Denmark

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13.1 History and Social Parameters of the Education System

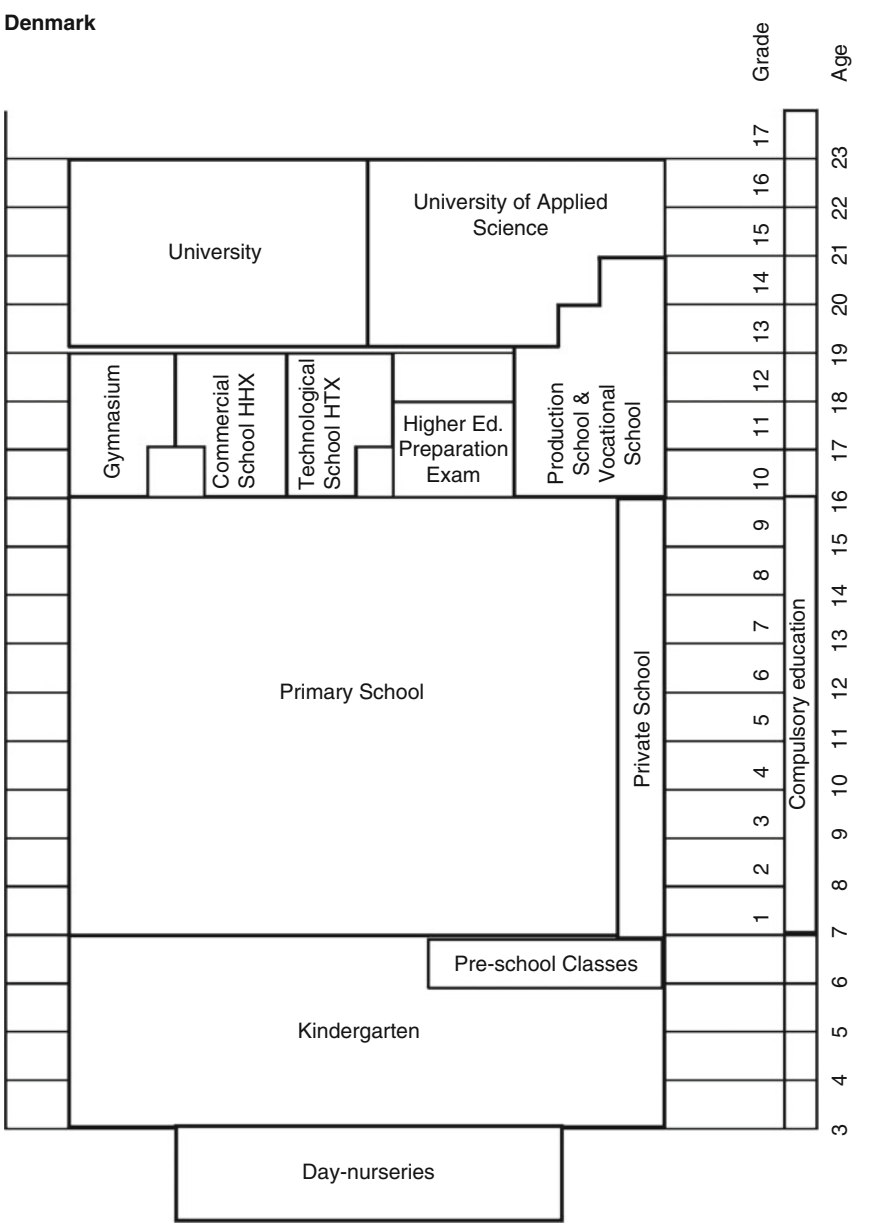
The notion of the so-called life enlightenment (livsoplysning) and the concepts elaborated by N. F. S. Grundtvig and his work on residential adult education centers form the fundamental principles of the Danish school system. A significant goal of Danish education is not just the acquisition of theoretical knowledge, but the acquisition of practical knowledge that provides an explanation of and orientation in life.

As with all Scandinavian countries, both the length and scope of institutionalized education developed after the Second World War. The multitrack school system which was largely abolished in 1903 was replaced by a comprehensive school model. Based on the experience of the war, special value was given to strengthening democracy through school education. In addition, cooperation between parents and school was improved and preschool care established.

Within this comprehensive general connection, reforms have recently been carried out across the whole of the education system. Guidelines for reform are provided by the government, which is typical for a centralist nation such as Denmark. These include the modernization of the curriculum, the freedom of individual institutions, and an effective control process over funding. Decentralization has given decision-makers at institutional level considerably more local autonomy. Local bodies and the individual institutions are responsible for implementing the framework aims defined centrally, but it is becoming increasingly important to meet national standards. Alongside preschool facilities, the *folkeskole* (a 9-year primary school) form the core of the Danish school system. In addition to schools that prepare pupils for university, there are numerous other secondary schools both in the public and in the private sector.

13.1.1 Reform and Innovation

In the course of the twentieth century, the various parts of the whole Danish education system were gradually taken out of a local context and transferred to a system of its own. By and large, the connection between the individual types of school (*folkeskole*, basic school; *realskole*, secondary modern school; *gymnasium*, grammar school) was achieved in the middle of the twentieth century with the school reform of 1958. These developments were directly related to the changes in the social structure, increasing urbanization and growth in population. Triggered by industrialization and following on from the modernization of society, an ever-growing proportion of the population needed more educational opportunities and qualifications.



The fact that a school was an instrument of social division characterizes the expansion of schooltime and extended access to secondary education. The development of the comprehensive school culminated in the course of the 1970s and 1980s. The Danish policy toward education and educational activities largely eliminated the differences that had arisen between urban and rural schools

and between social groups. The process of external unification led to internal differentiation (through specialist courses).

In the mid-1970s, the radical movement of resistance against the Social Democratic-dominated welfare state developed. Parliamentary power shifted, and the conservative and liberal parties emerged stronger from election campaigns. Neoliberal tendencies in education intensified when Bertel Haarder took office as the education minister in 1984. Haarder distanced himself from the notion of interdisciplinary study and educational reform, diluting the aims of social equality and instead emphasizing flexibility and mobility. Parallel to this, attempts were made to push ahead with the decentralization of the school sector through the use of market mechanisms.

In 1993, the Social Democratic government passed a new *folkeskole* law that strengthened the notion of decentralization, giving more power to head teachers. In a bid to raise performance levels, more class time was allocated to key subjects. The option of dividing pupils into classes of varying ability levels was abolished, the aim being to provide greater flexibility to offering differentiation within classes. The law was characterized by performance-oriented and reform impetuses. The Social Democratic/Liberal government renewed the law in 2013. The reform means that key subjects such as Danish and mathematics and also creative subjects were allocated more class time. In addition, the law aimed to strengthen the connection between class time and organized leisure activities. As a result, "activity lessons" outside the normal schooltime were introduced: this gave pupils the opportunity to receive help with their homework. These activity lessons were supervised by preschool teachers in collaboration with class teachers.

13.1.2 Political, Economic, and Cultural Conditions of the Current Education System

The twentieth century witnessed a shift in economic focus in Denmark from an agricultural society to a service society. However, the transformation process was also clearly characterized by the increased deployment of industrialized methods in agricultural produce. But Denmark has too few natural resources to base its economic prosperity on in the long term. Research-based high tech and an expansion of the public sector mark the current labor and cultural pattern in the country.

In contrast to the other Scandinavian countries, Denmark with its 5.6 million inhabitants, 2.7 million of whom are in employment, is relatively densely populated. The total land area amounts to 43,000 km^2. Roughly 60 % of land space is used for agriculture, but given the strong streamlining measures, only 4.8 % of the population works in the farming sector. An important economic sector is the fishing industry. Denmark changed from an agrarian to an industrialized nation during the 1960s. About 20 % of the employed persons are active in the industry, while 66 % work in the service sector. The high export potential for the Danish industry is secured by a concentration on modern production and research technologies and a highly trained workforce. In 2007, the unemployment rate was 3.4 %, in 2013, 6.8 %. In 2008, the gross national product amounted to 252 billion euros. With the expansion of the

welfare state, the expenditure on education climbed from 2 % of GNP in the 1950s to 15 % in the 1990s. The expenditure continues to remain at this level.

In addition to the number of immigrants and their families (606,000), a German minority lives in the south of the country. The relative homogeneity of the population has meant that the Danish society is able quickly to find compromises and various forms of consensus when it comes to social, economic, and even cultural issues. The Danish welfare state was built up in the 1950s and has proven to be relatively stable.

The Danish state has a long democratic tradition; the monarchy was reformed in 1849 through the introduction of a liberal constitution and the *Folketing* (parliament). The queen heads the constitutional monarchy; in reality, the executive is made up of the ministries and the central administration. The *Folketing* is the legislative.

Denmark is made up of 5 regions and 98 municipalities. The kingdom of Denmark also includes the autonomous territories of Greenland (57,000 inhabitants) and the Faeroe Islands (50,000 inhabitants). The church and the state are not separated; in 2013, 79 % of the population belonged to the *Folkekirken* (the people's church). Nevertheless, the Danes are not very religious people.

13.2 Fundamentals, Organization, and Governance of the Education System

13.2.1 General Principles, Current Educational Policy, and Goals of the Education System

The educational policy in Denmark is not only a reflection of the character of Danish society, but also of its national political system and its culture. The political culture of the country is characterized by cooperation and pluralism at both national and local levels. This has been manifested in various comparative studies (e.g., Skidmore and Bound 2008). This development is all the more remarkable because Denmark experienced the transition from absolutism to democracy without any noteworthy conflict. As a result, coalition governments are more the rule than the exception in the twentieth century. The majority of governments have been formed by the Social Democratic Party in cooperation with the Liberal Party. The current government which has been in office since 2011 is a Social Democratic-Socialist-Liberal coalition.

Traditionally, Danish politics emphasizes the welfare state, in particular within the meaning of a universal distribution of social goods and services, and its labor market is set up accordingly. Organized employees and employers form the backbone of a working atmosphere characterized by consensus and cooperation. Trade unions have secured widely valid agreements. The state also plays an active role by undertaking political activities to intervene in the labor market. The collaboration between social partners and the state is a major feature of the development of both vocational education and a range of activities preparing young people for the labor market. Although this political element has been weakened in the past through a policy of deregulation, it still plays a significant role even in comparison with other European countries.

Denmark has been a member of the European Union since 1973. Its membership is mainly based on the opinion that a small country cannot survive alone in a world dominated by transnational blocks and be economically dependent on these. However, this membership was, and still is, contentious. EU membership has brought about the internationalization of the Danish education system, which is particularly stark in the areas of lifelong learning, e-learning, and vocational education. Although the Bologna Process is not necessarily tied to the EU, it has still led to widespread changes in the higher education landscape.

13.2.2 Basic Legal Principles of the Education System

The Danish school system today displays a high degree of financial decentralization. The same cannot be said for decisions about local curricula and specific content for which central committees (ministries) are responsible. Governance is exercised on the one hand by the national curriculum and the objectives it contains and, on the other hand, indirectly by national examinations and tests.

The law on basic schools[1] forms the legal framework for education at public Danish schools. Lessons at a free school (*friskole*) or at a private school are regulated by the law on free schools and private basic schools.[2] Secondary education at g*ymnasium*, grammar school, is determined by the law on secondary schools[3]; the law on education for the preparatory examination defines the framework conditions for *hf* courses (Higher Education Preparing Exam).[4] Vocational channels at the upper secondary level are determined by the law on higher commercial examinations (HHX) and higher technical examinations (HTX).[5] Legal provisions governing fundamental vocational education are found in the law on vocational education.[6] Numerous implementing provisions, addenda, and adaptations of the legal framework are carried out regularly. All universities and other institutions of higher education, their administration, and research work are subject to the University Act of 2006.[7]

13.2.3 Managing the Education System

The *Undervisningsministerium* (Ministry of Education, UVM) has the legislative responsibility for the education system, with the exception of university programs. The Ministry is divided into a division of educational policy and a division for

[1]Lov om folkeskolen

[2]Lov om friskoler og private grundskoler

[3]Lov om uddannelsen til studentereksamen (stx)

[4]Lov om uddannelsen til højere forberedelseseksamen (hf)

[5]Lov om uddannelserne til højere handelseksamen (hhx) og højere teknisk eksamen (htx)

[6]Lov om erhvervsuddannelser

[7]Lov om universiteter (universitetsloven), 2006

quality and supervision. While the former is responsible for implementing policy decisions in education, the latter is responsible for monitoring the various educational institutions and programs.

The *Undervisningsministerium* determines the other basic conditions for the *folkeskole* as well as for the *friskole* (free school). These include the general aims of the school, the curriculum, and single subjects through national standards. The fundamental character of the public school is determined by the core curriculum and a guideline for the timetable. At the upper secondary level (*gymnasium*, *hf-line*, *HHX* (trade school), *HTX* (technical secondary school)), the Ministry develops the regulations for the curriculum and for the final examinations. It also approves new subjects and compiles written final exams; the *Undervisningsministerium* also supervises lessons and exams. The Ministry regulates vocational education in conjunction with partners on the labor market. A committee has been set up for each discipline comprising employer representatives and representatives from trade unions and the Ministry. The committees are responsible for the respective curricula.

The following agencies are involved in the local administration and operation of the *folkeskole*:

- The *kommunalbestyrelse* (district council) is responsible for the distribution of financial resources, for appointing teachers, and for opening/closing schools.
- The *skolebestyrelse* (school board) is made up of parent representatives, teachers, and pupils and draws up the local curriculum.
- The *pædagogisk råd* (a consulting committee of teachers), to which every teacher automatically belongs.

All secondary schools, vocational education facilities, and adult education facilities are legal institutions in Denmark that exercise their activities in line with national regulations. Because many district authorities were disbanded as a result of the reform of municipalities in 2006, most upper secondary schools carry out planning and administrative tasks themselves. The head teacher and the school board are responsible for the provision of education, subjects, the use of the state subsidy, examinations, decisions on the hiring of teachers, and acquiring and/or equipping school buildings.

The autonomy of the local school is expressed in the free selection of textbooks and all other teaching aids which are not subject to state approval. The skolebestyrelse is responsible for the selection, but every teacher is free to decide on their use in his or her class. They are also free to apply the methodology of their preference. The *Folketing* and the *Undervisningsministerium* determine teaching objectives and set national standards which must be fulfilled by the schools.

13.2.4 Funding the Education System

The *folkeskole* is funded by the municipalities through local taxes. However, the use of resources for the basic school is regulated and controlled by the state which effectively restricts the financial leeway of the municipalities. Attendance at private schools is

subject to cost, which parents have to cover 15 % of fees themselves. All other costs are financed by the state. Secondary schools and adult education are largely funded from state funds. Some public adult educational programs are subject to fees.

Formally, universities and other institutes of higher education are legal bodies whose programs are virtually fully financed from state funds. They are entitled to charge for further education programs, but even these are largely cofinanced from state funds. Research activities at the university are also state financed, but are increasingly supported from private sources.

At the beginning of the 1990s, the "taximeter principle," an activity-based system of funding, was introduced in Denmark and applies to the *friskole*, general and vocational education schools (*gymnasia*, *hf-kurs*, *HHX*, *HTX*), the tertiary sector, and adult education. It does not apply to the state-run *folkeskole*. It consists of a lump sum (*grundtilskud*), a pupil-related amount (*uddannelsestakst*), and a combination of funds to cover administration and operating costs (*fællestakst* and *bygningstakst*).

13.2.5 Relationship Between the Public and Private Sector

Private *friskoler* (open schools) have existed in Denmark since the middle of the nineteenth century. These are founded on the tradition of compulsory education because Denmark does not have compulsory schooling. Parents have the constitutional right to teach their children at home. The free private primary schools have a similar structure to public schools. Parents can freely choose the school form attended by their children. They decide both on the educational type and the structure of the school and on the form, contents, and amount of teaching. However, they have to pursue the same objectives as the *folkeskole*, and pupils have to take the same examinations. The *friskole* mainly provides education equivalent to the 9-/10-year *folkeskole*, and the secondary sector and their educational focus vary enormously. Denmark has about 530 *friskoler* spread throughout the country. The private schools are small with numbers varying between 28 and 450, and they are attended by around 14 % (2011) of an age cohort.

The state supports private schools by covering 85 % of the costs with the rest being covered by tuition fees. A parents' representative supervises the lessons to ensure that the teaching is of the same standard as in state schools.

13.2.6 System of Quality Development

In the mid-1980s, the education minister of the time, Bertel Haarder, undertook a variety of initiatives to establish the issue of "quality" at all levels of the education system. Since then, the issue enjoys a fixed place in Danish education politics and is always at the center of important political decisions. The triumph of the concept of quality was accompanied by the establishment and continued development of quality assurance systems at all levels which involved the creation of special institutions and procedures. One of the first institutions to be established was the Danish Centre for

Quality Development and Assessment, founded in 1992, whose prime task lies in monitoring higher education. Funded by the Ministry of Education, the center repeatedly carries out quality tests on all academic study programs. The center was reformed in 1999 to become the Danish Evaluation Institute (EVA), and while its organization and methodologies remained largely the same, its scope was expanded. Since then, its central responsibility focuses on the quality control of all areas and sectors of the Danish education system. In particular, it explores strategically significant elements, and the institute provides political consultancy on the basis of its evaluation.

As an instrument of quality assurance, the accreditation of secondary education services was introduced. Before they can be offered, new services have to be accredited, and services that have already been established are to be assessed on a regular basis. Decisions on accreditation are made by the Accreditation Council (*Akkrediteringsrådet*). University programs are accredited by the ACE Denmark (Danish Accreditation Institution). All other services are accredited by the EVA.

At the level of the *folkeskole*, a nationwide program of quality development and assurance (*kvalitetsudvikling i folkeskolen*) began in 1998. It is carried out on the national, local, school, and class level. Municipal aims and evaluation methods had to be compiled, and schools had to be able to work with evaluation and quality assurance instruments. As a supplement to the school reform of 2006, a committee was created to evaluate and develop quality in schools. At the same time, a resolution was passed stipulating that each municipality should submit an annual quality report containing administrative and educational details. A quality assurance program for vocational education was introduced as early as 1997.

13.3 Overview of the Structure of the Education System

The Danish education system developed along the paradigm of cooperation and conflict between political interests. The parties are constantly trying to achieve a consensus in terms of the design of the education system, and reforms were never radical. Unlike the other Scandinavian countries, Denmark provides a variety of educational channels at the upper level of secondary education. In principle, general education, technical, business, and other specialist secondary schools can be selected. From time to time, effort was made to achieve greater harmony within secondary education, but such attempts rarely met with success. The division of the upper level of secondary education reflects the divided political interests in the country. While liberal and conservative powers are interested in retaining the quality of the *gymnasiet*, the grammar schools, the Social Democratic Party is more concerned with expanding and improving the status of vocational schools. Most varieties of vocational education are based on a dual, or block, system. Traditionally, all social partners, i.e., trade unions and employers, are included in the development of vocational education. Adult education in Denmark is rooted in the enlightenment and mass education movement (*folkeopplysning*) of the nineteenth century, initiated by N. F. S. Grundtvig.

The Danish education system can be expressed in numbers as follows: In 2012, there were about 1,300 state primary schools (*folkeskole*) and around 800 private

schools, including *friskoler* and *efterskole*. At the level of ISCED 2 were a total of 712,000 pupils, of which 566,000 attended *folkeskole*, 102,000 to *friskole*, and 24,000 to *efterskole*. The average class size at *folkeskole* was 21.1. There were also about 150 secondary schools. It is virtually impossible to give a precise number of vocational schools given that these are constantly merging.

13.3.1 Nursery School

The first institutions of preschool education in Denmark were set up in 1820. Reforms in the social system initiated at the beginning of the twentieth century gave the state – and since 1987 the municipalities – financial and educational responsibility.

In day nurseries (*vuggestue*), children up to 3 years of age and, in the following kindergarten (*børnehaver*), children from the ages of 3 to 7 are educated. In order to negotiate the transition from the exploratory and playful program of the preschool institutions to the *folkeskole*, 1-year preschool classes (*børnehavsklasser*) were established for 5–7 year olds. Approximately, 95 % of all children of an age cohort attend preschool classes that prepare children for the *folkeskole*. The Education Act was revised in 2008; the *børnehaveklasse* is compulsory for all children from 2009. This extends compulsory education to 10 years. There are also numerous mixed-age institutions (*integrerede institutioner*) which cater for children from the preschool age up to the age of 14.

13.3.2 Primary/Lower Secondary School (Folkeskole)

Unlike numerous other European countries, Denmark does not have compulsory school attendance. Parents are merely obliged to ensure that their children receive at least 9 years of education in line with the core curriculum. Children may attend lessons at the public *folkeskole* or at other institutions (*friskole* or private lessons at home), whose programs comply with national standards. Compulsory education begins at the age of 6 and lasts for 10 years, ending at the age of 16. The *folkeskole* (9-year primary school) is the public state school providing primary and secondary education. The same applies to the corresponding services provided by the *friskole*.

The *folkeskole* is *the* public school. The *folkeskole* is a coeducational comprehensive school open to all pupils. It is free of charge, including study materials.

No marks are given between Year 1 and Year 7. Schools are obliged to report to parents on the pupil's progress at least twice a year. Every pupil has the right to decide on his/her own curriculum which defines content and aims targeted in all subjects. Since 2008, tests are carried out across the country each year in selected subjects and for selected school years. The tests are prepared and organized centrally by the Ministry of Education. Teachers receive information on the results for individual pupils and are supposed to inform pupils of this in writing. However, no marks are awarded.

Marks are given from Year 8 to Year 10 through final exams (*bevis for folkeskolens afgangsprøve*) in Danish, English, religious education (Christianity studies), history, social studies, mathematics, geography, biology, physics/chemistry, German, French, art, handiwork, domestic science and home economics, and woodwork. Written tests are the same for all schools and are centrally organized by the educational department as are the criteria required for assessing the work. Oral exams are held by the teachers in the presence of a teacher of another school (*censor*).

Compulsory education can take place at home or by visiting an *efterskole* (afterschool). It is possible for Danish parents to teach their children themselves at home, but they have to inform the municipality of their decision. The district council can set exams in mathematics, Danish, and English to supervise the teaching and learning and to ensure that their respective levels correspond to the standards of the *folkeskole*. The *efterskole* is one of the private open schools. It is a boarding school for young people between 14 and 18 years of age. Pupils can spend Year 9 and Year 10 at such an institution as an alternative to the *folkeskole*.

13.3.3 Upper Secondary Education

There are three types of school, which cater to 94 % of an age cohort of *folkeskole* graduates. About 20 % of the young people continue education in vocational education. Education at the upper secondary level is subdivided into two main types, both of which lead to university entrance entitlement: 3-year upper secondary schools (*gymnasium*) and the university preparation route (*højere forberedelseseksamen*, *hf-line/hf-kurs*) as preparation for entrance into higher education. This accounts for about 55 % of an age cohort. The 3-year program leads to a double qualification at commercial schools (højere handelseksamen, HHX) and technological schools (højere teknisk eksamen, HTX). These accommodate roughly 20 % of an age cohort.

13.3.4 Upper Secondary School (Gymnasier)

The coeducational *gymnasier* offers general education for 16–19-year-old pupils. It is completed with the *studentereksamen* (student exam). Education at public schools is free of charge; pupils only have to buy learning materials (except textbooks). Pupils who have finished Year 10 of a *folkeskole* may complete *gymnasium* through a 2-year course (*studenterkurser*). Lessons here can also take place in the evening. In principle, pupils who have completed Year 9 can be accepted in the program to prepare them for university study. Generally speaking, the majority of applicants are accepted at their chosen school; applicants may sometimes have to take an entrance exam.

Pupils are divided into school year groups and taught by specialist teachers. The secondary school was divided into a language and into a

mathematical-natural-scientific track, but this division was ended in the latest reform of 2005. Lessons are made up of obligatory subjects and some options in three levels. Mandatory subjects include Danish, English, history, classics, physics and physical education, mathematics, religious education, social studies, chemistry, and geography. On top of this, pupils have to study two foreign languages, an art subject, and a natural science. In addition, there are numerous options studied for a limited period of time.

The final examination, the *studentereksamen*, consists of a series of individual subject exams spread across the second and third year of secondary school. The written exams are set centrally by the Ministry. The Ministry also determines which pupils are to be assessed in what subjects. The final mark is determined by the result of the examination and the achievement in the subjects in the course of the school year. About 17 % of pupils who start secondary school leave prematurely without passing their final exam. As a rule, the subject teachers at secondary schools have degrees in at least two subjects. After academic studies, teacher trainees undertake a 6-month phase of theoretical and practical education (*pedagogikum*). These courses are accompanied by teaching practice at a secondary school or an hf-line.

13.3.5 The hf-Line

The *hf-line* system, introduced in 1967, arose from the political desire for the extensive participation of broad population groups in education. After completing Year 10 of the *folkeskole*, pupils can participate in 2-year university preparation courses leading to the general university entrance entitlement. The *hf-line* system is especially attractive for young adults who could not attend secondary school for social or personal reasons. The hf-line system broadens the circle of pupils who might wish to study at a university. While at the secondary school, one finds an overrepresentation of children from the middle and higher social classes; pupils in the *hf-line* are drawn from a wider circle of society.

The courses are organized either as full time or as evening classes in secondary schools or in local adult education facilities.

Pupils are divided into course levels, and their curriculum consists of common core areas and three electives. The range of subjects and education are much the same as at *gymnasium*, and teachers have similar qualifications. The *bevis for højere for-beredelseseksamen* (certificate of higher preparation exam) is awarded after the successful completion of oral and written exams. Roughly 25 % of pupils who begin the *hf-line* program leave school prematurely.

13.3.6 HHX and HTX

Attached to the *folkeskole* as part of secondary education are 3–4-year programs leading to a double qualification, called “grammar school professional”

(*erhvervsgymnasiale uddannelser*). A basic vocational education which ends with the *højere teknisk eksamen (HTX)* or the *højere handelseksamen (HHX)* qualification is also offered. There is an exam at the end of these full-time courses, and both tracks lead to a certificate for a professional qualification and university entrance entitlement.

The *HTX* qualification can be obtained at technical secondary schools, the *HHX* qualification at commercial secondary schools. The *HHX* and *HTX* tracks usually last for 3 years. In the first year, both tracks offer a general educational program. The last 2 years cover more specific vocational courses. The two tracks follow theories and methods applicable to vocational education supplemented by a practical environment. Pupils do not pay tuition fees.

The *HHX* program contains the following compulsory subjects: Danish, English, a second foreign language, economics, and special subjects such as trade, information technology, international economics, and commercial law. The program also contains special vocational education programs such as project work and optional subjects such as mathematics, foreign language, cultural studies, design, media, psychology, environmental education, economics, and EU cooperation. These subjects are offered at three different levels. About 20 % of pupils who begin the *HHX* track leave school prematurely.

The HTX program, which appeals to young people with scientific or technical interests, was introduced in 1982. It includes a number of compulsory subjects: technology, mathematics, physics, chemistry, biology, Danish, English, a second foreign language (German or French), and social studies. Optional subjects are mathematics, foreign languages, cultural studies, design, media psychology, environmental studies, and EU cooperation. About 40–55 % of these subjects can be chosen by the pupils. Specialization is achieved through the choice of technical subjects: construction and energy, design and production, services and communication, process management, nutrition, nature, and agriculture. About 27 % of pupils who begin the *HHX* track leave school prematurely.

13.3.7 Vocational Education

Most vocational programs take place over a period of 3–4 years. Basic vocational education is carried out through a dual system at vocational schools (50–70 %) and in the workplace (30–50 %). The enterprises and their trainees sign an education contract. As an alternative, schools also offer vocational education for trainees who have not received a contract with an enterprise. The objective of the vocational education programs is the theoretical and practical training of young people for the labor market.

In 2000, the structure of basic vocational education changed as part of a reform program (*eud-reform*). The result is a simplified structure and a more flexible organization. The reform reduced the former 85 professional groups to much more basic vocational programs. At present, there are twelve basic vocational programs:

- Cars, aircraft, and other means of transport
- Building and construction
- Facility and consumer services
- Flora, fauna, and nature
- Body and style
- Food for people
- Media production
- Trade and business
- Production and development
- Energy, controls, and IT
- Health, care, and education
- Transport and logistics

At the end of the basic vocational program, pupils can choose numerous disciplines in their main course. At present, there are 108 disciplines with 299 levels or specialisms.

Training at work dominates vocational education. The transfer of knowledge in Danish vocational education always builds on practical experience. This is seen as a component of skill building that can be applied directly in everyday working life. Because the professional orientation is so strong, efforts are always being made to harmonize basic vocational education with the rest of the program.

In doing so, one of the aims was to encourage more young people to complete their vocational education successfully. Although there is great demand for this type of training, drop-out rates are high. About 55 % of pupils that start vocational education finish prematurely without a proper qualification. Several studies have documented that one of the main causes for this lies in limiting the number of apprenticeships and/or places available in secondary vocational education. But other factors may also be the loss of motivation and the lack of social and cultural activities at vocational schools. A second aim was to teach the skills that are in demand. Flexibility, learning capabilities, and personal skills are becoming increasingly important, and vocational education also has to be preparing for these. A third aim is to increase the status of vocational education. Young Danish people and their parents have developed a hierarchical view of secondary education, with the academic channel according a higher status than vocational education.

One of the aims of the vocational education reform of 2000 was to place greater focus on educational aspects in professional training. Also, one of the most significant ambitions of the projects was to generate a variety of contexts for learning to take place and to provide for more individual options. This aim reflected the change in educational thinking (from teaching to learning) and is based on the assumption that fewer and fewer young people can identify with the type of working culture that used to characterize the more traditional training of apprentices. This is contested by the vocational schools and unions who argue that the flexibilization and customization of learning space have fragmented the education process, making it obfuscated thereby raising the drop-out risk, not reducing it.

The current government is striving to instigate more initiatives in vocational education. This includes setting up practice centers to ensure that pupils have better access to practical experience.

13.3.8 Higher Education

University programs are distinguished by their length and access criteria, but are generally divided into three levels: short-term (2–3 years), medium-term (3–4 years), and long-term (5 years) courses. The Ministry of Education can limit access to certain programs if this is viewed to make sense or becomes necessary. Access to most courses at the national level is not restricted. However, because of local restrictions on the number of places, students might have to study elsewhere to take the course of their choice. In addition, it is possible to have European Credit Transfer System (ECTS) points transferred from other educational courses; this also applies for some professional experience. Access requirements vary from subject to subject.

Most short-term technical programs build on prior professional education. Many of these programs lead to certificates that qualify people for service professions such as market analyst, bilingual secretaries, or lab assistants.

Medium-term programs lead to qualifications such as engineer, librarian, primary school teachers, journalist, social worker, nurse, midwives, or in positions in business administration. In the last few years, increased efforts have been made to strengthen the knowledge base of professional studies at the various universities. This includes the introduction of a new medium-term "professional bachelor" qualification.

Academic bachelor programs are also medium-term courses, lasting for 3 years. Such programs exist in social sciences and in humanities as well as in the study of natural sciences. Most universities also offer master's programs. Entry to bachelor programs requires students to have successfully completed the upper level of secondary education, and universities can choose their students based on average marks achieved at school. Although bachelor programs lead to an initial professional qualification, most students stay on to take a master's degree. These usually last for 2 years. There are master's programs in all academic areas and in professional training (in teacher training, veterinary sciences, nutritional sciences, and agriculture and forestry).

This current structure of higher education was created by a series of reform that took place in the 1990s. A major step was the introduction of the bachelor's degree in 1993. At this time, all university programs ran for 5 years and led to a *kandidaten* (master's) degree. The year 1993 also saw the introduction of postgraduate degrees. Denmark introduced bachelor's, master's, and Ph.D. degrees prior to the Bologna declaration.

In the last few years, increased efforts have been made to establish a network of professional studies at the various universities. The recent years have been characterized by tension between professional institutions of higher education that emphasize practical professional interests and universities that promote a purely academic education.

13.3.9 Adult Education

Adult education in Denmark is rooted in the enlightenment and mass education movement (*folkeopplysning*) of the nineteenth century. The traditional core of adult education lies in the *folkehøjskoler* (residential adult education centers) attributable to N. F. S. Grundtvig. These were founded on the basis of the "living word," i.e., the practiced Danish language. Presently, they offer general education programs for adults and emphasize practical activities. All schools are free to determine their content themselves. In part, they are characterized by regional culture and economic life. One of the traditions of Danish adult education is the numerous educational associations, evening schools, and "open" universities (*folkeuniversitetet*). Teachers here include active researchers who teach academic methodology and results. There are also *daghøjskoler* or adult education centers. Alongside the rapidly expanding labor market-related adult education (*arbejdsmarkedsuddannelser*, AMU), a collaborative project between the state and wage partners, there are education centers (*voksenuddannelsescentre*, VUC) that provide an opportunity to catch up on school qualifications. General adult education (*almen voksenuddannelse*, AVU) is governed by its own act of parliament which divides adult education in Denmark into three sectors:

- *Professional adult education* aims at strengthening skills relevant to the labor market and at providing the necessary qualifications.
- *General adult education* aims at improving general skills and general knowledge in order indirectly to improve the professional skills of the learners.
- *Popular adult education* (residential adult education centers and evening schools) sees its main task in providing personal education for leisure time.

Although various reform initiatives have differentiated this structure, the basic pattern has been retained. Most significantly, it is the balance between the individual sectors that has been shifted. At present, professional adult education programs predominate and are being offered at the level of secondary education as well as at tertiary level. In contrast, the two other sectors are losing their importance somewhat. These changes can be seen as the result of a shift in career orientation of learners.

In 1990, a system of "open adult education" was introduced in Denmark. However, new programs or institutions were not created for this; instead, existing courses (upper level of secondary education, bachelor's and master's degree) were offered in modular form for part-time adult learners. Sometimes, course participants had to pay course fees, but the state still covered most of the costs. Since this system of open adult education was introduced, both the offerings and the number of learners have increased continually. As a consequence, the parliament passed the law on continuing adult education in 2000 which led to the creation of study programs and enabled adults to catch up on school and higher education qualifications. Unlike the traditional education system, preparatory courses that convey basic cultural tools are obligatory. An access prerequisite for courses is relevant professional experience.

Each year, about 1.4 million people take part in some form of adult education in Denmark. This is made possible by, among other things, the various aid schemes for educationally active adults.

13.4 Developments in the Current School System

In the recent past, Denmark's education system has been regarded as an element of Danish competitiveness. This is shown on the one hand in the discussion of the performance of Danish pupils in international tests and on the other hand in the debate focusing on the aim that in the foreseeable future the whole population should have an education equivalent to the upper level of secondary education. A significant forum for formulating this educational policy discussion was the so-called Globalization Council that was active in 2005–2006. This council was established by the government; its members were key figures in business and employer associations. The council culminated its work with an influential publication on the reaction to globalization which included the key issue of education. This formed the basis for numerous reform efforts at all level of the education system.

13.4.1 Transition Between Levels of Education

As mentioned above, the Danish government is aiming to ensure that by 2015, 95 % of young people will have an education (either general or vocational) at the upper level of secondary education and that 50 % of an age cohort should have a university degree. In order to be able to follow developments relating to this aim, numerous statistical projections have been compiled that provide information on the educational patterns of coming generations.

Forecasts show that roughly 65 % of young people are intending to begin an upper secondary education (HHX, HTX) and that 30 % will take up a vocational course. It is currently assumed that just fewer than 5 % will never start a program at the upper secondary level. However, it is likely that just 80–85 % of young people will successfully complete their chosen path. A small proportion (4–5 %) will achieve this goal later in life as part of adult education or by having their practical experience recognized. At the end of their formal education, three of four pupils will have a vocational qualification attained either at a vocational school or at a university of applied science. Overall, nearly 15 % of an age cohort will leave the school/training system without any formal qualification. In light of developments since 1990, this means that the proportion of young people with upper secondary school level certificates have risen considerably, while the number of vocational education qualifications has declined. More recent analyses and trends have confirmed that this proportion is continuing to fall (Flagstad 2008).

13.4.2 Dealing with Special Problems

13.4.2.1 The Drop-Out Problem

Current figures show that the governmental goals outlined above will, in all probability, not be reached. The main cause for this does not lie in the motivation of pupils for secondary education, but in the drop-out rate. One of the main tasks of schools therefore has to be to lower this rate. Pupils, who leave the upper secondary *gymnasier*, can quickly find a path back into the system, but the same cannot be said about those pupils leaving vocational education. At present, a number of attempts and campaigns are being carried out to reduce the drop-out rate, but despite the stated intention to reach the target, there are very few signs at the moment that this will be achieved. A key reason for this is the Danish model of organizing the education system (upper secondary education and vocational education) because this traditionally pursues other aims than the current one. Beyond this, relatively stable coalitions of interest are standing in the path of fundamental reforms of both systems. It is possible that the school system's strong focus on effectiveness has a negative impact on the reform capability of the system, with this economic approach restricting a real leeway.

13.4.2.2 The Problem of School Achievement

In the course of the last 10 years, the achievements of Danish pupils in comparison with other countries have been a major political issue. The Programme for International Student Assessment (PISA) study sparked considerable public attention, and its results were used as a reliable political argument, even though Hopmann et al. (2007) were able to show that this is not possible given the measuring instruments and data used. International evaluations (e.g., those of the Organization for Economic Co-operation and Development (OECD)) are playing a greater role in the debate. Whereas in the past discussions concerning the *folkeskole* mainly focused on establishing a secure learning environment and on the social education of pupils, present performance levels of both pupils and teachers in core subjects such as Danish, mathematics, and foreign languages are being emphasized. A recent study showed that the positive attitude of pupils toward school-based learning and teaching is being jeopardized by the strong focus on achievement (Osborn et al. 2003).

13.4.3 Measures to Integrate Pupils from Immigrant Families

Immigrants and their families make up 10.4 % of the Danish population. In comparison with many other countries, this may be a modest figure, but immigration is a controversial political issue in Denmark. Current regulations are strikingly restrictive and focus on the integration of immigrants in the Danish culture. This applies in particular to immigrants with a Muslim cultural background. A possible explanation for these effects could lie in the traditional ethnic homogeneity and the resulting cultural integrity.

A key political issue is therefore that of language; in the face of research suggesting that mother tongue lessons can be necessary to learn a new language (here Danish), the government decided in 2002 to do away with mother tongue lessons for bilingual pupils. The argument was that resources should be concentrated stronger on the Danish teaching of bilingual pupils at the beginning of schooling. This decision was a representative of a whole series of similar measures undertaken to achieve greater integration in "being Danish."

In terms of school achievement, immigrants and their children perform significantly less well than Danish pupils. Pupils from non-Western backgrounds achieve significantly less well in reading, mathematics, and natural sciences than their Danish peers. Boys from immigrant families are particularly at risk of dropping out (Danmarks Statistik 2012).

Difficulties experienced by immigrant children are linked to other social problems. In larger Danish towns and cities, there is a trend toward segmentation, with different immigrant groups concentrated in certain areas for cultural and economic reasons. As a consequence, prosperous families are turning to private schools as a means of avoiding sending their children to "problem" schools or are moving to another district with a corresponding school. On the other hand, immigrant children and Danish pupils with social problems "gather" in certain areas. Such developments exacerbate the differences in school achievement and lower chances of finishing schools. Difficulties faced by immigrant children can be mainly attributed to cultural differences and limited resources. However, racist behavior may also be a reason for their difficulties. Among other things, it has been documented that career guidance counselors at vocational schools have been asked to supply Danish pupils when organizing work placements (Goul Andersen 2008).

13.5 New Developments

Currently, two lines of discussion can be identified. In the debate over school management and teachers' work in schools, there is a strong opinion that teachers spend too little time teaching and too much time preparing or attending meetings. This has led to the government increasing the number of teaching hours for teachers. Furthermore, it has also intervened in the wage autonomy of teachers and decided that head teachers should carry out local negotiations on working times.

The second line of discussion concerns vocational education. The slump in demand and the high drop-out rates, which could not only lead to a shortage of qualified labor but also to the collapse of the vocational education system, are seen as a major challenge by the wider public. In a bid to counter this trend, proposals have been made to introduce access criteria to improve not only the level but also the prestige of vocational education. Discussions have also considered limiting access to the upper level of general secondary education to channel new pupils toward vocational education.

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