begin EUD+ in January 2005.

EUD + is an element in the limitations that have been placed on the use of the school apprentice program, which in the future can only comprise an annual maximum of 1200 students.

Programmes for students with special needs

Programmes for students with special needs are also an important part of the training offer.⁶

There are two initiatives targeted at young people who are not in employment or have difficulties finding employment. They do not lead to a qualification but are aimed at qualifying these young people to a job in the labour market or to eventually enter an upper secondary youth programmes.

The programs are:

The *Initial foundation vocational programme* (“*erhvervsgrunduddannelse*” - EGU) with a duration of two to three years. It is aimed at young people who are not in employment and who have not started an upper secondary program and who due to various disabilities would have difficulties completing an ordinary vocational qualification program. The program has a practically oriented school component and an apprentice component. There are app. 1000

⁶ Speech given by the Danish Minister of Education. “*Danish experiences with educational programmes for students with special needs and measures to reduce drop out in I-VET*” October 2003

students in the program per year. Once a student has completed the program he or she has the right to register to obtain unemployment insurance.

Production schools

Production schools do not form part of vocational education and training (VET) and are not part of the ISCED framework, as they do not provide a qualification. They may, however, offer single subjects from the VET programs. They are targeted at young people under 25 years old who have not completed an upper secondary qualification or who have dropped out of an upper secondary programme and who do not have immediate abilities to complete an upper secondary qualification. The Act on Production Schools stipulates that the offer should be organised with the particular aim that the pupils acquire qualifications so that they can complete an upper secondary qualification⁷.

General upper secondary-study qualifying programmes

The academically-oriented upper secondary programmes comprise the traditional general upper secondary programmes of the *Gymnasium* and *HF* (higher preparatory examination) and the more vocationally oriented general upper secondary programmes of *HHX* (higher commercial examination) and *HTX* (higher technical examination). These programmes are meant to prepare students for admission to higher education by providing them with the necessary general and theoretical qualifications for pursuing studies at this level. All students who have passed the stipulated exams in a number of subjects following completion of the 9th or 10th form may be admitted to the general upper secondary programmes.

The traditional *general upper secondary programmes* comprise the 3-year *Gymnasium*-programme, the 2-year *HF* –program, which may also be studied as single subjects. Each programme comprises compulsory subjects and elective subjects. It is therefore to some extent possible to compose programmes individually. The programmes are academically oriented and are completed with the upper secondary school leaving examination (*studentereksamen*) or the higher preparatory examination (*højere forberedelseksamen/HF-eksamen*). Both examinations qualify for admission to higher education, although often dependent on the choice and level of subjects taken as well as examination results.

⁷ Act on production schools 2003

These qualifications can also be used for entrance to a vocational training placement in a business enterprise. It is increasingly possible to be awarded transfer credit for parts of a youth education programme taken previously.

The *vocationally oriented general upper secondary programmes* are 3-year programmes offered at business colleges and technical colleges.

The HHX has significant business related content. HTX has its main emphasis on technical and technological topics as well as on natural sciences. The first year has to some extent subjects common with the basic course of vocational education and training. These programmes are completed with the higher commercial examination (*højere handelseksamen* –HHX) and the higher technical examination (*højere teknisk eksamen* –HTX) respectively. There is an intensive 1-year HHX-programme for young people who have already completed a Gymnasium-or HF-programme. These programmes are academically oriented with emphasis on either commercial or technical subjects. The vocationally oriented general upper secondary programmes provide general study competence and qualify for admission to higher education. An HHX-or HTX-examination furthermore qualifies for occupational employment in trade and industry – usually in training positions. The special 1-1 ½-year entrance examination for the engineering programmes is also considered to be a general upper secondary programme.

Higher Education

The higher education programmes provide occupational and general competences. Most of these programmes are oriented directly towards certain types of jobs in the labour market. Generally, the higher education programmes are divided into reference levels according to duration and admission requirements, viz. short -cycle higher education programmes, medium-cycle higher education programmes as well as bachelor programmes and the long-cycle *candidatus* - programmes of the universities. To this should be added Master programmes offered under the act on Open Education and the PhD-programmes. Higher education programmes normally assume a youth education programme as prerequisite. Higher education programmes are theoretical programmes, and some programmes include practical training in the course. The programmes are of varying duration. The admission requirements are normally based on the examination result obtained at the end of upper secondary education, in some cases supplemented with credits obtained for occupational experience etc. It is however up to the

individual educational institution to determine its admission requirements on the basis of its available resources and physical framework. Some programmes, such as medicine, are still dimensioned.

The admission requirement for the *short-cycle higher education programmes* is normally a general upper secondary or a vocational education and training qualification. The short-cycle higher education programmes are most often of less than 3 years' duration and would, based on curricular content and qualification level, in many instances count as I-VET in other national qualification systems.

The higher education level covers level 5 in the ISCED97-classification. The supplementary examination courses at upper secondary level among others are the equivalent to level 4. The PhD programmes are considered to be level 6.

Danish youth that begin a higher education program are among the oldest among the OECD countries. 50% of the students on the medium cycle and long cycle programs are more than 23 years old when they commence their studies (OECD 2003).

Short cycle programmes

There are 15 short-cycle education programmes leading to qualifications covering both the service sector and technical fields. Students who have completed a relevant EUD programme or another upper secondary programme have access. These programmes can be used as transfer credit towards a medium-or long-cycle higher education programme.

Medium-cycle programmes

These programmes normally last 3 to 4 years. Examples of these programmes are those leading to qualifications as diploma engineer (BSc in Engineering), librarian, *Folkeskole* teacher, journalist, educator, social worker, nurse, occupational and physiotherapist, midwife, HD (diploma in business economics - under the open education system after 1990). The admission requirement is normally a completed examination at general upper secondary level, but it is possible to transfer credits from other programmes as well as to be awarded credit for occupational experience, for instance in connection with admission to the educator and social worker programmes.

The bachelor degree programmes

They are at the same reference level as the medium-cycle higher education programmes. Their officially stipulated duration is 3 years. Such programmes exist within the social sciences, the humanities, the natural sciences etc.

The *bachelor* programme was introduced in 1993. Prior to that time all programmes consisted of one unbroken course up to the *candidatus* -degree, which was the first academic degree. Today, almost all university programmes consist of a bachelor programme, a *candidatus* programme, and a PhD programme. The admission requirement for the bachelor programmes is normally a qualification at general upper secondary level. The bachelor programme constitutes a complete programme in itself, but most students still continue in a *candidatus* programme.

The *candidatus* programmes

They are normally of 2 years' duration and build onto a bachelor degree programme, i.e. a total of 5 years of studies. A few *candidatus* programmes are however still organised as one unbroken course without the bachelor level, for instance the programmes in pharmacy, dentistry, architecture and surveying. The engineering programmes have a partial bachelor system through the diploma-engineering programme. The *candidatus* programmes consist of programmes within the following areas: social sciences, law, humanities, music, theology, psychology, natural sciences, health sciences, engineering, agricultural science, veterinary science, food science, horticulture and forestry.

PhD programmes

A researcher programme builds on to the *candidatus* programme. It is completed with the award of the *PhD degree*. The programme is of an officially stipulated duration of 3 years, i.e. a total of 8 years of studies at higher education level.

The adult qualifications system

Publicly financed or co-financed adult learning can be roughly divided into three main categories

- Adult vocational training (AMU - courses), Basic Adult education (GVU), preparatory and general adult education (AVU and FVU) and HF. The further education system: VVU,

diploma and master level corresponding to short, medium and long cycle programmes in the ordinary system.

- Adult liberal education (folk high schools, evening schools etc- not leading to a formal qualification⁸).

Preparatory adult education

The aim of preparatory adult education (*forberedende voksenundervisning - FVU*) is to strengthen basic skills for adults with low levels of educational attainment. The programmes are offered by adult educational centres (VUC) and other local or regional training institutions. Education and training can take place at the workplace. It is the intention that the program be organised so that it interacts with the daily life of the participants, for example in the daily workplace.

Danes' literacy and numeracy skills are at a fairly high level compared with other countries. When analysed, however, data show that a great number of adult Danes nevertheless have insufficient literacy and numeracy skills according to the standards set by the OECD 2000 survey.⁹

About 1 million Danes in the labour market or with labour market affiliation have reading skills at a level that does not correspond to the skills required in a knowledge economy. 300.000 adults have such severe problems that they cannot read a newspaper article. It is in this context the adult preparatory education should be seen. Program provision is the responsibility of the counties.

The AMU Programmes

The Adult Vocational Training (AMU) programmes have existed since the late 1950s, having served different purposes as the Danish economy has developed and transformed from an agricultural economy to a more service and knowledge intensive economy. Most recently the system has undergone a comprehensive reform (please refer to section 54 *Recent changes*).

The AMU programmes serve a triple purpose:

⁸ For further reference, please see The Danish Adult Education System, Background report, OECD 2001

⁹ OECD 2000

- To provide, maintain and improve the vocational skills of the participants in accordance with the needs and background of enterprises, the labour market, and individuals, and in line with technological and societal developments.
- To solve labour market restructuring and adaptation problems in a short term perspective.
- To contribute to a general upskilling in the labour market in a long term perspective.¹⁰

AMU training primarily provides skills and competences related to specific job functions. A large proportion of the programs, however, also provide competences to continue at a higher level within a sector. Many training programmes are also recognised by other vocational education and training programmes. The AMU system will also in the future be aimed at persons with a qualification up to and including an initial vocational qualification.

The programmes offer the participants three levels of qualifications based on an assessment of the different job functions for which a qualification is sought. This assessment forms the basis for the types of qualifications to be included in the individual training course.

The three levels are:

- Specific qualifications, e.g. crafts, technical insight and knowledge of materials.
- General qualifications: IT, languages, work hygiene.
- Personal qualifications- ability to cooperate, responsibility, independence.¹¹

Certificates and credits

Participants receive a certificate of credit upon completion of a course. The certificates are nationally recognised. Certificates may be applied at a parallel or higher level within the adult education system or within the labour market itself. A certificate of credit may thus be given as a certificate in the transportation of hazardous goods, but may also be given as a certificate as a fork-lift operator. The smallest unit for a programme under the Labour market education and training provision is an existing labour market training plan or a single subject from the vocational programmes or the SOSU programmes.

¹⁰ AMU- The Danish Adult Vocational Training Programme

¹¹ The Danish Ministry of Education- AMU The Danish Adult Vocational Training Program (2002).

Responsibilities and implementation

The 12 continuing training committees within the AMU programme structure have the responsibility to develop the 150 competence frameworks. The committees must also propose those educational objectives from the different AMU programmes and from the VET and SOSU system that the 150 competence profiles should comprise. In the actual implementation the schools have the mandate to combine educational objectives into a programme that corresponds to the users' needs. It is up to the schools to decide when and where the specific programmes should be placed and if the programmes should be organised as full time, part time, in-company, day-time, night time, week-end, or e-learning activities.

General Adult Education

General adult education at lower secondary level emerged in the late 1950s in order to meet a growing demand for adult education and training. In 1978 it was referred to the regional authorities, where it is now offered at Adult Education Centres (VUC).

Legislation passed in 1989 (amended in 2000) instituted a new programme which differs from the previous programme by being parallel to, not identical with, the general basic education system. Syllabus and examinations are adapted to the experiences and interests of adults, without any change in the qualification level. Examinations give the same right of access to upper secondary education as examinations at basic school level for youngsters. All adults of 18 years and over have a right of access to General Adult Education, with a corresponding obligation for the regional authorities to ensure provision of such education for the adult population in accordance with the law.

Single subject courses leading to Higher Preparatory Examination (*general adult education at upper secondary level*) are also offered at the regional Adult Education Centres (VUC), as well as at Upper Secondary Schools. These courses are identical to the courses in general upper secondary education for young people. All qualified young and older adults have a right of access to general adult education at upper secondary level, with a corresponding obligation for the regional authorities to ensure provision of such education in accordance with the law.

Danish as second language for foreigners emerged around 1970 as teaching of so-called guest workers, foreign workers, and the first refugees. It was run under the act on leisure time education (evening schools) that existed at that time. The act on teaching of immigrants from

1986 was the first legal indication that teaching of Danish to foreigners was now considered a permanent task incumbent on the community. As a responsibility of the regional authorities, the language schools developed into real adult education institutions characterised by their affiliation to the Adult Education Associations and the Adult Liberal Education.

Basic adult education

Basic adult education (*grundlæggende voksenuddannelse - GVU*) is not a new educational program, but a new organisation of existing vocationally oriented programmes at upper secondary level. It has the same exams and gives the adult the same nationally recognised qualification and professional title as does the general vocational education system. The central element in the GVU framework is that it offers formal learning (notably adult vocational training) to adults with low levels of education. In addition, work-based experience is assessed and recognised as part of a formal education and training program, thereby considerably reducing the duration of the residual VET program. On the basis of the adult's total qualifications and competences, an individual and flexible plan for supplementary training and education is established which can lead to a formal qualification as in the general vocational VET system. With "GVU," adults no longer need to enter into an apprentice agreement with a company in order to obtain a nationally recognised vocational qualification. It offers adults above the age of 25 the option of obtaining a vocational qualification within the legal framework of the general VET system, but on other terms regarding structure, duration, and financing.

Admissions requirements are two years of relevant work experience and a general school proficiency level that corresponds to 9th grade basic level in subjects relevant to the programme.

The admitting school is required by legislation to make an assessment of the person's practical and theoretical competences (individual *kompetencevurdering - IKV*). This assessment is based on the objectives of the programme as stated in the legislation for the programme for the specific qualification. The competence assessment is based on documentation from the adult student, sometimes supplemented by a competence assessment programme that can have a duration of from one day up to three weeks. The aim is always for the competence assessment programme to result in a concrete training plan for the individual that builds on existing competences and interests.

Individual competence clarification (individual *kompetenceafklaring*- IKA) has been legally linked to adult vocational training as an option since 1997. The aim of IKA is to clarify the individual's personal and professional competences and eventual further training needs and to prepare the individual to participate in adult vocational training. In 2002 approximately 22.000 people participated in a competence clarification (IKA) programme. Compared to figures from 1999 this represents an increase of 13.776 persons, corresponding to an increase of about 168%.

If the applicant does not meet the admission requirements, the college is required to inform the student about those requirements that must be met for admission. Counselling forms an integrated part of the application and assessment procedure.

On the basis of the assessment process mandated by legislation a personal educational plan is drawn up for the applicant. The personal educational plan has a validity of six years. During this time the student can at his or her own pace take whatever elements the school has assessed as necessary to pass a journeyman's examination (*svendeprøve*). The flexible duration allows adults to work while obtaining a vocational qualification corresponding to the I-VET level.

VEUD- Voksenerhvervsuddannelser

VEUD is organised so that school-based training alternates with in-company training just as in I-VET. Adult apprentices may have their program abbreviated on the basis of relevant employment and previous education (transfer credit). The VET college accords transfer credit for theoretical parts of the VET program as stipulated in the ACT or guiding regulations on the given program. The trade committee has the authority to give transfer credit for workplace learning as part of the practical training programs in the VET program.

Advanced levels of further education

The advanced further adult education system is aimed at adults who have qualifications and work experience. Relevant work experience forms part of the entrance requirements as it does at the basic adult education level, but is not recognised for transfer credit.

The further education system is the framework for continuing education and competence development for adults. In terms of reference level it corresponds to higher education in the ordinary education system. The further education system is offered at three levels:

- Short cycle adult education (*videregående voksenuddannelse VVU*), which corresponds to short cycle programmes (*korte videregående uddannelser KVU*) in the ordinary system.
- Diploma Programmes, which correspond to medium cycle programmes (*mellemlange videregående uddannelser - MVU*) in the ordinary system.
- Master programmes, which correspond to the long cycle programmes (*Lange videregående uddannelser - LVU*) in the ordinary system.

Structure

The educational programmes may be principally structured in two different manners:

- As regulated programmes where the specific regulations governing the programme are defined through legislation for that particular programme
- As flexible programmes where the educational programmes are specified in a personal educational plan for the individual within the overall framework of the further education system. This form of structure offers a great level of flexibility for the individual both with regard to content and the individual components of the programme, but in a manner that ensures validity and transparency within the overall reference system.

The programmes are organised as part-time studies under the Act on Open Education.

In order to begin an education in the further adult education scheme persons should have at least two years' relevant professional experience and relevant study competence - that is, a previous relevant qualification.

- Short cycle programmes: a qualification under the youth education scheme or under the basic adult education scheme.
- Diploma level: A short-cycle qualification obtained from the ordinary scheme; a short cycle qualification obtained in the adult education scheme as a regulated programme or as a specially organised entry programme into the diploma programme.
- Master level: A medium-cycle qualification or a bachelor or a diploma under the regulated further adult education scheme.

The individual institution can assess if a qualification obtained under the individually organised flexible scheme will give credit towards a given programme at the next reference level.

40. Funding of the qualifications

Financing adult learning

The financing of continuing and advanced adult education and training has always been considered a public task in Denmark.

The regional authorities finance the preparatory and general adult education either 100 per cent (with a small administrative fee) or partially, with user payment under a modest maximum in certain subjects at lower and upper secondary level.

As far as adult VET and continuing education programmes and courses organised for adults are concerned, the State until now finances this provision either 100 per cent or partly with user payment. In 2002, amendments to the legislation introduced the possibility of supplementing state financing with user payment as well as other measures of finance governance at this level of vocationally oriented adult education and training.

As far as adult education at advanced (tertiary) levels is concerned, State funding continues to be supplemented by user payment. In practice, user fees at the advanced levels tend to be greater the higher the level of education.

For liberal adult education there are always user fees, while the public authorities (Government or local authorities) are co-financers.

According to present legislation, participants in continued and advanced education and training programmes may receive public financial support to cover their costs of living. Support is given at a level corresponding to the maximum level of unemployment benefits for participation in a full-time education and training programme on certain conditions. For low-skilled adults there are also possibilities of receiving support for participation in part-time education and training.

The minimum age is generally 25 years (for low-skilled from 20 years). The upper limit is 60 years for the support scheme for general adult education programmes and vocationally oriented education at advanced levels. There is no formal upper limit, however, to the special allowance scheme for adult VET programmes.

Changed financial management supports the adult vocational training concept

The first phase in the overall reform of adult education and continuing training comprised changes in financial governance. The tax burden previously threatened employers because it was possible to issue an extra bill if the limit in the annual state budget on adult vocational training was exceeded. The abolishment of the tax burden option was one of the elements in the government's policy regarding a general tax stop.

At the same time, the government wanted a higher degree of demand-driven supply so that efforts within education and training better reflected the actual needs of the enterprises and the employees. In order to promote a more demand-driven supply and create budget guarantees, a number of different governance tools were introduced: user fees, grant and activity ceilings, and reduced allowances.

Previously, the board of Labour Market Training Institutions for Financing advised the Minister on the application of financial management tools. From June 2003 this advisory function has been transferred to a new body, the Council for Vocational Adult Education and Training. This body has replaced the board of Labour Market Training Institution for Financing and the Training Council for Labour Market Training.

The government believes that by introducing user fees for adult education and continuing training it will ensure that the demand reflects the real needs of the labour market. When users have to contribute themselves to financing their training, they will consider their needs more carefully than if the training programmes were free of charge. However, a few special priority areas - primarily for those with short educational backgrounds - have been and will still be exempt from user fees.

There have been grant and activity ceilings on a number of education and training areas, but in 2003 these ceilings have been restricted to areas where it could be expected that the demand

would be "insatiable" and not just aimed at the needs of the labour market. This applies to areas such as IT training programmes, general programmes, and language programmes.

With the new adult vocational training concept it will be possible to distinguish between on the one hand adult vocational training programmes and single subject courses within a competence description, which are therefore especially relevant to the labour market, and on the other hand single subject courses outside a competence description.

To this end the government proposes in addition to the existing possibility for using reduced allowances that a number of supplementary control tools be provided, including authorisation for the Minister of Education – upon consultation with the Council for Vocational Adult Education and Training – to remove the allowance for participants in certain programmes during the fiscal year. This may, for example, involve participants in single subject courses that are not comprised by competence descriptions – with the exception of special priority areas. In this way the application of the total grants becomes targeted and those training programmes that form part of the joint competence descriptions are prioritised.

Free intake within the agreed framework

It may be difficult to avoid exceeding a fixed grant in the annual state budget if the only tool applied is user fees. Nevertheless, the government intends to abolish the ceiling control within vocationally oriented adult education and continuing training.

The reason for this is that the new adult vocational training concept further decentralises decisions to the education and training institutions, including decisions on how the priority given to education and training best reflects the needs of the enterprises and the employees.

From 1 January 2004, an agreement model will be introduced to allow education and training institutions free intake to the entire area of vocationally oriented adult education and continuing training within an agreed framework. According to this model, the Ministry and the individual institution will agree on a budget target, ie. a target for the expenditure of the institution in 2004.

Within this target, the institutions are free to plan the supply of training programmes in accordance with demand. As a main rule, 10% of the course activity subsidy is withheld and

will be paid as an award to the institutions that meet within a certain margin the agreed budget target at the end of the year. Institutions that do not meet their budget target thus do not receive their full grant.

New taximeter rate system supports the new adult vocational training concept

In cooperation with associations of School Principals, the Ministry of Education has prepared a model describing how the taximeter rate system may support the joint competence descriptions.

The rate structure is based on the following considerations:

- The rate structure must support the schools' incentive for a labour-market-relevant supply
- The fixing of rates must be as simple as possible to manage
- The rates must as a whole reflect the costs of executing the training programmes (according to the principle of "win some, lose some")
- The rate structure must not make it easy to exclusively focus on the "bottom line"
- The rate system must support the development and use of short education and training programmes
- The rate system must be transparent and easy to manage for institutions

The new taximeter rate structure distinguishes between the adult vocational training programmes and single subject courses within a competence description, and the single subject courses outside a competence description. The single subject courses that are outside competence descriptions will receive a low subsidy rate, but on the other hand in 2004 the education and training institutions will be free to set their own user fees. Furthermore, as a new feature, the rate structure supports the supply of short education and training programmes to a larger extent than before.

The following table provides an overview of public costs on public education programmes at different qualification levels according to figures from the Danish Economic Council 2003.

For a general overview of the financing principles, please refer to section 47 quality assurance for qualifications, as the financing principles form part of the quality assurance system.

Duration of programs and public costs

	Average programme duration- year	Public costs pr graduate-1000 dkr
Vocational Programs		
Retail and wholesale	2,9	63,2
Office and Finance	2,5	63,2
Building and Construction	3,6	109,0
Black Smith	3,4	113,3
Other Iron and Metal	3,5	123,9
Technique and Industry	3,7	108,1
Food and catering	3,4	121,9
Agriculture and Fisheries	2,2	105,7
Health and Social Service	1,8	51,5
Short further	2,6	190,3
Of these technical	1,7	173,1
Medium Cycle Further		
Pedagogical Programs	3,6	170,1
Primary and lower secondary school teacher	4,2	214,2
Technical programs	5,4	332,7
Other	3,4	273,5
Long Cycle Programs		
Humanities	7,0	226,1
Social Sciences	6,7	210,4
Natural Sciences	7,0	477,2

Source: Det Økonomiske Råd, Vismandsrapporten Efteråret 2003

The following table provides an overview of costs of publicly funded adult education and training

Public expenditure on public sector adult education, 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	DKK million (2002-prices)									
Total	5.974	6.473	7.193	7.453	7.657	8.355	7.414	6.402	6.554	6.420
Day folk high schools	378,2	477,0	672,6	616,7	753,3	791,5	539,9	445,0	425,4	300,1
AMU	1781,2	1946,6	1989,3	1918,8	2054,5	2498,2	1991,0	1328,9	1349,9	1225,0
Folk high schools	679,2	684,4	695,1	660,6	636,8	584,9	579,1	566,7	526,5	503,7
VUC	1028,4	1088,2	1157,5	1162,9	1205,4	1238,5	1239,5	1045,7	1012,1	1018,7
Open education	512,1	600,9	988,0	1146,9	1029,4	1180,4	773,6	702,0	775,5	867,1
VEUD	-	24,6	21,9	10,6	11,0	18,8	26,9	25,3	22,1	-
Home economics and textile design schools	94,3	98,1	94,9	93,2	83,0	76,6	81,0	84,2	82,2	81,1
Danish as a second language	354,6	397,4	453,8	663,8	681,7	736,1	898,8	946,6	1073,7	1138,9
Special education for adults 1)	601,0	604,1	597,5	613,5	618,7	653,6	710,0	710,0	710,0	710,0
Reading courses for adults (FVU)	-	-	-	22,2	30,8	35,5	34,6	12,9	2,7	-
Evening schools (liberal adult edu. act 1)	545,3	550,5	522,4	522,7	520,6	505,6	510,6	510,6	510,6	510,6
DK Maritime Authority courses	-	-	-	-	-	7,1	5,2	5,4	4,7	5,5
Min. of Cultural Affairs courses 2)	-	-	-	21,3	20,4	18,7	18,6	15,0	15,0	11,8
Courses for farmers	-	-	-	-	11,4	9,8	5,1	3,5	4,3	5,2

Notes: 1) No data available for 2000 - 2002. 1999 data is used. 2) No data available for 2000. 2001 data is used.

Source: Ministry of Education.

The Student Voucher (grant) and loans scheme

The next section (Source Danish Grant Agency 2003) gives an overview of the Danish students' Grants and Loans Scheme (SU).

Every Dane over the age of 18 regardless of social standing is entitled to public support for his or her further education. Tuition at Danish public and most private educational institutions is free. Society lends students a helping hand in covering living costs for a great variety of courses and studies.

Support for students' living costs is awarded by the State Educational Grant and Loan Scheme (Danish acronym: SU), a system managed by the State Educational Grant and Loan Scheme Agency (SUstyrelsen) in collaboration with the educational institutions and under the auspices of the Danish Ministry of Education.

There are two main support programmes:

For people over 18 following a youth education program, i.e. a general upper secondary, vocational upper secondary or vocational education and training program. Students must attend classes, pass examinations and in other ways demonstrate that they are active in their educational programmes. No time limits are placed on this type of support. Students are eligible for support for any number of courses, with the exception of certain upper secondary programmes.

Until students are 20, their grants depend upon their parents' income. When that exceeds a certain amount the grants are reduced on a sliding scale, ending in a minimum grant.

For students over 18 enrolled in higher education courses. Every student enrolled in a higher education course is entitled to a number of monthly grant vouchers corresponding to the prescribed duration of the chosen study, plus 12 months. Within a maximum of 70 grant-vouchers students can change from one course to another.

All students (1 and 2) living with their parents are supported with a lower grant than students living in lodgings. Students under 20 enrolled in a youth education program are supported as if they are living with their parents whether they do so or not, but may apply for an exemption.

Students who accept support in a year in which their private earnings exceed a set amount have to repay some of the grants and loans received that year plus 7%. However they have the option of not accepting support for a period of time thus enlarging the set amount.

Students in higher education (under a time limitation) have the choice of using these grants later, either to prolong their studies (for instance, to prepare for re-examination after a failed exam) or under certain circumstances to obtain double grants for a period of time at the end of their studies.

In particular situations - mainly sickness and childbirth - students can apply for extra monthly grants. New mothers are eligible for 12 and new fathers for 6 extra monthly grants, with certain stipulations.

Altogether the rules make for a flexible system. Students have the option of organising their studies according to their personal preferences and earning possibilities. At the same time, however, they incur a measure of personal accountability for managing their financial situation.

In combination with both types (1 and 2) of grants, students are offered supplementary state loans (grants 2/3, loans 1/3 of total support). The interest rate for these loans is set by Parliament and is below commercial levels.

Students must start paying back state loans no later than one year after the end of the year in which they graduate or give up their studies. The loan must be repaid within 15 years.

About half of all students make use of state loans.

Over a quarter of a million Danes benefit from these two types of educational support every year. The annual budget amounts to over seven billion Danish Kroner, around 0.6 per cent of the Gross National Product. The average after-tax annual income of students receiving support and earning an average private income - corresponding to roughly 10 hours paid work a week - is about 65% of that of typical industrial workers.

Danes can obtain support for studies abroad. Courses of study have to meet the same conditions for recognition as Danish ones. Furthermore, the qualifications acquired must be usable in Denmark.

For studies in the Nordic countries support is awarded for the prescribed duration of the chosen study, plus 12 months. For studies in other foreign countries, students are supported for four-year courses or for the last four years of longer ones.

Support granted for studies in Denmark can be used to finance studies abroad when they are accepted as part of a study program at a Danish institution.

As a rule, foreign students enrolled in Danish courses of study are not eligible for educational support. Exceptions are made on the basis of specific conditions for refugees and relatives of refugees and for other foreign citizens provided - among other stipulations - that they have been living and working in Denmark long enough.

As far as EU rules and regulations make it possible, EU citizens can gain support from the Danish system.

The system

The educational institutions - schools and universities - receive applications for support from students, check them and pass them on to the agency. They offer general and personal information and guidance to students. They check that students observe study requirements.

The Agency prepares amendments of the scheme, registers applications, pays out grants and loans, offers guidance and information to the educational institutions, deals with complaints and appeals (which are decided by a Board of Appeal), and draws up budgets and collects statistics for the use of the Ministry.

The Ministry presents bills providing for amendments to the scheme and is responsible for overall planning and budgeting for grants and loans.

Individual support for participation in adult education and training

There are two options for public support for the individual participating in public adult education and training. The first is participation in vocational education and training through the so-called "VEU scheme". From 2004, employers will also contribute to this scheme through a collective employer contribution.

The second option is to receive the state grant for adult education and training (SVU). This applies to participants in courses at lower secondary level, general upper secondary level and in tertiary education. The amount of the grant corresponds to the level of unemployment benefits.

41. Participation Patterns

More than 90% of the general population completes an upper secondary education (OECD 2003) based on data sources from 2000. Ensure that the remaining fraction not be left behind is still at challenge. For the age group 45-54 the completion figure is 80%, and in the age group of 55-64 it is 70%. This indicates that generally speaking and in comparison with most of the other OECD countries there is a basic foundation of skills in the population on which a lifelong learning strategy can be build.

38, 8% complete a tertiary degree, placing Denmark among the top five countries regarding this indicator, according to recent figures from the Ministry of Education.

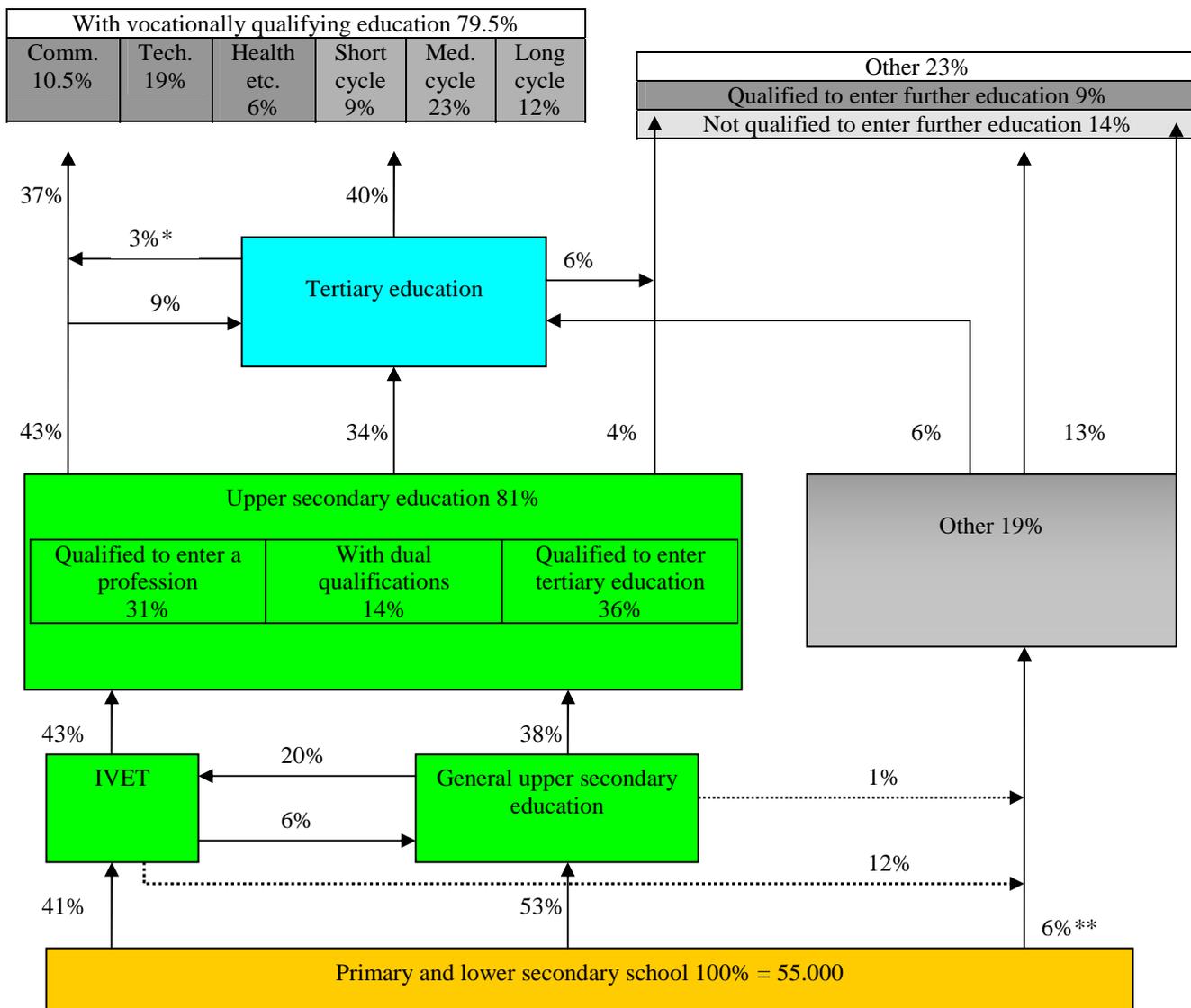
Number of pupils and students in the educational system

	1991	2001
Primary and lower secondary in total:	614.811	686.317
Of these, “continuing school”- (efterskole):	16.697	21.356
Upper secondary education in total:	210.315	222.646
Individual Youth Programs:	0	5.352
Gymnasium (General, Vocational):	108.035	99.967
General Gymnasium	74.300	64.730
Vocational Gymnasium	33.735	35.237
Vocational Programmes in total:	102.280	117.327
Commerce and trade	43.041	33.014
Building and construction	14.304	23.197
Health	5.402	12.836
Iron & Metal	19.656	20.512
Others	19.877	27.768
Higher Education in total:	143.572	201.806
Short cycle programs	12.196	21.658
Medium Cycle programs	42.442	75.661
Bachelor programs*	20.142	45.464
Candidatus programs**	65.794	54.410
Ph.D- programs	2.998	4.613
In Total	968.698	1.117.164

*,** The number of students on bachelor programs and candidatus programs are not fully comparable over time due to the bachelor reform in 1993. Source. The Danish Economic Council, Autumn 2003

The following table presents an overview of a year group’s pathway through the system:

A year group's journey through the education system after basic school



* - Leave university before termination but holding vocational qualification and hence included in the 77% above.

** - Those who will neither acquire vocational qualification nor qualify for further studies at the level of upper secondary education. However, 1% will complete a tertiary education programme, and of the remaining 5% some will continue in e.g. an EGU or FUU program.

Source: Facts and Figures, Danish Ministry of Education, 2002, adapted by the author

The following tables provide an overview of participation of adults in continuing education and training

Educational background for participants in adult education 2000 (%)

	Day folk high schools	AMU	Folk high schools	VUC (AVU)	VUC (HF)	Open education (voc.)
Basic school education	52,3	31,9	33,9	43,3	34,1	13,8
General upper secondary	9,2	3,2	40,8	2,6	14,9	6,3
Vocational education and training	25,0	56,3	14,2	36,3	29,1	52,8
Short-cycle higher education	2,3	4,4	0,7	3,4	4,4	8,5
Medium-cycle higher education	5,6	2,0	2,4	9,5	11,5	12,5
Long-cycle higher education	1,1	0,4	0,4	1,7	3,4	4,5
No data	4,6	1,9	7,6	3,2	2,5	1,6
Total	100,0	100,0	100,0	100,0	100,0	100,0

Source: Statistics Denmark

Course participants in adult education by type of school/institution, 2001

Public institutions	1.175.300
Institutions with general education	345.000
- Adult education centres	274.900
- Folk high schools	33.700
- Day folk high schools	36.400
<i>Institutions with vocational educational training</i>	<i>689.800</i>
- Commercial and technical colleges	479.400
- AMU centres	180.200
- Institutions with health education	18.600
- Others	11.500
<i>Institutions for higher education</i>	<i>140.500</i>
- Universities	22.800
- Teacher colleges	70.200
- Colleges for arts and humanities	7.900
- Commercial colleges	23.700
- Others	15.900
Private institutions	385.700
- General private courses	157.100
- Employer organizations	34.900
- Trade unions	56.300
- Professional associations	20.800
- Administration schools	30.000
- Adult education associations	14.800
- Others	71.800

Source: Statistics Denmark

Publicly and privately funded adult and continuing education and training

Type of course	Course participants	Calculated as year full time equivalent	In employment
	-----Number		-----Percentage
Public	1.235.400	83.600	66,6%
General	366.700	43.800	25,3%
Vocational	689.000	25.100	83,4%
Further	140.000	13.400	91,9%
Private	385.700	6.000	-
General	44.700	1.400	-
Vocational	341.000	4.600	-
Total	1.727.900	89.600	-

Note: A person may participate in different courses and counts each time as a course participant.

Source Denmark's Economic Council- Vismandsrapporten Autumn 2003

Course duration varies from long-term courses to courses of a few days duration. The above table does not include courses organised in companies without the assistance of public or private providers. Company costs in 1999 for continuing education and training corresponded to 3% of salary costs, which was the highest expenditure in Europe according to Eurostat figures. In 2001 the public expenditure on adult and continuing education was app. 8 mill Dkr. according to figures from the Danish Ministry of Education.

From a company perspective the relatively lower level of participation by the oldest part of the workforce can be explained by company return on investment. However, given the government's current policies of trying to raise the retirement age and given that evidence from unions points to an early retirement scheme as a positive alternative to the risk of lay-off, the figures are worthwhile noting from a public-policy perspective.

42. National Qualification System

Denmark has a nationally recognised qualification system comprising all levels of ISCED. Please also refer to section 52 "*qualification framework*".

The Ministry of Education is responsible for the overall control of courses and institutions including the establishment of the purpose, scope and examination syllabus. The development of the overall purposes and scope of the educational provision and content happens in close collaboration with the different institutional actors. Within the initial and adult vocational system it is based on a tri-partite governance structure, which ensures a national recognition of qualifications in the labour market and within the educational system (please refer to section 44 and 45 on *Organisations and authorities* and on *The role of social partners*).

The Ministry comprises three authorities: the National Education Authority (*Uddannelsesstyrelsen*) which handles issues relating to educational-legal matters at all levels of the educational system, the National Authority for Institutional Affairs (*Institutionsstyrelsen*) which solves tasks relating to financial control, subsidies, and general institutional matters, etc, and the State Education Grant and Loan Scheme Agency (*SU-styrelsen*) which administers the individual education subsidy provided by the state (the

State Education Grant and Loan Scheme, *Statens Uddannelsesstøtte, SU*, and the Danish State Education Grant Scheme for Adults, *Statens Voksenuddannelsesstøtte, SVU*).

43. Qualification System- Goals and Principles

The following section gives a short overview of the main characteristics of the Danish qualification system in the context of lifelong learning. For a wider description of the goals and principles behind the qualification system, please refer to the Government's most recent action plan "*Better Education*", 2002.

- **Primarily publicly funded educational system at all levels.** The system has a very accessible and broad based student support system. This comprises both the general educational system as well as the adult educational system. The primary and lower secondary education are obligatory for 9 years, but children do not have to attend school. The education is based on mid 19th century principles: parental rights, minority rights and freedom of schooling. Approved free elementary schools receive around 70% state subsidy.
- **Education- an instrument in economic development, to welfare and democracy.** Education is seen as central not only to economic development but also to a continuous development of and participation in a democratic society and as a central instrument to further social inclusion.
- **National definition and recognition of qualifications and certifications across the educational system and in the labour market.**
- **Framework governance and output management.** With the reforms of the past decade the system has evolved from a rather prescriptive system based on detailed regulations to a framework-governed system with management through objectives. This has given greater autonomy and co-responsibility to the different actors in the educational system both in terms of financial resources, content, and in assuring that targets and proficiency levels are reached.

- **Comprehensive quality development arrangements with delegation of responsibility to the different actors.**
- **Pilot projects and action-based evaluations.** The system has undergone concurrent reforms during the past decade. Many of these reforms have been introduced based on a strategy of focussed pilot projects combined with snapshot evaluations to provide feedback to aid planning and policy evolution at all levels of the system.¹²
- **Credit transfer as an element in an efficient and inclusive lifelong learning strategy.** With the most recent reforms the system provides substantial options for offering pathways and linkages horizontally and vertically. These options comprise the general educational system as well as the pathways between the general educational system and the adult vocational system. Students in upper secondary vocational education and training thus have options to obtain partial or full double qualifications, which provide them with different and flexible pathways either within the initial vocational educational and training system, or at a later stage as adults.
- **Modularisation.** The general education system and the adult education and training system are both organised in a modular manner. The personal educational plan, validation of prior learning, and single subjects are key elements in these efforts.
- **Stepwise approach to qualifications.** The latest amendments to Reform 2000 and the adult education and training reforms will increase options for obtaining a certificate based for a qualification recognised in the labour market and with the rights to unemployment benefits. This qualification expresses one level within a broader level based qualification. An example is *IT supporter*, which is a recognised qualification in the labour market. At the same time it is also a step towards the qualification *Datafagtekniker*- Data technician. This offers the individual increased options for re-entering into the educational system at a later stage as an adult either in adult vocational

¹² For further reading see. Shapiro and Neuiwenhuis Learning through policy evaluation-. (2003) CEDFOP in press

training (CVT) or in the further education system for adults to obtain a higher level of qualification.

- **Recognition of prior learning** based on assessment of people's genuine competences. It is currently being proposed to have one common framework within I-Vet and the adult education and training system as part of a comprehensive lifelong learning strategy.
- **Individualisation and comprehensiveness with focus on proficiency, competences and outcomes.** Project and problem-based learning and cross-curricula activities play a central element in this strategy at all levels of the system

Since 2001 the adult education and continuing training system has been reformed with the aim of creating a coherent further education system for adults. This system is to offer the same qualifications to adults as does the ordinary initial qualification system, and is constructed with parallel reference levels within the vision of a lifelong learning agenda. The reform also ensured that adults be credited for competences they have already acquired through the formal education system, informally, through on-the-job training schemes, or through work experience.

The Legislation has been amended in June 2003 (Legislation 73) together with the legislation on labour market education programmes (Legislation 74) following the change of government.

44. Organisation and Authorities

Primary and lower secondary schools are managed by the municipal authorities, with the Ministry of Education establishing targets, key knowledge and skill areas, primary and lower secondary school leaving examination syllabus, and guideline curricula, etc. The municipal authorities are responsible for financial management, supervision, etc of the local schools. All parties involved with schools regard parental influence as essential to the individual pupil's benefit from especially basic education, and in primary schools this is formally reflected in the so-called school boards consisting of 5-7 parent representatives, 2

staff representatives and 2 pupil representatives. The school management acts as secretariat. The school board, whose members are elected for four year terms, supervises the school's activities and establishes principles for the management of the school as a whole.

The county is responsible for the general management of ordinary upper secondary schools, while the Ministry of Education is responsible for supervising the content of the education and the implementation of final examinations.

Initial vocational and adult vocational education is based on a tri-partite governance structure (the ministry of Education, the unions, and employers) both at a central level, on a program level, at a local level, and at the individual institutional level. Regional labour market councils, also based on a tri-partite governance structure play a central role in overseeing and anticipating future labour market demands.¹³

In higher education the short-cycle and medium-cycle programmes are mostly offered by independent institutions. Here the individual institutions and their governing boards establish curricula for each education within a framework established by the Ministry of Education or the Ministry of Science, Technology and Innovation, which is responsible for long-cycle higher education programmes. Currently the governance structure of higher education institutions is being reformed to a self-governance structure.

The overall task of systematic quality development is based on common principles which are nevertheless implemented in different ways in the various areas of education. This is due to the fact that the Danish education system is characterised by varied principles of governance.

45. Roles of the Social partners

In vocational education and training (VET) including adult programmes, the decision-making model rests on three basic principles:

- A tripartite cooperation between government, employers and employees

¹³ For a further overview of the I-VET system see Danish Ministry of Education (2003) in draft – *The Danish qualification system- Credit transfer i-I-VET*

- A strong organisation of the social partners when it comes to education and training matters
- Collective agreements on the labour market.

Subject to recognition in the Ministry of Education, the social partners decide on the aims, content, duration, and final status of the individual programmes. Within the framework of this distribution of tasks and authority, which is laid down by law, the development and innovation of programmes take place in a tripartite consensus.

This co-operation shall ensure that the education and training effort appears unified to individuals, colleges, enterprises, and administrative authorities. It is also intended to ensure coherence between education and employment possibilities, accommodating both education and training policy, qualification requirements of the labour market, and individual skills and needs, thus ensuring programme relevance and quality. Coordination and development take place in a number of overall tripartite committees as well as in a great number of trade-oriented, self-governing vocational committees with representatives of the social partners.

The Danish Vocational Education System (I-VET)

The Danish VET system is a national system which offers qualifications that are valid throughout the country and recognised by employers, trade unions and the educational providers.

The system is characterised by a close institutionalised tripartite collaboration at all decision levels within the system. Since the Reform of the Vocational Education System in 1991 the Danish VET system has been highly decentralised, based on a principle of *management-by-objectives*. The system has since been in an ongoing process of evolution which has resulted in the delegation of greater co-responsibility and authority to the social partners and the vocational colleges.

In the area of adult vocational education and training there is a long-standing tradition of involving the social partners, who have been attributed significant influence in a number of areas defined by law. This partnership is founded on a harmonious historical development and confirmed by sustained, shared responsibility.

In the adult vocational education and training system the social partners also play a central role in the management, priority setting, development, organisation, and quality assurance of the programmes. The central council and continuing training committees - and on a decentralised level the local school boards and education committees - provide the basis for accommodating the need for qualifications and competences of the labour market, the enterprises and the individuals.

46. Authority- Integration and Linkage between qualifications

Please refer to section 44 and section 45 for a description of the governance structure.

47. Quality Assurance for Qualifications¹⁴

Since the beginning of the 1990s, systematic efforts have been underway to improve the quality of educational provision in the Danish education system through quality development and quality assurance.

Around 1990, a paradigm shift occurred in the management of the vocational educational sector of the Danish education system in particular. This shift involved:

- Economic reform with the implementation of the so-called taximeter grant system
- Governing principle involving goal and framework management
- Decentralisation of the decision-making process for self-governing institutions.

The overall task of systematic quality development is based on common principles which are nevertheless implemented in different ways in the various areas of education. This is due to the fact that the Danish education system is characterised by varied principles of governance.

¹⁴ Danish Ministry of Education- 2002

Whereas most primary and secondary schools are financed and run by municipalities and counties, central government holds the responsibility for and financing of - among others - vocational, higher education and supplementary adult education and training.

Since the early 1990's, the central government's system of financing education in Denmark has changed considerably and is now almost exclusively based on the so-called taximeter system, which is a comprehensive financing system based on per capita grants (cash-per-student) to institutions. The reforms have been largely successful and have led to a decidedly increased efficiency in the use of resources.

Prior to the reforms, traditional and heavily centralised state management of most financial and administrative matters characterised the organisation of the educational institutions. The system suffered from micro-management, weak economic incentives at institutional level, and non-uniform allocations of funds.

Today, funds are allocated by central government as grants to the institutions based on the actual levels of pupil/student activity, objectively measured in full-time semesters or years. All courses are given a politically determined rate ("*takst*"), published annually in the government's finance bill. To ease administration and facilitate transparency the system only contains a limited number of rate categories ("*takstgrupper*").

Consequently, the institutions have gained significant control over financial as well as administrative management, including decisions on

- The free intake of pupils/students to specific education programmes and/or courses within their area of expertise¹ ;
- Planning and organisation of the teaching activities;
- Planning and organisation of work²; and
- Economic transactions (e.g. regarding operation and maintenance, equipment, materials, and physical infrastructure)

The taximeter system comprises four elements of grants:

- A basic grant ("*grundtilskud*");
- A teaching grant ("*uddannelsetakst*");

- An administration/operations grant ("*fællestakst*"); and
- A building grant to cover rent, interest, debt servicing and maintenance ("*bygningstakst*").

With the exception of the basic grant (a lump-sum grant irrespective of the size of the institution covering basic operational expenses), all grants are activity-determined. Obviously, the system calls for greater awareness of the quality of and demands for education. The students are free to select any educational institution of their choice. Accordingly, school management will seek to optimise their economic situation by supplying those courses in high demand and by encouraging the students to attend and to graduate on time. Likewise, the system eases the administrative burden in the Ministry of Education in terms of standardising the funding of more than 1,300 particular institutions.

Most educational institutions, whether state-owned or self-governing, are now financed under the taximeter system. The system is not uniformly applied to all types of institutions as a consequence of the very wide range of teaching activities.

The taximeter system stipulates that funds follow students. The governing boards and administrators of institutions are invested with decision-making powers within the set goals and frameworks determined by central government. This system has resulted in increased competition and effectiveness as the focus has shifted from being input-oriented (predetermined, detailed standards and pre-calculated grants) to being process and output-oriented.

As far as actual results are concerned, the question of the extent to which educational provisions and institutions live up to the set goals is of paramount importance because more focus is directed at accounting for results in the form of *output management*. The development of methods for assessing goal achievement has come in even greater focus with the current government's action plan "*Better Education*".

The Danish approach to quality involves a number of elements.

Traditional standards such as common guidelines, a testing and examination system, approval of provision, inspection, and the involvement of stakeholders are already commonly acknowledged.

In the 1990s, these standards were supplemented by concrete regulations on quality. Over the past years new initiatives have been introduced through the establishment of the Danish Evaluation Institute, legislation on transparency and openness in education, as well as by means of international surveys.

Common guidelines

The defining characteristic of Danish educational provisions is the fact that they rest on a common set of rules (curricula) setting out the aims, content, and duration of programmes of study and single subjects. In addition, provisions often include rules governing assessment, examination and the required number of written assignments as well as regulations governing attendance in basic education and general and vocational upper secondary education. Finally, teachers must fulfil a number of academic and pedagogical requirements for teaching a particular subject or programme of study.

Over the last decade requirements relating to content have tended to become less detailed. Institutions have been given greater scope to organise programmes of study and instruction and employ the staff and methods deemed most suitable. With the latest action plan greater emphasis is put on a clearer definition of targets and objectives, including assessment of how these targets have been reached.

Testing and examination system

Assessment and examination systems constitute another well-established element of quality assurance. Danish students receive reports on their progress from the sixth year of primary education and are required to take comprehensive exams at the end of the ninth form as well as in general and vocational upper secondary education and tertiary education. Oral and written examinations are usually submitted for assessment to external examiners, that is to say, teachers from other schools. A large number of written exams are set and administered nationally. Written examinations at general and vocational upper secondary educational

institutions are assessed both the teacher and an external examiner. This ensures uniformity in assessment as well as improved impartiality.

In higher education, the national boards of external examiners for the various programmes of study are the guardians of academic standards. In vocational education and short-cycle higher vocational education, representatives of local trade and industry act as external examiners in final examinations. This ensures that the knowledge and academic standards attained by students are relevant and live up to the demands of the programmes of study and the requirements of the labour market.

Involvement of stakeholders

Students, parents and labour-market partners are major stakeholders in quality assurance in the education system. As a result, they play a significant role in advising the Ministry of Education as well as individual educational institutions.

The rights and influence of students vary considerably in the different fields of education. Students' rights are embodied in student councils and, not least, in their right to be consulted on matters pertaining to the organisation of teaching, choice of themes in single subjects as well as choice of teaching and working methods.

In primary and general upper secondary education, parents serve on the school's board of governors and are thus afforded the possibility of exercising influence on the running and quality of the school.

In vocational educational provision and in a number of short-cycle higher education programmes the key quality parameter is relevance of provision and content to the needs of the labour market. Labour-market partners thus exert considerable influence on multiple levels such as through councils advising the minister on educational issues. In the field of vocational education, sectoral trade committees determine the content of individual educational provisions. Locally, labour-market partners serve on the board of governors of vocational schools as well as on local education committees. Their task is to improve the links between the school's educational provision and the current and anticipated needs of the local labour market.

Quality framework

One central principle of the Danish approach to quality is the demand for systematic self-evaluation and follow-up. In a number of educational fields, special regulations have been introduced based on a framework governance and with focus on continuous quality development and quality assurance. Institutions providing vocational education and short-cycle higher education are therefore under obligation to employ a system of continuous quality development and assessment of results. Accordingly, these institutions must have procedures for systematic self-evaluation of central areas of institutional activity. These ensure that teaching outcomes target the predetermined goals, that the school and the teachers engage the students in an ongoing assessment process.. In addition, examination results and any external evaluations must form part of this self-evaluation.

The school, on the basis of its self-evaluation, must devise a follow-up plan specifying the ways in which the pre-determined goals are to be achieved.

It is up to individual institutions to determine their system of quality assurance, since the Ministry does not impose a specific system or method. Institutions vary considerably in size and complexity as regards educational provision and branch structures. Primary and general upper secondary education is characterised by a different governance structure due to the fact that decision-making powers rest with local government (municipality and county authorities).

It is the task of the Ministry to offer support and inspiration to local initiatives. This has been accomplished through advising individual institutions in the various educational fields on quality systems.

Quality arrangements show a general tendency towards the development of comprehensive quality instruments that also may be used for benchmarking purposes. As an example, the so-called "system common tools" have been developed and implemented within the AMU programs. This initiative falls within the general legislation that stipulates that schools are assessed based on their quality, and that the Ministry has the general inspection responsibility concerning quality. The quality instruments implemented in the AMU system

are called "system common tools" because they measure efficiency and satisfaction and relevance of the training offer from the point of view of participants as well as companies. The measurement is based on a questionnaire with specific questions as well as a common set of questions to participants and companies. The responses may be analysed in a number of different ways that can also serve benchmarking purposes.

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Governance and Inspection

The Minister of Education has overall responsibility for all fields of education, and institutions are under obligation to provide upon request any information deemed relevant. Thus the Ministry of Education systematically collects data from institutions in all fields of education on finance, graduation rates, student flow and grade averages etc.

The various forms of institutional government across the educational sector determine the forms of inspection conducted by the ministry. The Ministry of Education undertakes systematic legal, financial and academic-pedagogical inspection of all general and vocational upper secondary educational provision as well as of short-cycle higher education. In addition, the Ministry undertakes legal and financial inspection of private independent schools, and folk high schools. In the field of primary education, inspection is the responsibility of local government.

The actual process of inspection may be confined to desktop inspection involving analysis of the data supplied by institutions. This may be combined with visits to selected institutions. Inspection typically focuses on a particular area, for instance, compliance with qualification requirements for teachers, observance of timetables, guidance provisions, the implementation and use of ICT, etc. As mentioned above, there is evidence of a trend towards increasing result-orientation.

Higher education institutions are exempt from inspection. Instead, they are subject to educational contracts where the allocation of funds is dependent on the extent to which institutions live up to a number of predetermined goals. It is the task of the Ministry to oversee this and to procure, based on this assessment, information regarding various areas of institutional activity.

International surveys

Denmark has participated in international surveys for a number of years. These surveys are valuable indicators of Danish students' levels of achievement in particular areas. Denmark's performance in international surveys commands much public attention. This has given rise to a great deal of debate as well as concrete initiatives aimed at improving students' levels of attainment.

48. Formal Credit Arrangements

During the past few years a growing youth cohort has made a crossover to a VET programme after having completed a general academic upper secondary programme or one of the mixed programmes at the upper secondary level. A growing number of students in VET thus obtain a dual qualification through transfer credit from another upper-secondary programme. Students can also obtain full or partial double qualification through electives from the HHX and the HTX programmes. This is described in more detail in the following section.

Upper secondary vocational qualifications - horizontal crossover options

The reforms of the Commerce and Trade programmes in 1996, which have been updated continuously since then, the reforms of the technical programmes in 2000, and the reforms of the Social and Health programmes (SOSU) in 2001 have increased the emphasis in VET on broad general subjects and the importance of personal development in. The aims were among others to improve quality, to widen options for obtaining general study qualifications through electives (*påbygning*), and to enhance the flexibility in pathways for youth who enter I-VET with a general upper secondary qualification (Gymnasium, HTX, HHX or HF) through transfer credit (merit) (Act 539). The legislation requires the schools to provide the students with alternative offers to the accredited education. Similarly, for adults over 25 with labour market experience the aim has been to improve flexibility and encourage participation in lifelong learning arrangements through competence assessment and transfer credit possibilities (*merit*) that may result in shorter program duration.

Adult Vocational Training and credit transfer.

Many adult vocational training courses give adults a formal right to credit transfer in an initial Vocational Education and Training (I-VET) program. The credit equivalent to a VET single subject course and may thus result in a reduced study/training plan for adults.

Together with credit transfer, the option of recognition of non-formal and informal learning (especially work-based learning) opens up flexible pathways for the unskilled worker towards a nationally recognised qualification as a skilled worker.

The authoritative guidelines for the individual vocational programs define which courses from the AMU programs give transfer credit for which subjects or parts of subjects in a VET program. The level of transfer credit varies from program to program. It is most comprehensive in those programs that cover areas which previously solely existed under the AMU system, for example the industry operator program or the service assistant program.

49. Other types of linkages

This section provides an overview of direct linkages in the system between qualifications. The aim is to provide an overview of how the linkages and pathways may work as incentives for individuals, especially adults to undertake further learning.

Since 2002 the same legislation and governance framework has included VET schools (technical and commercial colleges), agricultural schools, and adult vocational training centres. This has constituted the basis for a unified institutional structure, paving the way for mergers of adult vocational training centres and VET colleges (one-house strategy).¹⁵

Important objectives of the adult education reform have been to:

- Offer good and relevant adult education and continuing further education and training programmes to all adults at all levels, from the low-skilled to university graduates.
- Ensure that the provision of further and continuing education and training constitutes a transparent and coherent system of competences, with well known and comparable

¹⁵ The Danish Ministry of Education- "Adult learning in Denmark" (2002)

competence levels where vocationally oriented adult education and general adult education consistently mirror the levels of the general education system.

- Ensure good possibilities for “bridging” education programmes and education levels, thus avoiding dead-ends.
- Offer new possibilities of more systematic recognition of adult vocational training courses within adult VET programmes including the new Basic Adult Education Framework (GVU), securing recognition of competences for low skilled adults to increase their motivation for lifelong learning.
- Add new and more flexible instruments for the recognition of non-formal and informal learning, especially work-based learning, adult vocational training, the Adult VET programmes, and within the GVU framework, as well as in the organisation of advanced further education.
- Offer new provisions of basic literacy and numeracy skills for the low-skilled.

The Adult Education System aims at a single, coherent and transparent system which also bridges education and training programmes. Advanced education and training needs and possibilities must be seen from both a vertical and a horizontal perspective.

First of all, the Adult Education System has step-up possibilities at three advanced levels – short cycle, medium cycle, and long cycle, for adults who have completed initial education at upper secondary or higher education level. It does take into account that those adults have already gained relevant job experience which they can effectively build on when developing their competences through an adult further education programme matching job-related needs or career aspirations.

Further education programmes at the advanced levels may be studies in depth – or in width – i.e. vocational specialisation either within or outside the participant’s original vocational field. It is important to bear in mind that such a specialisation does not necessarily have to take the participant one ‘step up’ in educational level. The kind of further education programme – or continuing education courses – that is relevant to the participant depends not only on his or her educational background (level and vocational field), but also on the

person's needs or aspirations for vocational progression as a supplement to the original educational background.

Equally important are the more flexible possibilities at the Basic Education level of receiving transfer credit and thus shortened study/training programmes in youth VET programmes, thus giving adults a 'second chance' to acquire skilled qualifications. In addition, general education single subject courses may give transfer credit in such a Basic Education programme.

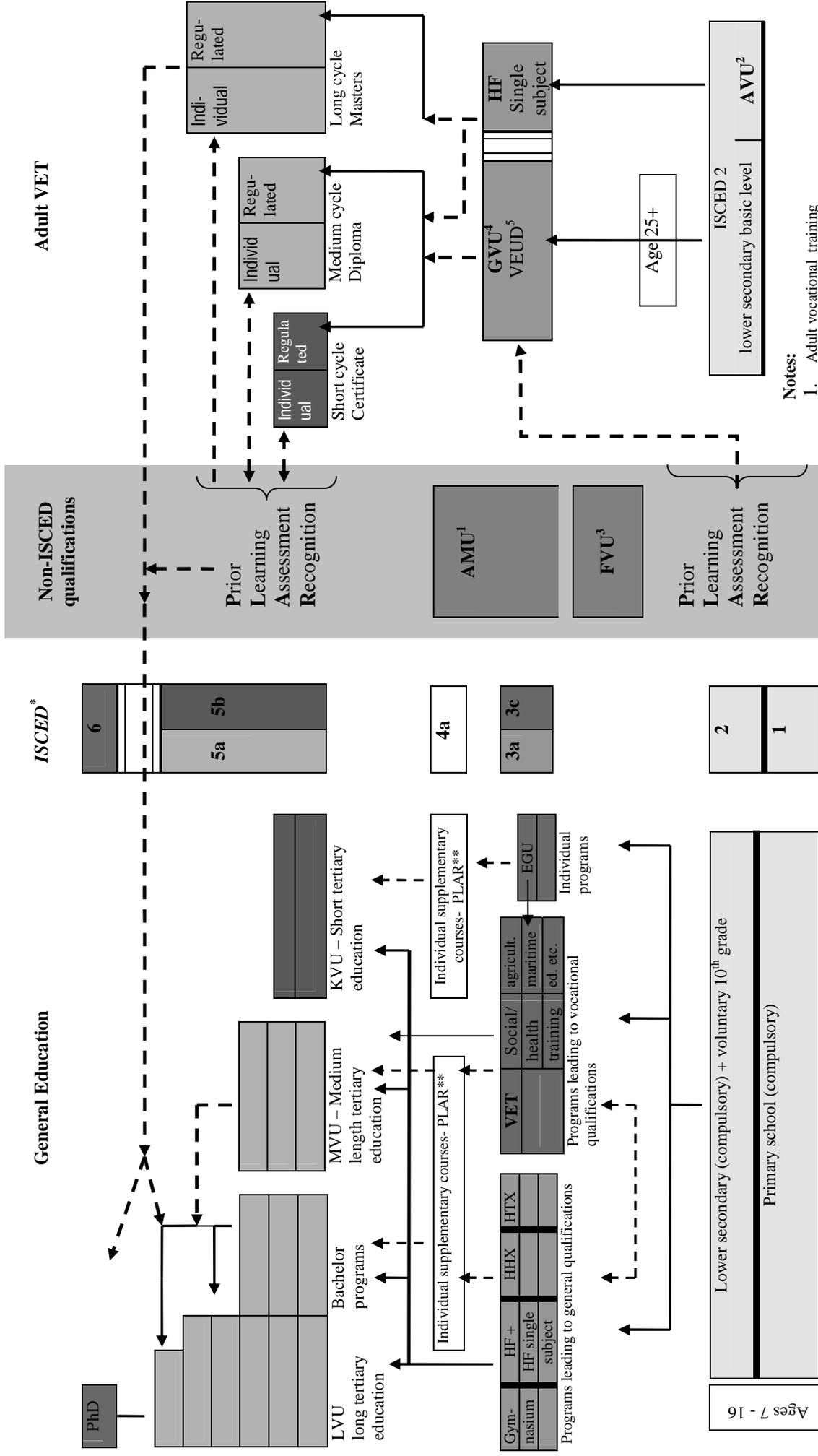
The following diagram illustrates the most recent reform of the adult vocational education system together with the general educational system. It shows the general pathways through secondary tertiary general education and adult vocational education in Denmark. The pathways that are indicated are in no way exhaustive, but are presented so as to give a visual idea of the multitude of possible pathways available to students of all ages.

Notes to the drawing:

- Prior Learning Assessment Recognition (PLAR) and how the individual student is to be judged upon entering a program take place within the given program.
- Access from for example gymnasium (3a) to long tertiary education (5a) is regulated if the student goes directly onward based on a grade point average. If the student takes a break or does not have a sufficient grade point average, he or she may also obtain points for various life-activities.
- The grey "Non-ISCED" column is not to be read as a hierarchy parallel with ISCED, but rather serves as a third dimension of qualifications. When AMU does not refer to an ISCED level it is because it refers to the labour market demands for qualifications.

Secondary and Tertiary General Education and Adult Vocational Education in Denmark

showing general individual and regulated academic, vocational, and crossover paths



Notes:

1. Adult vocational training
2. General Adult Education
3. Preparatory adult education
4. Basic adult education
5. Adult vocational education and training

*: ISCED levels maintained after reforms of 2003.
 Source: Facts and Figures, Danish Ministry of Education 2002. Adapted by author.
 **PLAR = Prior Learning Assessment Recognition

51. Transparency and Effectiveness of Credit and Linkage

With the most recent reforms of the national qualification system a transparent and credit and linkage system has been created as described in the previous sections. This does not only comprise a common uniform structure and horizontal and vertical pathways and linkages within and between the general educational system and the adult system. It also comprises linkages and pathways between formal and informal learning through a scheme for recognition of prior learning. As the changes are currently being implemented it is too early to comment on the openness, transparency and effectiveness from the point of view of different user groups in the educational system.

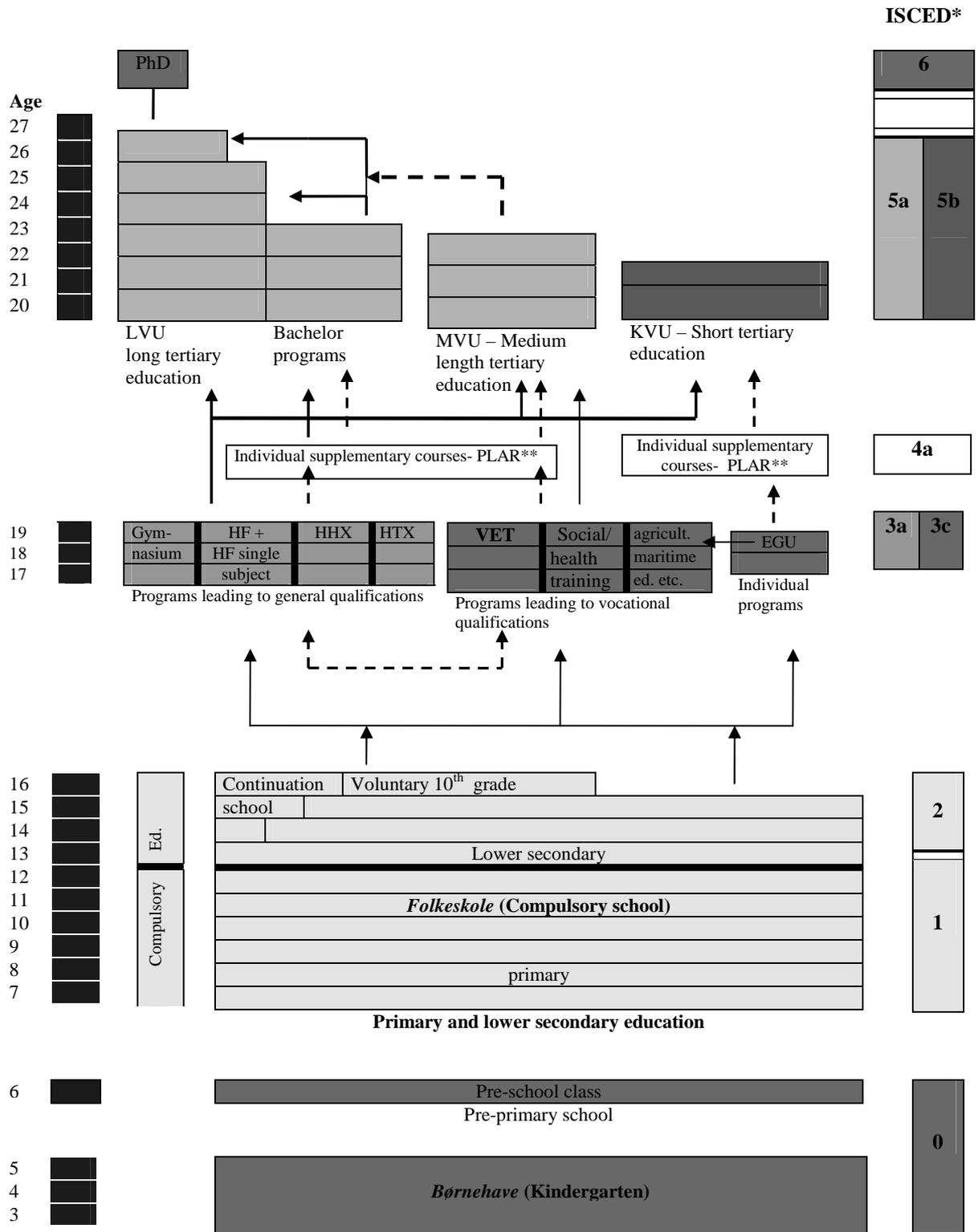
52. Qualifications framework

Structure of the qualification system in Denmark

The Danish education system is divided into a number of main area and levels. The main areas of the education system are presented below.

The following table provides an overview of the Danish qualification system according to reference levels and educational areas following the ISCED classification:

The Danish general educational qualification system



*: ISCED levels maintained after reforms of 2003.

Source: Facts and Figures, Danish Ministry of Education 2002. Adapted by author.

** Prior Learning Assessment Recognition – Within the general higher education students may be accepted under the so-called Quota II for work, life, and liberal educational experiences.

53. Information Systems

Both at system level and at an institutional level ICT has come to play a central role in providing information and advice on the qualification systems.

The National Council for Educational and Vocational Guidance offers a comprehensive digital information service comprising 250 programmes.¹⁶ In April 2003 a new act on vocational and educational guidance was passed. A new council is under establishment.

Within the adult educational system a similar web service is available and a new web-site regarding adult vocational training has recently been established.¹⁷

Unions and confederations offer comprehensive information services with regard to the specific programmes they represent.

In May 2002, the Danish parliament passed legislation on transparency and openness in education. This legislation constitutes an invaluable asset for potential students and their parents. It provides in particular improved access to comparable information on education and institutions, thus enabling individuals to make an informed choice of education and school/institution. Furthermore, greater openness can provide institutions with systematic information which enables them to compare themselves to similar institutions and learn from the experience of others, thereby promoting the spread of good practice.

According to this legislation, all institutions must maintain a web site detailing information about their educational provisions. Institutions are further required to set out the pedagogical principles governing the organisation of education and instruction. In addition, institutions must publish grade averages for single subjects and levels. The legislation further stipulates that individual institutions must publish all information deemed relevant for an assessment of the quality.

¹⁶ www.r-u-e.dk

¹⁷ www.vidar.dk and www.2004.efteruddannelse.dk

54. Recent Changes

With the action plan from 2002 the government laid down the foundation for a comprehensive reform of the educational system. Some of the recent changes are described in the section below:

Latest revisions of the general vocational education system

In June 2003 the Act on Vocational Education and Training was revised (legislation 448-June 2003- "*Simplification and Flexibility*"). As a followup to the legislation new initiatives have been launched to renew the principles of dual vocational education and in line with the Government's plan on "*Better Education*".

With the revision of the ACT 2000, the flexibility of the qualification framework has been increased within the perspective of a lifelong learning agenda. All programmes should as far as possible be organised so that students may obtain a partial *named and defined* qualification. The partial programme should be organised so that the student at a later stage may begin the education again obtaining credit for what was already completed. The qualification should also be of relevance to the labour market and ensure that the student has the right to unemployment benefits. The student will receive a certification for the stepwise qualification.

What is being brought in focus by the latest revision is that:

- Students have to "meet their profession" as early as possible
- Progress and quality must be assured
- There are extended possibilities for the student to design his/her own path through the system- also as crossovers between the different upper-secondary youth programs
- The possibilities to step in and out of the system are extended through stepwise qualifications- thereby opening up for a lifelong learning perspective
- Real competence is taken into consideration through transfer credits and assessment of prior learning.

The goal of the reforms has also been to improve students' study competence and to ensure greater flexibility between the different upper secondary programmes including a better credit transfer scheme for the general and vocational upper secondary programmes. More emphasis is laid on output-oriented target and framework governance. For students within the I-VET program it is possible with the latest reforms to take courses as electives from the HTX and HHX programs.

During the autumn of 2003 the trade committees have begun working out proposals for new shorter duration qualification reference levels.

Recent reforms at general upper secondary level

Both the general and the vocationally oriented gymnasium have also undergone reform in 2003. The main aim has been to improve young people's study competence and thus strengthen the basis for more young people completing a higher education programme.

Some of the elements in the Gymnasium reforms are:

- Emphasis on an interaction between subjects (proficiency, qualifications as supposed to subjects)
- Target and framework governance
- Strengthening of natural sciences
- Removal of the present division into subject lines and the introduction of a common introductory period for all students within the different programs.

Latest revisions in adult vocational training

With the change of government in 2001 the AMU programmes were transferred from the former Ministry of Labour to the Ministry of Education. The aim has especially been to create better opportunities for a coherent and uniform structure for vocational education and training within the entire educational system.

In June 2003 the Parliament approved Legislation 73 on a new structure and descriptive framework for the adult vocational training programmes. This legislation will take effect as of January 2004. The aim of the changed legislative basis has been to create a more flexible qualification framework for the provision of adult vocational training and to promote a more

integrated approach between the vocational education and training programmes and the adult vocational training programmes.

The overall goal of the legislation is to:

- Optimise single subjects in the VET programmes and in the adult vocational training programmes
- Facilitate transfer credit in completed labour market training in EUD/adult vocational training
- Implement systematic measurement and evaluation of results
- Coordinate development work between labour market programmes and VET programmes.¹⁸

The new framework and concept for the labour market educational programmes is intended to offer individuals and employers a more transparent, efficient and integrated educational supply. This reform is closely intertwined with the current Government's action plan "*Better Education*". This action plan has particularly emphasised among other issues greater flexibility, free choice, and output management.

Descriptive structure

The approximately 2500 labour market training plans are in the process of being replaced by 150 common competence frameworks targeting recognisable job functions in the labour market. It will be possible to include a number of labour market qualification objectives from the existing supply of labour market courses/training plans, plus selected single subjects from the vocational education programmes, from the vocational social and health programmes (SOSU), and from the vocational agricultural programme within those 150 common competence frameworks.

¹⁸ "*Better Education-Chapter 2*". Ministry of Education 2002.

COMPONENT 2: THE IMPACT ON QUALIFICATION SYSTEMS

In this section a number of reports, papers and publications are referred to. These are listed in the annex under Literature sources.

56. Benefits to individuals

Since the most recent reforms are currently under implementation there is as yet no evidence as to what benefits to the reforms will bring to individuals compared to the previous provision.

57. Trends in Benefits to Individuals

The following section provides a short resume of the main findings of an analysis carried out by Oxford Insight for the Danish Labour Organisation (LO) which organises skilled, semi-skilled and unskilled workers.

The analysis draws on data from the following studies

- CVTS 2, The European Commission 2002
- Education at a Glance 2001
- Curious Minds, Nordic Adult Education Compared, Nordic Council of Ministers , 2001
- The Danish course market 2002, IFKA
- Participation in adult and continuing training – Statistics Denmark 2002

The authors note considerable methodological differences both with regard to the definitions of continuing education and training and with regard to measurement instruments. The main differences are whether the analyses encompass only formal education and training or if they also include non-formal and informal learning, which according to several analyses play a role of growing importance in the overall pattern of skills acquisition among adults.

The authors come to the conclusion that members of LO on an average participate less in continuing education and training than other employee groups. It is especially the analysis from IFKA that points to the importance of informal learning in Danish companies.

The following table gives an overview of different survey results on participation in adult education and training according to job roles.

Participation in vocational adult education and training for different employee groupings in%					
Analysis	Management	Middle management	Other white colour	Skilled workers	Unskilled/semi skilled
Nordic Council	61	71	50	37	29
IFKA(private firms)	38	46	65	51	38
IFKA(public firms)	62	-	-	60	36
IFKA- LO	54	67	67	64	52

Source: LO 2002

Participation in continuing adult education and training and educational level

Participation in C-VET according to educational level for the age group 22-65 in the past 12 months						
Analysis	No vocational or other upper secondary qualification		General or vocational upper secondary qualification		Tertiary qualification	
	Employed	Population	Employed	Population	Employed	Population
OECD	-	29	-	51	-	70
Nordic Council	41	36	56	54	77	74
IFKA*	-	39	-	55	-	62

*IFKA measures the workforce (pers.>15) participation in C-VET during the past three years

Source : LO 2002

The above table shows that the level of education has a large influence on continuing education activities. The higher the educational level, the higher is the participation rate in continuing education and training.

With the most recent reforms of the national qualification system a transparent and credit and linkage system has been created as described in the previous sections. As the changes are currently being implemented it is too early to comment on the openness, transparency and effectiveness from the point of view of different user groups in the educational system. (Please also refer to section on *participation patterns* – section 41).

58. Matching Learning and Workplace Skills Needs

The DISKO project- company performance and HRM practices. Investment in lifelong learning from a company economic perspective.

The following section is an extract from a policy paper written for the Danish Labour Organisation LO by Technological Institute and Aalborg University, The IKE group, Denmark based on data from the so-called DISKO project headed by Professor Bengt Åke Lundvall:

In order to develop a sound base of empirical knowledge on which policies and practices adequately can be shaped to stimulate competitiveness in the economy, the Danish Business Development Council initiated and funded a large research project DISKO. Through the years 1996 – 2000 the IKE Group, led by Bengt Åke Lundvall at Aalborg University, performed this major research project on the Danish Innovation System in a Comparative analysis (DISKO).

The aim of the DISKO project was to provide an insight into the factors of performance in firms and the economy, to explain the interaction and the functioning of the Innovation system, and to derive implications for policy for a new millennium. The project was empirically based on a large set of uniquely collected data targeting the competence of the individual, the routines and practices of the firm, the collaboration among firms, the triple helix interaction, and macroeconomic conditions.

As with the Swedish study performed by NUTEK, DISKO worked with flexibility and learning organisations and the flexibility and learning capacity of the firm as a basis for explaining performance. Based on the firm's practices in relation to 14 factors the firms were categorised into four groups of firms.

Static firms: Those firms that did not employ new organisational practices or focus on development of human capital and product innovation.

Innovative firms: Those firm that engaged in product innovation but did not employ new organisational routines or focus on development of human capital.

Organic firms: Those firms that did not engage in product innovation but did employ new organisational routines and focus on development of human capital.

Dynamic firms: Those firms that did employ new organisational practices and focus on development of human capital and who engaged in product innovation.

Development of employment from 1990-1997 in Dynamic and Static firms

	Nov. 90	Nov. 91	Nov. 92	Nov. 93	Nov. 94	Nov. 95	Nov. 96	Nov. 97
Dynamic	70.722 = 100	100,4	99,3	96,7	102,8	105,0	102,8	105,9
Static	25.286 = 100	98,9	98,8	94,7	98,5	96,1	94,8	92,3
All	138.974 = 100	100,3	98,9	96,4	101,9	101,9	100,3	101,4

As the table above displays, the dynamic firms performed significantly better on employment in the period measured than the static firms. As the time line displays for both the static and the dynamic firms, both types witnessed a decline in the period from 1990-1994 parallel to the decline in the Danish economy in that period. The dynamic firms - those that responded proactively by developing their organisation and by focusing on HRM development and product innovation - had from 1994-1997 a growth in employment of over 10%, while at the same time the static firms lost 2.5-3%.

The results reflect all branches and sizes. One of the hypotheses extensively tested in DISKO was that some sectors are more challenged by competition than others. In the next table the result is displayed for dynamic and static firms in markets characterised by increased competition.

Development of employment 1990-1997 in static and dynamic firms in markets with increased competition.

	Nov.90	Nov.91	Nov.92	Nov.93	Nov.94	Nov.95	Nov.96	Nov.97
Dynamic	18.033 = 100	97,2	91,5	86,6	91,8	90,2	88,7	93,4
Static	4.560 = 100	95,3	92,5	84,7	85,4	77,7	75,8	69,4

As the table above displays, firms in markets with intensified competition witnessed a loss in employment between 1990 and 1997. The pattern of loss is quite different between the dynamic firms and the static firms. In the case of the dynamic firms there was a total decline since 1990 of about 6%, but due to changes in the routines and the strategies of the firm in 1994, the dynamic firms have created 1,6% more jobs even in markets with fierce competition. The static firms on the other hand have witnessed a total decline of 30% over the entire period.

The development of employment of academics and low skilled workers in dynamic and static firms from 1990-1997.

	Nov.90	Nov.91	Nov.92	Nov.93	Nov.94	Nov.95	Nov.96	Nov.97
Academics								
Dynamic	2.332 = 100	105,5	110,4	114,6	126,0	145,1	153,3	166,7
Static	321 = 100	96,0	107,2	116,5	120,0	117,4	116,8	113,7
Unskilled								
Dynamic	29.968 = 100	97,8	93,3	88,1	94,0	92,5	91,0	95,1
Static	11.615 = 100	96,5	95,7	89,3	92,1	86,3	87,0	82,1

The table above displays an interesting trend. While the static firms show an increase in the number of academic employees to some at the cost of unskilled workers, the dynamic firms display another pattern. The dynamic firms display a very high growth in the number of academic employees but at the same time a high growth in the number of low-skilled workers. In other words the increased activities and the close collaboration among functions and workers in the dynamic firms enable employment growth in both employment groups.

These results underline another insight from DISKO based on factor and multivariate analysis. Among those small and medium sized firms that have performed best, especially those in traditional sectors, we find three common characteristics; they have engaged in product innovation, they have collaborated with external partners and the Innovation system (universities and technological institutes), and they have employed one or more academic

workers. This high performance seems due to the fact that the academic employee will have the absorptive capacity to collaborate with universities and technological institutes, and this leads to successful product innovations.

Another valuable result from these DISKO analyses is that the value added of employing a first academic worker in a small and medium sized firm in traditional sectors is greater than the value added of an additional academic in a firm in a knowledge-based sector.

59. Pecuniary Benefits of Qualifications

The following section on the return on education directly utilises the most recent figures provided by the Danish Economic Council. The report offers the most recent and comprehensive attempt to calculate return on education (Vismandsrapporten, DØR 2003).

Rates of return on education- Summary of findings

Sections in the following typography are direct quotes, either from original English summaries or translated by the author.

Calculations of the economic return of an education are carried out by comparing the benefit and the cost of the education. The cost comprises foregone income during the period of education. The benefit is the relatively high level of productivity that educated people have compared to people without an education. It is assumed that this increase in productivity can be measured by wage differences. There is a distinction between the benefit and the cost to the individual and to society. For example, public student grants and a relatively low level of tuition fees are a benefit to the individual and a cost to society.

In the report three approaches have been applied to calculate the rates of return to education. The first one uses standard earnings functions based upon extensions of Mincer's return to education equation. The second approach compares differences in the lifetime income of a person with and without an education. Finally, private and social internal rates of economic return to education are calculated based on the lifetime income.

Danish and international studies find a statistically significant positive effect of education in influencing the income level of the individual. In this report evidence from register data for the period 1993-2001 confirms a significant positive relationship between the number of years spent in education and the income. Male returns are found to be 6½ per cent per year of education, which is approximately 1 percentage point more than the equivalent female returns.

Calculations of post-tax lifetime income of different types of education show that in general it is highest for graduates in the social, technical and natural sciences. The lowest post-tax lifetime income is found for vocational education. The same pattern applies when the net-benefits to society are calculated.

Calculations of the internal economic rates of return to the individual and society of different types of education show that in general there is a positive return on education. The private rate of return is between 5 and 39 per cent, while the social rate of return is between 3 and 17 per cent. In general, it is found that the internal rates of return are highest for secondary education (short further) and lowest for graduates in arts.

International studies find that a significant proportion of the work force in for example the United States, Germany and United Kingdom has more or less education than what is actually required for their jobs, meaning that they are either over- or undereducated. In the report, over and undereducation are measured using data-based criteria. The definition of job requirements is based on the actual educational attainments of workers within occupations at a disaggregated level. Computing the required education as the amount of education that most commonly occurs within an occupational category it is found that around 28 per cent of the male work force and around 20 per cent of the female work force were overeducated in 2001. However, authors warn that the figures should be interpreted with caution since the classification of workers into occupations is an element of uncertainty.

The difficulties in using statistics for occupational purposes are confirmed by an earlier study of the ICT sector by Danish Technological Institute¹⁹. In new and emerging sectors job roles and titles are shaped at the forefront of employees' occupations; traditional job classification systems are thus often not applicable.

Using the modal value as a measure of required education, the return to adequate schooling is found to be 7.7 per cent for men and 6.4 per cent for women. The yield to the overeducated men and women is found to be 6.1 and 4.3 per cent, respectively. Hence, overeducated individuals earn less than equally educated individuals who find jobs commensurate with their level of education. Still, there is a positive return to surplus education suggesting that is productive. This result is in line with the findings of similar international studies.

The macroeconomic effects of education may – in addition to the microeconomic gains in productivity – also contain externality effects. Such externalities arise when there are gains from education beyond that which the individual takes into account when he or she chooses an education. It may e.g. be that a high general level of education in an area means a gain to everyone living in the area such that everyone's productivity and welfare is higher. Analyses in the report have tried to quantify the overall macroeconomic effect of public expenditures to education and research. It is found that these expenditures may explain at least a quarter of the total economic growth during the period 1970-2002. However, the estimate should be interpreted with some caution as other variables that may influence total factor productivity only to a limited extent are included in the analysis.

Data Analysis Method:

The analyses on the correlation between education and income use data that build on information concerning a representative 10% sample of the Danish population 16-66 years old in the period 1993-2001. 1993 has been chosen as the starting year due to a data-break between 1992-1993 concerning information on hourly salaries. For every person the register includes information on salary, general income, professional experience, highest completed gymnasium education, highest completed vocational qualification, gender, age, work place (for those employed), parents' education if born before 1922, grade point average for upper secondary gymnasium exam (after 1978), and unemployment frequency. The analyses take their point of departure in the highest completed education. The sample includes several hundred qualifications. Calculations have not been made at such a detailed level. The sample has been divided in 46 groupings for analytical purposes.

For every grouping an average estimated educational duration has been calculated including the duration of secondary education.

To calculate the estimated duration of secondary education a certificate from the 9th form is set to = years, while 10th form will give a duration of 1 year.

¹⁹ Baggrundsanalyse til IT højskolen, Teknologisk Institut 2001

The correlation between income, educational duration and professional experience 1993-2001:

	Men		Women	
	Hourly Salary	Available Income	Hourly salary	Available Income
First year contribution:				
Course of study one year longer	6,6%	5,5%	5,4%	4,1%
One Year of Job experience	4,6%	4,1%	3,1%	4,1%

Danish Economic Council: Autumn Report 2003- Section on Education

As expected, there is a significant positive return on education. The average return on education for men of one extra year of education is calculated to 6,6% and for women 5,4%, when the hourly salary is used as the measure for return on education. Professional experience also shows a significant positive effect. A first year of professional experience gives men and women respectively a 4,6% and 3,1% increase in hourly salary. Return on experience drops over time both for men and for women after 25 years in the labour market. According to the analysis from the Danish Economic Council, the return on qualification increases in general in correlation with the duration of the course taken. This applies to both men and women. Persons with a further technical degree can expect an app. 6% increase in hourly salary compared to that of an unskilled worker. Mechanics or blacksmiths can expect an app. 3% return compared to the salary of an unskilled worker. The return varies considerably among the different educational groupings. In the vocational programs the variation on men's average hourly return is between 1,3% and 9%. On the long cycle programs the variation is between 4,5% for persons with an education in the humanities compared to 8% for people in health. Analyses from the Economic Council also show that unskilled and skilled labourers to a greater degree end in an early pension or early retirement scheme and that persons with further education retire from the labour market later.

A recent analysis (2001) conducted by the Union for Commerce and Trade found that after a maximum of 8 years in the labour market the return on experience equalled zero, but that investment in for example a short cycle further education program on top of the original vocational qualification could increase the monthly gross salary by app. 2000 Dkr.

Costs of Education²⁰

The following table shows public costs of different course programmes. For those programmes where the estimated completion exceeds the defined duration, the defined cost is allocated with an equal amount over the actual period. The figures in the table also attempt to make correction for non-completion. The estimated costs do not take into account the fact that due to the governance of financial arrangements, educational institutions can move financial means between different programs to the extent that an institution offers several programs.

The following table shows lifetime return on education for 4 main educational groupings comprising a number of qualification profiles. The table entries are based on lifetime income calculated on income flow for the different profiles. The table shows available lifetime income for the different profiles. The first column shows the average available lifetime income per qualification (formally educated). The second column shows lifetime income for a matched control group (not formally educated). The third column indicates the percentage difference between these two groups. By matching the groups with a given formal education with those without the education the result is that the first group and the control grouping become similar with regard to a number of variables (variables are gender in the group, age, ethnic background, marital status etc). The last column indicates the internal interest rate for income flows for the different groups. These flows are calculated by deducting the average income for every age group in the control group from the average income in the educated group. There is a relatively high internal interest rate for the

²⁰ DØR- Vismandsrapporten, autumn 2003

short further education programs compared with the control group due to the relatively high income in the study period compared to the control group.

Lifetime income and private economic return

	Income mill Dkr		Net Gain %	Internal interest rate
	Educated	Matched without formal education		
Vocational Programs				
Retail and wholesale	6,9	6,5	5,7	
Office and Finance	7,4	6,4	16,5	
Building and Construction	7,6	7,1	7,0	
Black Smith	7,5	7,1	5,5	
Other Iron and Metal	7,8	7,1	10,3	
Technique and Industry	7,5	6,9	8,4	
Food and catering	7,5	6,6	13,4	
Agriculture and Fisheries	9,8	7,1	36,6	
Health and Social Service	6,3	5,9	5,3	
Short further	8,0	7,0	14,2	34,0
Of these technical	8,0	7,1	12,7	39,0
Medium Cycle Further				
Pedagogical Programs	7,0	6,4	9,0	10,0
Primary and lower secondary school teacher	7,9	7,5	5,9	6,6
Technical programs	9,9	7,9	25,3	21,7
Other	8,1	6,9	17,5	16,1
Long Cycle Programs				
Humanities	8,2	7,8	4,8	4,7
Social Sciences	10,6	8,1	30,6	14,8
Natural Sciences	10,3	8,0	28,9	15,5

Source : Det Økonomiske Råd, Vismandsrapporten Efteråret 2003

60. Non-pecuniary rewards of qualifications.

The extent to which learners build on their qualifications through further learning is explored in section 56 above.

This section covers particularly the most marginalised groupings that are long-term unemployed or that have been referred from the social agencies as part of a labour market activation scheme. The study was conducted in 1997-2000 by professor Knud Illeris, Roskilde University.

As a consequence of an increased emphasis on skills and knowledge in the economy, the practice and ideology of adult education has changed, [according to the author]. Previously,

the implicit background for adult education was that it is usually was a voluntary activity in which the participants involved themselves. But now, according to the author, participants in the group of social welfare recipients and long-term unemployed may be in a situation where they participate in an education and training scheme, not on a voluntary basis but as part of a broader public reintegration scheme, where they have been referred to education and training..

The study seems to indicate that the most important ambivalence is ascribed to the employment perspectives of the participants. For those who are long-term unemployed without any realistic possibility to get a job, the ambivalence tends to lead to a negative attitude towards education and training.

The most motivated group the study found are those who are unemployed but with a realistic chance of qualifying for a job through education and training.

Since lifelong learning is increasing in importance in the economy, the main conclusion of the study points to a need to revisit different models of learning. These models should appropriately target different user groups and their particular life circumstances, where the most marginalised groupings pose a particular challenge to most systems.²¹ Lifelong learning – if given to or forced upon participants who have not mentally accepted and internalised the desire or need for the acquisition of new knowledge, skills, or attitudes – may not reach its full potential in terms of human and financial resources.

Through different public funding schemes, a number of experimental pilots have been initiated the past years to find new models that may combat exclusion of the most marginalised groupings. New approaches appear which show promising results, not least from the work with young ethnic groupings in the larger cities. The aim has been to get ethnic youth back on the track so they may be ready to start an education within the public education scheme or be able to retain a job. Central to these models are that they have a wide notion of training and learning that bridges public policy interventions such as inner-city development and traditional social work with education and training. Typically, the initiatives take the point of departure in the individuals' life circumstances, and not in an institutional offer. Initiatives try to identify the individuals' strengths and potentials, and

²¹ OECD 2003- Beyond Rhetoric- Adult Learning Policies and Practices

build on a help-to-self-help approach so as to foster a gradual level of self-responsibility and to avoid treating the person as a client. (Lerche Mørch, Line 2004)

COMPONENT III: PRESSURES AND INITIATIVES

62. Major drivers for changes and innovations

From 1994 Denmark experienced an upturn in the economy while unemployment dropped to one of the lowest levels in the EU. Since 2002 the unemployment level has been growing. There are discussions among leading economists concerning anticipated developments in unemployment figures in the immediate future.²²

The latest unemployment figure provided is app.180.000 as of October 2003, corresponding to an unemployment rate of 6,4%. According to EU's labour force statistics only one out of every five has been unemployed for more than a year. The greatest increase in unemployment has been in the age group 50-66. According to a report from CASA 2002²³ it is part of the overall picture that an additional 95.000 persons are in different forms of activation. The report furthermore mentions the increase since 1995 of 41.000 persons on early retirement and the percentage of people on rehabilitation and sick leave schemes has grown by 44% to a total of 85.000. In spite of the tighter regulations concerning the possibilities to receive social benefits, the number on social welfare has increased from 110.000 in 1995 till 122.000 in 2000. The number of persons on early pension schemes has fallen by 11.000 in the period, but the number of health defined pension schemes has increased by 7000 in the same period.

These figures indicate that parallel to a reduction in unemployment levels in the last half of the nineties there has been a noticeable exclusion from the labour market that economic growth and the “Nordic welfare model” have not been able to solve. According to the report from CASA one of the negative side effects of the transition to a growth situation and a more knowledge-intensive economy has been that the nature of skills demands in the labour market has changed so dramatically so the labour market also produces exclusion. An

²² Jyllands Posten- Erhverv og Økonomi, November 2003

²³ Social Årsrapport 2002, Center for Alternativ Samfundsanalyse.

analysis in the report based on longitudinal data shows that whereas more people have managed to move from temporary public benefits to being self-supported, the number of persons on long-term public benefits has increased. This seems to confirm that the transition from an industry economy to a knowledge economy tends to have negative affect on those who have the weakest position in the labour market.

Among recipients of welfare benefits, the proportion of non-western immigrants has increased from 24% to 35 % in the period 1995-2001 according to CASA figures, despite the improvements in employment opportunities in that period..

The retirement age combined with a focus on incentives to get youth to complete their education at an earlier age are on the policy agenda to increase labour market participation in a medium term perspective. Compared to other EU countries the employment frequency among men between 54-64 is higher in Denmark than in the rest of Europe. The average retirement age is 62,2 years – 1,5 year later than the EU average. The balance between the elderly and persons in the employment-active age is not as unequal as in other countries (OECD Employment Outlook, 2001). Despite the high participation rate, some economists expect that the anticipated demographic developments will lead to bottlenecks in the labour market in the future. This has focused attention to rethinking employment policies.

While the aim in the 1970s was to reduce unemployment by reducing the workforce through early retirement, the government now seeks to provide incentives to remain employed until the pension age, at 65.

Conditions for early retirement were tightened with the early retirement pension reform in 1999.

The government has also tried to induce more flexibility in the labour market by tightening the regulations concerning benefit allocation. One of the arguments has been to increase the motivation and incentives to seek employment.

A recent report published by the Rockwool Foundation²⁴ takes a critical view of the Danish welfare model which the authors claim may lead to a model of “*Welfare Poor*”. Since 1960s the employment frequency has only grown moderately in Denmark whereas the number of the population in the labour active age who are on different forms of transitional benefits has increased dramatically. According to the authors of this report, this has resulted in a dramatic increase in taxes. In 1994 when the unemployment was at its highest, 900.000 people in the labour market age group were in activation or received different forms of transitional benefits. In 2001 the number was only reduced to 860.000 despite better employment opportunities, according to figures from the report.

Among several topics is the question of the incentives for the lowest paid to actively seek employment comparatively to the benefit allocations they would otherwise receive. Do people lose money, or do they gain less than 500 Dkr. (app 70EUROS) net monthly after tax including transportation and childcare expenses? The report shows that those persons who initially have the least financial gain when moving from unemployment to employment experience the largest financial gain over a short period of time after being employed. The report stresses, however, that there are large variations in this pattern and that it would be wrong to conclude that financial incentives do not matter. The analysis shows that incentives have improved since 1996, where app. 10% directly lost money by going to work. This has now been reduced to 5%. Parallel to this, only 12% gain less than 500 Dkr. extra per month compared to 20% in 1996. The analysis also shows that in general women and immigrants are affected harder. Contrary to the case of native Danes, the number of immigrants that lose money has increased from 21% in 1999 to 25% in 2001, where more immigrants have been employed - despite their lower salary level.

The challenge for the Danish welfare model is not just a matter of increasing the number of persons available in the labour market and the period of a lifetime in active employment. Knowledge and skills and an efficient and high-quality educational system are seen as keys to success in the government’s most recent policy declaration on education “*Better Education- 2002*”. Denmark uses relatively many resources on the Danish primary and lower secondary education “*folkeskolen*”, without necessarily having contributed to Danish

²⁴ Rockwool Fondet (2003) *Fra mangel på arbejde til mangel på arbejdskraft*, Pedere J. Pedersen, Nina Smith mfl.

children's formal competences in the OECD benchmark (OECD 2002). Denmark is also falling behind as to investments in research and the number of graduates who have completed a higher education degree, not least when it concerns natural sciences (The Danish Economic Council 2003).

Denmark does not have a long tradition for being an immigrant country. Until the mid 80's less than 3% were immigrants or descendants of immigrants - this figure including people from the Scandinavian countries and Western Europe and the USA. In the past 15 years the number has increased. As of January 2001 there were 395,947 immigrants and their descendants in Denmark, corresponding to 7,4% of the population. When the current government came into power a number of regulations were implemented to reduce the number of refugees and limit options for family re-unification.

Not only immigrants, but also many children of immigrants that have grown up in the Danish educational system experience difficulties and have a higher dropout rate or non-completion rate than that of average Danish youth in the vocational education system (OECD 2002- AFK 2002).²⁵ When it comes to completing an upper secondary general qualifying program the differences are less, though more marked for young women than for young men.

From the point of view of education, the descendants of immigrants manage considerably better than their parents. Nevertheless, the analysis shows that just under half of the young male descendants and just over one third of the female descendants have neither completed nor are undergoing a qualifying education.

63. Reforms and innovations

Since the Government's launch of the action plan "*Better Education*", comprehensive reforms have been initiated in the entire educational system, not least the adult education system, with the aim of creating a uniform, modularised lifelong educational structure.

²⁵ Amternes og Kommunernes Forskningsråd - "Indvandrernes integration i Danmark", Nina Smith, Hans Hummelgaard m.fl., February 2002

Many of the initiatives are in the early planning or implementation stages, so no data are available yet, neither from the point of view of the users nor from a system perspective.

64. Reforming: Innovative Initiatives

Is not included since the initiative “*Better Education*” is under implementation. This initiative comprises reforms of all levels of the system.

65. Constraints on Reforms and innovations

This section is based on an initial analysis of the themes in the report on the national qualification system supplemented by an interview and discussion in the Ministry of Education with Director Roland Østerlund, Director Villy Hovard Pedersen, and Chief Consultant Jan Reitz Jørgensen.

The author is solely responsible for conclusions and critical remarks.

With the latest reforms in the general educational system and in the adult education system a national and unified qualification system has been created. The system offers the individual student lifelong multiple horizontal and vertical pathways at all qualification levels through credit transfer mechanisms and through recognition of prior learning regardless of context. An ambitious and integrated framework for assessment and recognition of competences are being prepared in 2004 in the Ministry of Education. The question remains how this initiative will interface with a new and planned regional service infrastructure under the governance of the Ministry of Employment targeting unemployed immigrants at all skills levels.

The many different elements in the action plan *Better Education* comprising the entire education sector are currently in the process of being implemented. It is therefore too early to assess to which extent the reformed system will match future societal and labour market demands in a small open economy with a small home market. High skills at all levels of the workforce are central to the competitive position of the economy and thus to current

educational policies, since these skills can sustain innovation capabilities in firms and an international orientation in the economy.

Central goals of the recent reforms have been to improve efficiency in the system through a coherent approach to the recognition of prior learning and credit transfer, to improve economic efficiency, and to induce a lifelong learning behaviour at all skills levels and age groups. The question remains, however, to which degree the outcomes of improved recognition of prior learning procedures will be viewed as valid both within the educational system and the labour market system, the latter being measured in employment and mobility parameters. It is also uncertain whether or not better opportunities will act as further incentives and lead to a positive lifelong learning attitude for more of the lowest skilled, improving their foothold in the labour market and their general participation in society.

Efficiency and response in the educational system

Another aim has been to create more efficient and faster response mechanisms to ongoing changes and emerging needs in the labour market caused by factors such as outsourcing of functions to other countries, localisation of knowledge intensive international firms in Denmark, technological advance and sector convergence, emerging new markets, and customer preferences. All of these factors also exert pressure for a decided internationalisation strategy for the educational system comprising all skills levels and age groupings.

Instead of primarily basing the dimensioning of the public educational system on statistics and prognosis, the reforms over the past years give the educational institutions and other actors greater autonomy and co-responsibility to make decisions on the volume and nature of the educational supply within a national framework governance structure. In the electronics industries in Northern Jutland, and similarly in the high end of the textiles industry, we already have examples of new models of supply and strategic partnerships. These build on networking in a one-stop-shop principle with close school-firm and inter-firm local collaboration. From a supply perspective it is a common characteristic for the above mentioned examples that education and training is understood by the providers within a broader context of innovation and institutional specialisation; providers take a less institutional approach to training and learning. From a demand point of view, education and

training providers contribute to increased productivity and product and process innovation, and they have led to local and/or sectoral economic growth or restructuring, firm localisation and net job creation within sectors that are under heavy global competitive pressure.^{26 27}

The above provides illustrative examples of how local institutions have entered a strategic dialogue with the local enterprise base with some interesting results which might not have been possible under a tightly regulated central governance structure.

Bridging institutionalised and non-institutionalised learning and firm innovation

The structure of public funding of vocational education is changing. New funding models combined with technological specialisation will undoubtedly lead to enterprise demand for genuine educational value-added tied to strategic business objectives. Trainers will then need new competences to understand and meet a skills issue in a business and innovation perspective. New enterprise demands will also no doubt challenge traditional boundaries between informal in-company and intra-company learning and the institutionalised educational supply. With the advance of all-purpose information and communication technologies (ICT) we can expect e-learning to play a more central role in the skills strategy in firms, but with quite different models and approaches than that of the institutionalised electronic classroom predominant in Denmark.²⁸ Discussion in the sections above represents regions with a local geographical concentration of a particular sector or value chain. We do not see the same form of sector concentration or clusters in all parts of Denmark. What type of approaches will then be valid and what type of institutional competences and partnerships in the national knowledge system will then be required in order to meet a variety of firm/sector needs that can bridge institutionalised and non-institutionalised learning in the context of innovation?

²⁶ For a further discussion on the electronics industries see: "Ressourceområdet, IKT". For Økonomi og Erhvervsministeriet, Teknologisk Institut, 2001.

For a further discussion on globalisation and convergence of the European Textile Sector, see Centre for Monitoring of Industrial Change, Dublin. ("The textile sector", Technological Institute, Dk. Will be web published spring 2004)

²⁷ Uddannelse nr. 24. Sorø Mødet 2003, Undervisningsministeriet

²⁸ For a further analysis of e-learning in Danish firms tied to their innovation and competitiveness strategy see: E-learning in Danish Firms, Technological Institute, June 2003.

Measuring outcomes and impacts- support to policy innovation

Given the overall public investments in the qualification system, and given the concurrent reforms in the system at all levels, there will be a need for other types of measures that can complement traditional program evaluations and statistics. There is a need for instruments that can capture not only outputs, but also outcomes of education from an individual, company, and societal perspective when measured against given policy objectives. There is also a need for measures and evaluation forms that can bridge policy formulation with policy implementation, policy adaptation, and research within the policy domain to support evidence-based and knowledge-based policy formulation. Experiments with new approaches were made within Reform 2000. With a current European and national focus on benchmarking the risk is that formulation and piloting of new initiatives take a “too safe and narrow” an approach to innovation in order to produce good benchmarks.

Skills for the future?

In an economy undergoing dramatic change, traditional forecasting instruments may not be very useful and sufficient to dimension educational supply. Which other types of instruments are best suited to capture some of the uncertainties tied to predicting skills?

There is a high degree of labour market mobility over time, stretching from the initial qualification profile across occupations and sectors. This is due to among other factors the outcomes of informal learning; therefore, given developments in global localisation and re-localisation patterns it also seems necessary to complement traditional statistical instruments with other types of broader and more qualitative instruments in order to best understand and deal with ongoing changes. As an example the Union for Commerce and Trade in Denmark and the Confederation of Danish Engineers have tried out scenario methods and other future-oriented qualitative methods to discuss and focus on drivers and uncertainties concerning future demand for skills. Similarly, The Nordic Council of Ministers has adopted more qualitative approaches when debating future policies in primary schooling.²⁹

Job-creation and the low-skilled

The government has set as a target the creation of 85.000 new jobs within the next few years. At the same time, unemployment has been growing since 2001 and is now 6,4 %. The combination of outsourcing of low-skilled jobs to low-wage countries and the growing

knowledge intensity and new forms of work organisation prevalent also in traditional sector puts particular emphasis on finding new strategies that successfully reach the low skilled so they are not pressed out of the labour market or forced into early retirement. There is an issue of motivation and of not perceiving lifelong learning as something forced. There is also a need to bridge general adult education with vocationally oriented education and training, taking a point of departure in the individual's needs. As working processes become more knowledge intensive, so does the content of labour market courses. This leads to greater requirements for numeracy and literacy skills embedded in new work organisation practices. Traditionally, there is a linear understanding to the interlinkage between general adult education and vocationally oriented education. First the general basic qualifications are addressed and then the vocational specialisation, and this may have negative consequences for the adult's motivation. Developments within the AMU system show how the system is responding to these changes by offering praxis-relevant qualification combined with qualification components of a more general nature.

Integration of our immigrants

A major current challenge is the integration of immigrants. The government has just come up with an action plan for better integration that comprises initiatives across several Ministries. This action plan should be seen on the background of a relative over-unemployment among immigrants. According to recent figures, 45% of immigrants at Copenhagen University drop out of education, and more than 50% drop out of vocational education. One of the explanations concerning the latter figure could be a lack of a sufficient number of apprentice places. Another problem is that the system so far has not been good in assessing both the formal and the informal qualifications that the immigrant may possess. In addition, the assessment process has often been spread among too many actors. Another issue may be when and how Danish is taught to second generation immigrants and whether or not there is sufficient emphasis on written skills and broader personal skills concerning learning-to-learn and the ability to function in a highly flexible, individually oriented, and project-based learning environment such as the Danish one?

²⁹ www.morgendagensskole.org

Academics and new occupations

The higher education system has also undergone considerable change the past years. Since 2001 the number of unemployed recent *candidatus* graduates has grown considerably across almost all programmes, as has the number of unemployed in general with a *candidatus* degree, despite discussion about the knowledge economy. This puts the spotlight on higher education in terms of dimensioning, funding, and potentially profiling the programmes to different occupations. Even though a bachelor level was introduced in the late 90'ties, the majority of students continue to a *candidatus* level, and in general it seems as if companies have not been willing to hire employees with a BA even in a period of almost full employment. Danish industry is characterised by a prevalence of SMEs across all sectors. Even if analytical data show a correlation between first time employment of a *candidatus* graduate and growth and innovation³⁰, and even if unions representing different graduate groups have made marketing initiatives for their members to SMEs, it so far seems to have had but moderate effect. One reason for this may be that the graduates themselves and the counselling services do not have a particular focus on SMEs, except for within a few knowledge intensive sectors. Another reason may be that companies feel that potential employees with comprehensive academic profiles require excessive upskilling investments in order to be rendered profitable.

The future of the dual system?

Like³¹ other dual systems, the Danish vocational system is also faced with a challenge of finding sufficient apprentice places. The number of school apprentice places for students who do not find an apprentice place from the very start has been reduced with the latest revision of the vocational education. A qualitative analysis that Technological Institute carried out for the Ministry of Education as background to the Financial Bill 2003 points to considerable fluctuations in the types of companies that take in apprentices in a traditional apprentice scheme or in other partial arrangements. Acquisition by international firms seems to have a negative effect on the number of available apprentice positions, as does outsourcing of public services to private firms and massive change in firms. The apprentice system also seems to a certain extent to compete with other firm placement schemes across

³⁰ DISCO; Ålborg Universitet. 1996-2000. Erhvervsfremme Styrelsen *Ledelse og Vækst* - Teknologisk Institut, 1995.

³¹ Background report to review of Adult Learning in Austria, OECD 2003.

educational, social and labour market policies, although there has been no in-depth evaluation of the effects of different types of placement schemes.

On the positive side, small firms where the owner has a background in the apprentice system seem to be more inclined to take an apprentice onboard. An efficient apprentice service towards the firms at all stages of the apprentice period also seems to have an effect, but it has impact on resource demands in the school system. A major innovation study on the Danish innovation system³², carried out by professor Bengt Åke Lundvall and his colleagues, points to the central importance of the vocational educational system to a highly skilled and flexible workforce. If more companies do not take the responsibility to qualify people within the apprentice system, Denmark runs the risk of ending up with a system that is much more school-based. This will have huge cost implications; in addition, while it may be capable of delivering know-how, it may not be capable of delivering those know-why and now-who types of skills that are best acquired in a working context³³.

66. Debates

The advisory group of the Danish Economic Council has carried out a comprehensive analysis of the interrelation between economic welfare and education and the pressure that this interrelation places upon drivers for innovation and change in the education system.

According to the authors there are a number of reasons that Denmark should have ambitious goals for the educational level of the population and that the country should use many resources on publicly financed education. Publicly financed education is seen as an important instrument in ensuring equality and ensuring that a high employment level is in harmony with a relatively low level of salary differentiation.

Given the amount of resources spent on public education - the total public expenditures to education were DKK 123 billion in 2002, amounting to approximately 9 per cent of GDP - the authors argue that it is necessary to raise the question if the Danish educational system from an economic point of view has the most adequate size and structure.

³² DISCO- projektet. Det danske innovationsystem. 1996-2000. IKE gruppen, Bengt Åke Lundvall et al, Ålborg Universitet.

³³ Ducatel Shapiro: *"The Learning Labour Market"* background report to High Level Expert Group :White Book on Information Society for Us All. 1995.

On the other hand development of new products and processes are an important prerequisite to economic growth. This requires a well-qualified labour force, as does the implementation of more advanced production processes.

International competition between countries and regions to attract and keep companies in a particular location is another factor where access to specialised knowledge may play a central role.

This has been the situation in Denmark in Northern Jutland for the mobile technology industry, and in greater Copenhagen/the cross-border region Øresund in sectors such as biotech and pharmaceuticals.³⁴

Primary Education

The Danish primary education, which has been under much public debate following the PISA test, is also analysed in the report from the economic council. The authors state on one hand that it is thought-provoking that comparisons between different OECD countries show that expenses per pupil in the Danish primary school are among the highest while the performance by the pupils is average. They say, however, this need not be a problem if the primary school passes on valuable skills in a number of other fields that are emphasized in the objects clause of primary school, such as personal and social skills. They find it striking that an independent Danish framework for evaluating the fulfilment of the primary school's objects clause has not been developed, and they recommend that a methodology for evaluation of the primary school that can measure the different aspects be established as soon as possible.

The authors are critical of one particular initiative aimed at raising the standards in the primary school. The government has decided to publish the average marks at the final tests in the schools 9th and 10th forms. From the authors' viewpoint this is problematic since both Danish and international studies show that marks and test results reflect the parents' background rather than the quality of teaching. Experiences from the United Kingdom show that a system with publication of marks leads to a wider variation in the marks of the schools. Among other things this results from resource-strong children being taken out of "poor" schools and put into "good" schools. This is also likely to happen in Denmark where changes in the Act of the Primary School from 2002 have made it easier to change from one school to another. If there is a wish for publishing marks and test results, a statistical analysis should be carried out that corrects for differences in parents' background and other conditions that affect the performance of the pupils but is not influenced by the schools. Such a correction is necessary to assess the effect of the quality of teaching in the schools.

Initial Vocational Education

In Denmark there is largely unrestricted admission to vocational education. An important feature of the Danish vocational system as described previously in this paper is that it builds on a dual system, though with a bigger school component than for example the German system. However, not all of the pupils succeed in finding a training place in a firm. Instead they have the possibility within a number of programs of starting their apprentice period in practical training at school (the Ministry has laid down clauses thereby excluding a number of programs under this arrangement) provided they can document that they actively are searching for an apprentice-place in a company, also in other specialisations and in other

geographical locations.³⁵ An analysis conducted by Technological Institute shows that the majority of the school apprentices finalise their apprentice position from a company, and that employment options for apprentices from a company versus from a school over time equalises.

The Budget for 2004 means that the State takes over the financing of the practical training that takes place in schools. The aim of this agreement is to reduce the number of pupils in the school apprentice system. However, compared to the present system the agreement does not encourage firms to establish more practical training places. According to the authors of the report from the Economic Council, one way to raise more practical training places would be to financially reward firms that establish practical training. Different schemes have been tried out in the 90s but were later abandoned due to inborn risks of reduced quality in the apprentice situation. The authors recommend that alternative models for compensating employers for taking a qualification responsibility be examined.

With respect to tertiary education the authors suggest that flexibility can be assured by a more effective split-up between bachelor and graduate studies. In a number of fields a bachelor education still corresponds to 3/5 of a graduate degree. It is not a goal in itself to educate more bachelors, but it seems inexpedient to bind the students to five years of education or more, especially in a situation where admission to tertiary education is increasing.

An analysis carried out by Technological Institute in the autumn of 2003 as input to the financial bill seems to indicate that the reduction in the overall number of apprentice places is a reflection of a great fluctuation between companies. International takeovers seem to have a negative effect on companies' willingness to take in apprentices. Other types of in-house training schemes, both for social or reemployment purposes or for other educational levels, seem also to have a negative effect, as do major organisational changes and outsourcing from the public sector to the private sector since conditions concerning apprentice places do not seem to be a part of the outsourcing contracts made with private firms.

Further Education

The further education system is also analysed in the report from the Economic Council. It is argued that the taximeter could be utilised to promote a socially desirable degree of flexibility on the part of the educational institutions. One possibility is to conduct evaluations at regular intervals. The purpose of such evaluations should be to assess whether

- the form and content of teaching live up to international standards;
- the structure and content of the educational provisions reflect the demands from those who employ graduates;
- the educational institutions follow the progress of graduates in the labour market and use this knowledge to improve educational provision;
- the institutions offer relevant supplementary education.

³⁴ author's comments

³⁵ For a further analysis of the quality in the school apprentice scheme, see "*Kvaliteten i Skolepraktikken*" Teknologisk Institut, 2003

The rates within the taximeter system could then be changed in accordance with the extent to which educational institutions fulfil these demands.

While such evaluations will always contain some elements of judgement, the alternatives are not necessarily any better. If e.g. the unemployment rate of graduates were used as the only indicator for educations' relevance for the labour market there would be considerable difficulties in interpreting such an indicator: How much is due to the quality of the education? How much is caused by a permanent change of demand? And what can be explained by other factors such as business cycle fluctuations?

As described previously in the section on quality assurance in the Danish educational system, the Danish Evaluation Institute has been established. Given the recommendations in the report from the economic council it remains a question if the mandate of the Danish Evaluation Institute should be re-examined.

The authors argue that there are strong arguments for demanding flexibility and mobility of persons who hold at least a master degree. Flexibility is the way these persons should pay back society for the extra years of free education and the possibility of a free choice within the education system. An alternative is to change the financing of the master degree so that students face a larger marginal risk than today. They argue that such a change could be achieved by converting education subsidies into loans and/or by introducing tuition fees. A reform along these lines would mean that students do not have to face a lower living standard than today, but would have a larger incentive to finish their education quickly. Today, drop-out rates are small in the masters' studies so students' risk in such a reform would be relatively small. Furthermore, previous analyses have shown that education subsidies in the present form serve to enlarge inequality seen over a lifetime, so converting subsidies into loans would actually decrease total inequality.

If students were to pay for master degrees themselves or if education subsidies were converted into loans then the introduction of an education tax deduction for persons who have paid parts of their education should be considered. Such a deduction would make the education system more robust with respect to the migration of graduates, since highly educated individuals would be rewarded for working in Denmark. The tax deduction may be awarded over a period of 5-10 years. A similar tax deduction for foreigners working in Denmark should be considered in order to make the Danish labour market more attractive. The deduction may replace the current tax rebate for key personnel recruited abroad (the 25 per cent rule). Tuition fees and tax deductions could be combined so that the total change is neutral with respect to lifetime income.

The authors underline that the strong statistical relationship between parents' educational background and children's choice of education does not mean that the public subsidies to education are without effect in helping children of unskilled workers get education. It remains unknown how the situation would have been without any government involvement in the education system. Even if the effect of government involvement is relatively small in the short run it is important to note that the effect accumulates over generations so that the long run effect may be much larger. With respect to sabbatical years it should be considered rewarding a quick transition from youth education to further education, e.g. by making education subsidies contingent on the number of sabbatical years.

Adult education and training

As described earlier in this report there exists a comprehensive system for adult and supplementary education to which the government makes a significant contribution, and which has lately undergone a major reform. However, until now there has been no evaluation or measurement of the effects of this system. Therefore the authors of the report from the Economic Council recommend that such an evaluation be initiated as soon as possible.

From the point of view of this author, and given the recent comprehensive reforms, a traditional evaluation would not capture major recent innovations that have been made. Instead the evaluation could be designed as support to policy implementation as was the case with previous evaluations of the reform of the vocational education system.

The authors on the report from the Danish Economic Council state that the financing of supplementary education should be shared among employers, workers and the government, an issue that has received considerable attention in the policy debate the past year. One possibility is that industry-specific supplementary education be financed by contributions to a common fund by both workers and employers. The specific rules for such a fund – e.g. the size of contributions and the list of educations and courses covered by the fund – could be decided as a part of the labour market negotiations. The government should target its contributions to supplementary education towards the least educated part and the oldest part of the labour force. The main argument for such a targeting is that it would help to ensure that these persons remain in the labour force. However, there do exist arguments for public support of all supplementary education.

Social heritage is a key in educational attainment

Analyses in the present report show that parents' educational background has a large and significant influence on the choice of youth education. Children of university graduates thus have a significantly higher probability of starting a theoretical youth education and a significantly smaller probability of starting a vocational education than children of unskilled workers. However, parents' background only has a rather small influence on the probability of finishing the education once it has been started. While children of university graduates have a larger probability of finishing a theoretical youth education, children of persons with vocational education have a larger probability of completing a vocational education themselves. Another interesting result from the analysis is that first and second generation immigrants have a significantly smaller probability of starting vocational education than ethnic Danes.

This factor is particularly noticeable both from a youth policy point of view and from an adult education point of view given the higher level of unemployment among first and second generation immigrants. Earlier analyses conducted by Danish Technological Institute about the situation of immigrants in vocational education point to issues of insufficient language skills, difficulties at times adopting to another pedagogical tradition based on a strong co-responsibility for own learning and project based work, and negative attitudes among some companies to take on a non-native Dane as an apprentice. In a period with a lack of apprentice places in most trades it is therefore likely that young immigrants or adults seeking a vocational education will be more reluctant to start an apprentice education, due to the risk and *a priori* expectation that it will be difficult to find an apprentice place and later find a job. A recent analysis from the Confederation of Danish Employer's however seems to point to an improvement in the situation³⁶.

In further education the parents' background also has a statistically significant influence on education choices. Thus children of persons with further education – in particular university graduates – have a

³⁶ Author's comment

significantly higher probability of beginning university studies. Background variables for parents are, however, less important in determining the probability of finishing an education once it has been started. The grade point average (GPA) from the youth education on the other hand has a large and significant effect on the probability of both starting and finishing further education. This strengthens the view that parents' background may also be influential in determining the choice of further education, since analyses show that there is a clear statistical relationship between parents' education and children's GPA.

An additional interesting result is that sabbatical years after finishing youth education have a negative influence on the probability of completing university studies. For the other types of further education no such clear relationship between sabbatical years and the probability of completing studies can be found.

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