The historical emergence of the key challenges for the future of VET in Denmark

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**Preface**

This report on the historical emergence of the Danish VET is one of the first four country studies from the comparative Nordic research project Nord-VET supported by NordForsk under the Nordic Council of Ministers (http://www.nordforsk.org/en). Parallel to this Danish report similar research reports are published by the project on the other countries participating in the project: Finland, Norway and Sweden.

The purpose of the project is to generate new knowledge on the strengths and weaknesses of the different models of vocational education and training (VET) at upper secondary level in the four Nordic countries. This research is expected to strengthen the knowledge base required for developing VET for the future. The Nordic countries provide unique opportunities for comparative research in the field of initial vocational education. On the one hand they are characterized by similar societal contexts; on the other hand they exhibit significant differences in their models of VET. This situation has made the Nordic countries a living experiment of diverging forms of VET, in which a variety of significant qualities can be explored in relation to closely related societies.

The main purpose of this project is to shed light on the different Nordic ways of handling the key dilemma of providing *double access* to the labour market and to higher education (HE) in vocational education. More specifically it seeks to determine how the different ways of handling this dilemma have an impact on social equality, inclusion and the esteem of vocational education.

These first four country reports explore the historical background for the emergence of the four different Nordic systems of VET. The project is based on assumptions of path dependencies, societal embeddedness and institutional complementarity of the national VET systems. This implies that the current conditions of the national VET systems must be conceived of as a product of historical processes – social struggles, political strategies and institutionalised compromises. In order to identify the opportunities for the future development of VET we must understand the social and economic dynamics that have brought about the present system. The four parallel country reports provide a solid base for subsequent comparative thematic studies that will be produced by the research group in the next three years.

*Christian Helms Jørgensen*

Project leader of Nord-VET
Introduction

International comparative research has revealed that vocational education and training systems (VET) are determined by historical trajectory and a specific "philosophy" or "intrinsic logic" which give them the character of "black boxes". To understand the "black box" it is necessary to look at VET’s historical development in a wide institutionally, socially, economically and politically perspective of each country (Deissinger, 2008). The aim of this report is to describe systematically the intrinsic logic in the Danish VET “black box” by analyses the critical junctures in the historical trajectory in relation to key challenges. It will be done by analysing the Danish VET systems handling of common challenges and how this is mirrored in the institutional architecture and the organization of learning embedded in VET. This will contribute an insight into the inner dynamics of these institutional architectures as historical and cultural entities (Deißinger 2008). This policy analyses describes how Danish VET has developed and changed from Guild-systems apprenticeship to the 1990s. The periods from 1990 until today will be described and analysed in the next national report in this project and reflections on likely historical trends will primarily be summed up there.

Unlike the other Nordic countries Denmark has a selective upper secondary educational system (youth education) with two separate pathways - consisting on one hand general educational programmes¹ directed towards higher education at tertiary level, and on the other hand of Vocational education and training (VET) directed towards the labour market (Rolls 2012). The divisions between these two pathways are profound and relate to their respective social recruitment, learning cultures, legal frameworks and the form of governance of education. The social partners have had a decisive influence on the Danish VET system through the principle of occupational self-governance and have shared the responsibility for the VET- programmers with the state. The evolution of occupational self-governance in the VET is closely connected to the establishment of the so-called “Danish model” that reduces the level of labour market conflict and avoid unnecessary interference from the state on the development of VET (Jørgensen 2008; Juul & Jørgensen 2011).

¹ General upper secondary education programmes usually last three years and prepare students for higher education at tertiary level. Four different qualifications result from four corresponding courses:
• upper secondary leaving qualification (studentereksamen - stx);
• higher preparatory examination (højere forberedelseseksamen - hf)
• higher commercial examination (højere handelseksamen - hhx);
• higher technical examination (højere teknisk eksamen - htx). (Rolls 2012 p. 11)
The relations between the two separate pathways have been complex and fluid in the Danish systems of VET. A key challenge is how the systems can provide work-based learning of a high quality and a sufficient number of training placements for young people in the labour market and at the same time qualify for studies at the tertiary level of education and prepare for lifelong learning. This report will analyse the historical emergence of key challenges for the future of VET in Denmark with particular focus on the relations of VET and the labour market and to general education and higher education with a special interest in the challenge of ‘double access’, to the labour market and to higher education (HE).

Leading research questions are:

- What characterized the formative phase of Danish VET system until the 1990s, relations between VET and the Labour market, and the relations between apprenticeships and general educational programmes?
- How did the institutional architecture and forms of governance of VET develop – especially the involvement of labour market partners in VET, the changes in the governance structures and the legal framework of VET?
- What were the positions of the state and the social partners, and what were the relations between these key stakeholders and the main arenas of struggle and negotiation?

To answer these leading questions the historical background will by revealed mainly means of official reports and documentation arising from governmental proposals and consists of two steps: first identifying the relevant policy documents and existing analyzes of the implemented policy. These documents are analysed to identify reform measures aimed at the above challenges and the actions expected effects. Next, analyses actual effects through reviews of existing analyzes, impact assessment and secondary data.

It was possible to distinguish three phases in the development of VET in Denmark until 1990:

The first phase - until 1945: The guilds’ apprenticeships: dominance, dissolution and reregulation.

Main themes:
The guilds' apprenticeship. Main features of pre-capitalist organization of apprenticeships culture. Challenges related to power struggles, legal interventions and war policy. Development of the school-based part of the apprenticeship system and access to higher education.

Dissolution under the Trades Act. Main features of unregulated apprenticeship without quality control. Challenges related to comprehensive changes in the social fabric and emergence of the organised labour relations. Abolition of apprenticeship compulsory contract, journeyman tests and requirement on master to be trained himself. The conservative-liberal parties were opposed to the abolition of the apprenticeship system

Regulation through the Apprenticeship Acts. Renewed apprenticeship with many key elements from the time of guilds’ apprenticeships. Challenges related to fluctuating economy growth, war policy and rapid changes taking place in the labour market. Higher education options after completing an apprenticeship

The second phase 1945-1967. Expansion and specialisation of apprenticeships

Main themes:
The large youth population (baby boomers). Apprenticeships faced with demand for educational opportunities for baby boomers. The challenge related to transition from war economies to economic boom. Fate of apprenticeships in rivalry between the state and the labour market partners for responsibilities, financing and control.

Specialization The fate of apprenticeship in tension between craft/artisans and manufacturing industry and between skilled and unskilled workers unions. The challenge related to rapid industrialisation and rising demand for both specialised semi-skilled labour and high skilled tech-science labour. Stakeholders, strategies and coalitions behind renewed specialised apprenticeship.

Vocational schools. The Apprenticeship Act of 1956 changes of the format and the organization of school instruction for apprentices. Challenges related to centralisation of the vocational schools and abolition of smaller schools. Relations between and specialization of the apprenticeships and development of adult vocational training.

The third phase 1967-1990. The conflict between apprenticeship system and the new vocational education and training system

Main themes:
Basic Vocational education (EFG). Development of new vocational education and training system (EFG), which was intended to replace the apprenticeship system. Challenges related to equal opportunities and unification of vocational and general pathways. Centralised strategic state planning of reforms to improve equal opportunities, social mobility and wider participation.

Apprenticeships VET in the transition from post-war boom to permanent economic and political crisis. Challenges related to growing realization that there was a downside to specialisation in apprenticeship system that was introduced in the 1960s. The conservative-liberal parties opposed to the abolition of the apprenticeship system.

Each chapter starts with abstract and ends with summing up.
1. The guilds’ apprenticeships; dominance, dissolution and reregulation - the first phase until 1945

Main theme: *The guilds' apprenticeship, dissolution under the Trades Act and regulation through the Apprenticeship Act.*

Danish vocational education has its origins way back in the Middle Ages and was closely linked with the German education culture and the guilds' trade organisations until the mid-1800s. The guilds' regulations governing apprenticeships created a bond between the master, the journeyman and the apprentice through apprenticeship contracts, tests for completed apprenticeship (journeyman tests) and the master craftsman’s qualifying examination. The Trades Act of 1857 introduced changes in the right to operate a business and simultaneously dissolved the guilds' right to regulate apprenticeships. The Apprenticeship Act of 1889 and its reforms up through the 1900s gradually reintroduced the guilds' apprenticeship system in a new form. The apprenticeship's school-based related part started in the late 1700s and became an integral part of a renewed apprenticeship system under the apprenticeship laws. Technical schools and commercial schools experienced explosive growth, while upper secondary schools were reserved for the privileged few. The foundation of the Danish vocational education and training model, the broad cooperation between employers, employees and the state was established. Industry's associations and the state collaborated continuously to renew the apprenticeship system as the dominant secondary level education. The first half of the 1900s were dominated by two world wars, followed by short recovery periods with high growth rates and an intermediate deep economic crisis. Fluctuating economy growth, war policy, rapid technological developments and comprehensive changes in the social fabric meant that it was a major challenge to get the apprenticeship process to function optimally as a cornerstone of the Danish education system.

**Main features of the guilds' apprenticeships**

Apprenticeships originated in the medieval guilds, which eventually evolved into professional crafts associations (Knie-Andersen 2009). Guilds were tightly knitted associations based on kinship, friendship or common interests. The purpose was to provide mutual help and assistance with the distress and hardship of life and to provide protection against the church and the monarchy. The guilds were therefore characterised by social cohesion, solidarity and mutual respect for each other, traits that also became features of the guilds. Merchants and craftsmen were originally organised together in guilds, but eventually a flourishing commercial economy increased the wealth of the merchants, creating divisions between the craftsmen and merchants. The guilds evolved to become separate organisations for merchants and craftsmen (Madsen 1905).

In 1422, Erik VII of Pomerania supported this separation between merchants and craftsmen by prohibiting craftsmen from becoming members of town councils. Only the merchants were permitted to
carry on trade as a protected business group in society. They therefore had a monopoly, since it was forbidden to carry on a business without being a member of a guild (Lampe 1969). However, this only applied in towns that were large enough to have enough professionals to establish such an organization (Hansen 1995). This gave the merchants (and nobles) the opportunity to dominate governance of the towns and craftsmen thus became subject to the control of the town councils. (Knie-Andersen 2009). This secondary social position for the craftsmen was important for subsequent developments, since the craftsmen's defence against the city council was to develop the craftsmen's organisations into professional guilds e.g. such as the guilds for shoemakers, bakers etc. The inspiration came from the German guilds, which had developed strong associations to support craftsmen in their struggle for autonomy. The German and Danish guilds both undertook the task of acting as trade organisations that developed autonomy within their professional area (Madsen 1905).

The object of the guilds was to work for a greater share of the return on production through regulation of working and training conditions (Hassø 1940). The guilds in Denmark sought to safeguard their members' professional rights and responsibilities, including apprentice training programmes by introducing the statutes of the German guilds. The historians Nyrop and Sølver (1929) link the secondary status of the craftsmen with the impact of the German guilds as follows:

The craftsmen were not considered worthy to participate in the government of the town where they lived, and they were therefore excluded from the Town Council. Nevertheless, perhaps it is precisely these conditions that make our craftsmen acquire the German Zünft with such great fervour... The peculiar zünftige honour gave them strength in some way. No one who did not complete it satisfactorily, no one who was not zünftig trained, who had not become a journeymen in a zünftig way or generally was "honest" according to zünftige rules, as required to be taught in the foreign language (German), was allowed to join their ranks (p. 13).

The secondary status of the craftsmen led them to adopt the rules of the German guilds with great fervour, where honourable craft traditions with a high standard of technical skills and respect for the practical work were dominant characteristics. Inspired by their German comrades, the guilds gradually defined exactly which disciplines the apprentices should learn and how the training should be organized, through detailed regulation of the relationships between the apprentice, the journeyman and the master. Failure to comply with those agreements could result in expulsion from the association, receiving no work and losing collegial cohesion and support. The guilds held meetings, where
all issues could be raised and new rules adopted. Specific provisions governing training in the statutes of the guilds were interpreted and supplemented by the guilds' traditions and customs, and the establishment of a sufficient level of professionalism was ensured through the collegial supervision of the guild's members (Eriksen 1984; Riismøller 1940).

There was a great deal of freedom with regard to making agreements for the training of apprentices. The length of the apprenticeship period could be reduced in return for increased payment in the form of apprenticeship fees and could be extended if the apprentice started very young and received free room and board throughout the training period. Poor apprentices could thus pay their masters for room and board through a volume of work, which was not necessarily related to their training (Degn & Dübeck 1983). The agreements must be seen in light of the fact that the guilds' apprenticeships had an important social aspect. During the era of the guilds, obtaining an apprenticeship also entailed being socialised to a particular social role and a particular position as a citizen in society - a complete socialisation of the young person, and not just a qualification in a particular craft's techniques. The apprenticeship period therefore had a strong element of upbringing. The Master thus took over the father's place by taking over responsibility for the upbringing of the apprentice from childhood. The apprentices lived, ate and worked in the master's home and workshop (Sørensen 1984).

The length of the apprenticeship period varied greatly between the various trades. In the late 1400s, there were provisions for apprenticeship periods of 5-6 years for goldsmiths, 1-2 years for carpenters and 3-4 years for most of the others (Nyrop 1893). Most apprentices were about 14 years old when they started their apprenticeship, but could be as young as 11 and as old as 17-18. Many guilds’ statutes contained requirements for a kind of trial period before an apprenticeship contract could be signed. The trial period could be used by the master and the apprentice to get to know each other and assess whether the apprentice felt comfortable with the profession. The parties could agree the length of the probationary period at their own discretion (Dybdahl & Dübeck 1983). A key element of the guilds' apprenticeship was the training provisions which required the masters to train the apprentice to a level where he could carry out a practical and theoretical test for completed apprenticeship. It was the master's responsibility to ensure that the apprentice could pass the test, which worked as a quality control. The masters had an interest in ensuring that the apprentice could pass the apprenticeship test in the best possible way, because this was not only an assessment of the
apprentice's skills, but also a judgement of the master's ability to communicate their profession and, to some extent, an endorsement of his own professional qualifications (Nyrop 1893). In many trades, the master was required to pay a fine to the poor of the town if he had not prepared the apprentice properly for the test for completed apprenticeship (Hansen, Olsen and Haugstrup 1994). The precondition for becoming a master was extensive work experience in the profession and the journeyman was only considered fully trained when he had been on journeyman years.

This meant that he should have travelled abroad to work, preferably to Germany and the Netherlands. The learning process therefore rarely took place in only one community of practice. Rather, it was linked to diverse communities of practice. During periods spent abroad, the journeyman could depend on extensive support from the guilds in foreign cities, and he could also be allowed to establish himself if there was a need for craftsmen in the town. Through these journeymen's working trips, experiences were exchanged and it brought new impetus to many Danish workshops. Much renewal and improvement of tools and working methods were introduced into the production process as a result of the journeymen travelling around and working with various companies. The education thus became broader and the journeymen were given the opportunity to learn about the latest technology, and they were also instrumental in spreading the latest technologies (Andresen & Agersnap 1989). There was a natural connection between the desire to travel abroad and the wish to take further training, especially among the craftsmen. For the youths engaged in the commercial sector, the lack of adequate language skills before leaving was a greater barrier than it was for the craftsmen. However, it was common up to the First World War for large trading firms to arrange for young aspiring employees (skilled workers) to work at foreign companies for a period of six months or a full year (Hansen 1998).

Generally, education during the time of the guilds' apprenticeships was not comprised only of training in a profession, but was also a preparation for entry into a particular professional career, often with an international aspect. After obtaining a broad level of work experience, the journeyman had to demonstrate and prove his skill by producing a final work piece (master piece), whose nature and scope was specified in the statutes of each guild. The master piece was intended to provide the young craftsman with a sort of diploma, which made him eligible to become a master himself, on an

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2 In 1794, the requirement for craftsmen to travel was lifted, but this did not mean that the tradition disappeared (Petersen-Studnitz 1882)
equal footing with others. However, the test also demonstrated to the world, to potential customers, that he was an expert in his trade. The test was therefore a kind of guarantee for the quality of his work and was assessed by the guild's selected masters. The master craftsman's qualifying examination was not only a guarantee that craftsmen were produced that could live up to a certain standard. The requirement for the performance of a master piece could also be used to limit the number of masters so that competition was restricted for the benefit of the masters who were already established. This procedure caused opposition to the guilds to grow, because the masters could exploit their monopoly in the market to keep the price of their own goods and services high, at the expense of their customers. The apprentices' and journeymen's education and their working and living conditions depended not only on the guilds' traditions and customs, but certainly also on the guilds' relationships with those in positions of power (Degn & Dübeck 1983; Knie-Andersen 2009). The institutional framework for the apprenticeships became the subject of numerous power struggles and legal interventions by the authorities, as we will outline below.

**Power struggles and legal interventions**

The king, nobles, clergy and merchants were powerful figures in the social structures that existed at the time of the guilds. They had an ambivalent relationship to the craftsmen. The guilds usefulness to the functioning of society was evident because they ensured a reasonable level of organized training. They also solved a number of social problems for a group in society that were economically very vulnerable, thus relieving the state of a number of its obligations. In addition to being a professional interest group, the guilds also served as a control instance for the power of the state and the town councils. The state's acceptance of the guilds was based on the fact that the guilds supported town councils in maintaining order in the crafts trades with regard to the price and quality of goods. The town council had a duty to confirm the guilds' statutes and monitored that the craftsmen did not charge too much for their products. At the same time, those in power were interested in granting the craftsmen some privileges that could ensure professional quality and the training of new craftsmen. Craftsmen were essential for the economy and development of the towns. They paid taxes and helped to ensure a professional standard of workmanship. The authorities would like to have seen greater enrolment to the skilled occupations, which the guilds in turn opposed in order to safeguard the interests of the guild's members (Knie-Andersen 2009; Pedersen 1987).
The king had sovereignty and he could intervene if he was not satisfied with the town council's "control" of the craftsmen. In 1507, the king abolished all shoemaker guilds\(^3\) in the kingdom on the grounds that, in his opinion, they charged too much for shoes. It is uncertain whether the king's intervention was justified or whether the shoemakers had good reasons for increasing their prices, such as increased commodity prices. However, an agreement was entered into shortly afterwards with the shoemakers and they were allowed to re-establish their guild statutes in several towns. The powers were thus able to "negotiate" a compromise (Knie-Andersen 2009). In 1526, the king abolished all guilds and thereby made all the crafts unregulated professions. The guilds refused to let themselves be abolished, however, and the king soon relented. As with the shoemakers, the attempts to abolish the guilds occurred based on claims that the guilds were fixing prices and that the members were delivering work of the poor quality. The allegations were probably correct to some extent. Historians, on the other hand, have pointed out that the main reason was probably that the king found it expedient to support the wish of the nobles to ensure their right to have their own craftsmen employed, without regard to the rights of the guilds. At the time, the nobles were trying to expand their rights in other areas, such as with regard to taxation. The nobles' right to keep their own craftsmen, outside the influence of the professional organizations, was subsequently recognized in a number of separate statutes and the continued existence of the guilds was thus secured, at least temporarily (Knie-Andersen 2009).

In 1616, the king tried again to ban the guilds, but they survived and even increased their number. The guilds thus displayed a remarkable resilience and ability to negotiate with the authorities and assert themselves (Nyrop & Sølver 1929). Having failed to abolish the guilds, the authorities tried to force the guilds to relax the rules/requirements for admission to the guild, so that it would be easier to become a master. The nobles' influence was now expressed through a number of laws and regulations that relaxed the requirements for the craftsmen's training, for example by eliminating the requirement for a master piece. Opposing the rulers’ desire for freer access to the guilds and lower prices for crafts was the guilds’ desire for high professional standards and reasonable financial income for the individual members through controlled access. The restriction policy was the guilds' weapon to achieve a degree of social security for its members, prevent the access of unquali-

\(^3\) Everyone was freely allowed to make and sell shoes in all of the country's market towns. At the time, the shoemaker's trade was the largest craft in the country.
fied masters and keep the number of masters at a level that ensured that members could make a living from their trade (Knie-Andersen 2009). Such conflicts between the guilds and the authorities had a major impact on the apprentices' working conditions, which were harsh relative to modern conditions. During the era of the guilds, there was a sharp distinction between craftsmen and other social groups.¹ Craftsmen in the towns earned substantially less than the nobility, clergy and merchants, but a good deal more than the poor underclass. However, there were significant differences, between big and small towns and the craft professions, and also internally within each profession. In Copenhagen, some craftsmen were prosperous, but most had only modest livelihoods and many were actually poor. Overall, craftsmen's financial position was poor and their working hours were usually very long (Søgaard 1942; Madsen 1905). Craftsmen at the time were, in a sense, held in an economic straitjacket by the authorities. This was important for the training conditions in the apprenticeship, which resembled a situation where companies who were under financial strain had to train apprentices without any financial support from the state. Apprentices were therefore required to pay for their education and support through their work, which was set out in a binding contract of apprenticeship.

The introduction of absolutism in the 1660s heralded a new period for the guilds' apprenticeship regime, with a completely new state system, where the old form of self-government in the towns was changed. All trade, crafts and industry had to be located in the towns and be operated by those who were organized in guilds. The guilds were given exclusive rights, not only to the manufacture of goods, but also to the distribution of goods through trade guilds. These monopoly rights were part of the new mercantilist state system. The mercantilist policy was part of the state's effort to consolidate the state, which replaced the medieval feudal system. These state formations meant increased public expenditures for administration, the military and the court, which had to be financed through various types of taxation, such as through the taxation of craftsmen’s and merchants incomes based on monopoly rights (Hansen 1995).

Subsequently, government intervention was strongly influenced by mercantilism, where the priority was also on obtaining abundant, cheap labour. The king therefore abolished, once again, the guilds'  

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1 Social groups e.g. nobility, clergy and peasants

2 Small towns had special rights in the form of citizenship (Hansen 1995)
regulations in 1681 and negotiated new regulations that gave the masters extensive rights to dispose over the skilled workers' labour, and several provisions were intended to bind the workers to the workshops (Søgaard 1942; Hansen 1995). The masters' monopoly position created a rift in the guilds between the journeymen and the masters.

The monarchy's new regulations also included provisions governing the apprenticeship system (Kløcker-Larsen 1964). The guilds' control of the professional quality e.g. through tests for completed apprenticeship and the master craftsman's qualifying examination, were now enshrined in law. The reinstatement of the master craftsman's qualifying examination was a victory for the craftsmen. Although efforts were sometimes made to use the master craftsman's qualifying examination to restrict the number of members admitted to the guild, this did not detract from its primary and essential function, namely to ensure professional competence. Several of the guilds' quality promoting activities continued to have elements that tended to restrict competition, and it can sometimes be difficult to distinguish between which function had highest priority in specific situations. The guilds' apprenticeship system was a pawn in the power struggles and conflicts regarding living conditions for the poor craftsmen classes, who were trying to improve their conditions through federations of guilds (Knie-Andersen 2009).

Danish apprenticeship under German influence

In the 1700s, the Danish kingdom was a typical, medium-sized European state with a linguistically and culturally mixed population, who were not considered Danes, but rather as subjects in different parts of the country (Juul 2013). Norway was part of the kingdom until 1814, just as Schleswig and Holstein were until 1864. Mercantilism led to the kingdom's aggressive maritime and trade policy, which in turn led to the acquisition of colonies and a remarkable economic boom, which ended with a bang in 1814 with defeat in a war and the loss of Norway. Ida Juul (2013) has analysed how important it was for the apprenticeship system that Denmark changed from a medium-sized European state into a nation state. Until the loss of the German-speaking Schleswig and Holstein, Denmark was an equal member at the German-speaking cultural area in northern and central Europe, which, according to her, was essential for the development of the apprenticeship system (Juul 2013). The

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6 Regulations for journeymen and apprentices in 1682
1700s were dominated by war policies and the reconstruction of Copenhagen after the major fires of 1728 and 1795, which reinforced this connection to the German cultural area. Extension and restoration of the fleet and the extensive reconstruction of the burned buildings in Copenhagen created the need for a significant inflow of foreign journeymen (Knie-Andersen 2009). Historical sources show that the German journeymen flocked to Denmark and demanded that their crafts should continue to be organised in guilds as a condition for them coming to work as travelling workers. The demands of the foreign journeymen were instrumental in maintaining the regulation of the German-inspired guilds. If the guilds in Denmark did not comply with and conform to the customs of the German craftsmen (Zünften), the German craftsmen would refuse to work in Denmark and to accept Danish journeymen who were travelling, for example in Germany, in order to become masters (Juul 2013; Knie-Andersen 2009). At the time of the guilds, therefore, the apprenticeship system in Denmark was closely interwoven with the German guild culture, even though the authorities had an increasingly negative view of this cultural relationship. After the loss of Schleswig-Holstein, the national spirit strengthened. The nationalistic identity had to be renewed and this could be achieved by cultivating the essential qualities of being Danish (Gjerløff & Jacobsen 2014). The apprenticeship system's German traditions did not fit in well with these ideological currents. National and cultural changes, turbulent war policy and economic fluctuations had a varied impact on challenges facing the apprenticeship system in the 18th and 19th centuries. The development of the school-based part of the apprenticeships should be understood in this light.

The school part of the guilds' apprenticeship system

The school-based part of the apprenticeship system was also developed and expanded according to the German model and by Germans officials and academics, who brought new ideological trends to the country. The spirit of the Enlightenment became crucial to the development of the school part of apprenticeship training during the period with guilds. In commerce, it was common during the period of the guilds for apprentices to be given private lessons at the merchants' premises in the form of courses in bookkeeping, correspondence, arithmetic or language. The key to passing the final examination, such as the commercial assistants examination, was that the apprentice had acquired the right skills, and this was the responsibility of the master, regardless of whether he taught the apprentice himself or "purchased" teaching elsewhere in the form of courses (Lampe 1969). The courses usually supplemented the inadequate tuition in general subjects which apprentices received in primary school (Hansen 1995).
One of the first privately run institutions, which was intended especially for apprentices in commerce, was run by a German pastor named Christiani from 1795 to 1802. The institute had several departments, including a children’s school and a special department dedicated to commercial apprentices. This department offered courses in subjects such as languages, accounting and theoretical commercial skills directed toward a higher commercial education. Tuition related to mercantile subjects was provided in many other schools. For example, the Frenchman Villaume established a similar institute in 1816 in Copenhagen (Hansen 1995).

In the craft trades, the first signs of an actual school-based part were associated with artistic skills in drawing. The guilds' statutes from the 1600s included requirements for drawing skills in connection with the test for completed apprenticeship and the master craftsman's qualifying examination (Nyrop 1893). The first reference in the historical sources to a *Painters' and Sculptors' Academy*, where drawing was taught, appeared in 1738. In 1754, this Academy was granted the status as a royal *Danish Portrait, Sculpture and Building Academy* (Wagner 1999). A decree in regulations of 21 July 1771 provided the possibility for craftsmen to attend classes at the academy free of charge. The initiative came from the German physician, Struense, who governed the kingdom during the reign of the mad King Christian VII. Inspired by the spirit of the Enlightenment, Struense gave the academy a new set of regulations that altered the situation of the arts academy significantly, from being exclusively for the highest ranks of society to also being opened to commoners (Nyrop 1893). According to the regulations, it was forbidden to refuse anyone, regardless of which status he had, as long as there was room on the premises. The ambition was that art should be more useful (Petersen-Studnitz 1882). Model drawing, where apprentices were taught to copy a pre-drawing, was considered the most important theoretical subject for craftsmen. The ambition was that geometrical drawing would be developed into a technical language (Wagner 1999). Masters, journeymen and apprentices enthusiastically took advantage of the opportunity to participate in the drawing classes.

Struense ordered that all the craft occupations that had drawing as part of the master craftsman's qualifying examination, should submit a "sketch" to the Academy for approval. In 1771, the Academy, called Academy of Fine Arts (*Kunstakademiet*) approved the two first master pieces from a

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7 The regulations changed the name to the Painting, Sculpture and Building Academy
goldsmith and a glazier. The Academy engaged actively in the work and the education gradually became more extensive (Dybdahl & Dübeck 1983; Knie-Andersen 2009).

In addition to drawing classes at the arts academy, free Sunday schools were established for craftsmen in the early 1800s (Nyrop & Sølver 1929). The reason for this was that the craftsmen's often had inadequate schooling and it was a reaction to the failure of the primary schools to teach children reading, writing and arithmetic. The Sunday School was a great success and attracted not only apprentices, but also journeymen and masters. A characteristic feature of these schools was that they only provided education in general subjects (Petersen-Studnitz 1882). Lampe (1969) points out that the Sunday schools were not only intended for craft apprentices, but also for commercial apprentices who did not come from wealthy merchants who could engage private tutors. The history of the school part of apprenticeship training is thus closely interwoven with the history of the inadequate teaching in the primary schools, which improved slowly. During the 1800s, the primary school system developed into the form that we know today. That is, state or municipally funded and controlled schools, which included all children and young people of school age (Betænkning/473 1968).

In the provinces, however, they were influenced more by the Grundtvigian tradition, and many folk high schools started departments for apprentices and were thereby responsible for the school-based part of the craft apprenticeships. The school part of the apprenticeship was influenced by a range of different powerful outside influences throughout its evolution.

**Academy of Fine Arts and the Polytechnic College**

The Academy of Fine Arts found it increasingly difficult to manage apprenticeship training, since the teaching was very academic and far removed from the lives of the craftsmen. The teachers complained that they were forced to use many resources maintaining order and discipline in the classroom. The strain on the institution increased especially after 1813, when new regulations decreed by the king referred a number of new crafts such as bookbinders, gunsmiths, turners and plumbers to seek instruction and assessment at the Academy. According to some sources, the added pressure on the Academy from the craft apprentices hampered the Academy's capacity to train artists properly in the higher arts. The need for craftsman training was apparently large, but the fact that it interfered with the education of young people from higher social strata generated a lot of resentment (Wagner 1999).
While criticism of conditions at the art academy grew, there was also an increasing level of resentment of the craftsmen's level of school education generally. The Enlightenment created a movement among academics to enlighten and reform the craftsmen. A prominent figure in this movement was a professor of mathematics, GF Ursin. He suggested to the king in 1827 to set up a polytechnic school for craftsmen and other industrial trades in the capital. Ursin's ambition was that the school should be organised with a craftsman education modelled on the German Gewerbeschulen, where the emphasis was placed on practical training using exercises in workshops and laboratories. This was an ambitious proposal, where the relevant scientific theories and experimental methods and results would be linked to practical crafts (Wagner 1999; Lundbye 1929). The essential and farsighted element of the proposal was the emphasis on practical workshop training, with some theoretical contributions that focused on giving craftsmen a solid theoretical education. The emphasis in the access requirements would be on the craft skills and the student should preferably have learned the craft in an apprenticeship. The education was conceived as a 4-year specialised education with a strong interdisciplinary character and equal emphasis on theoretical and practical training. The original proposal for a polytechnic college for craftsmen was turned 180 degrees by the dominant academic elite. They submitted a proposal for the establishment of a higher scientific educational institution, with strict academic admission requirements (Wagner 1999). According to Wagner (1999), who has analysed the development of polytechnic education in the period 1780-1850, it was the academic classes' ingrained contempt for the craftsmen that blocked Ursin's ideas from becoming a reality. According to the opponents of the crafts school, the practical element of the education should only be an exercise to develop and apply the theoretical knowledge. This was a completely different didactic approach than Ursin's, who wished to concentrate the teaching on the crafts' specific work methods, techniques and the application of theory in the practice workshops (Wagner 1999).

The College of Advanced Technology (Den Polytekniske Læreanstalt) was established in Copenhagen in 1829 as Denmark's first technical college. The college did not become the craftsmen's college, but rather an academic education to serve as an integral part of the University of Copenhagen (Harnow 1998). The college was primarily intended to train public officials for government service and also to service industrial facilities. The usual qualifications for access to the educations at the college were a baccalaureate in mathematics and physics, or through a comprehensive entrance ex-
am. The number of applications was usually greater than the number of places and the education therefore acquired an elitist academic character. All fields of study began with in-depth training in general subjects such as mathematics, physics and chemistry. Then there was a period that attempted to establish transitions between these academic subjects and the technical professions (Betænkning/502 1968).

Despite the fact that it was made very difficult for craftsmen to obtain an education at the College, the education had both a direct and indirect impact on the development of the school part of the apprenticeship system. The first graduates from the college were a new group of academics who formed connections with the craftsmen in order to create a scientific, technological foundation for industrial development. These poly-technicians had either a craftsman background already, or they were inspired by the industrial development of the craft culture (Wagner 1999). These first poly-technicians, in collaboration with visionary master craftsmen, were of crucial importance for the development of the institutional, formalized school part of the apprenticeship system and the development of an intermediate, technical education.

**Denmark's first vocational schools for apprentices**

The skilled workers in the areas of commerce and crafts obviously had an instinctive perception that they themselves had to become involved and they established craft-oriented schools on their own private initiative. The coppersmith George Conradt was one of the first. He established an institute for metalwork in his own workshop in 1807 and others were established subsequently (Nyrop & Sølver 1929). A school for carpenters was established in 1827, for goldsmiths in 1829 and for painters in 1831. These schools soon got into financial difficulties: a more coordinated approach was obviously required. In 1843, the cabinetmaker Lassenius Kramp brought together members from the various guilds in order to establish The Technical Society (*Det tekniske selskab*) in 1843. Its primary objective was to promote technical and theoretical knowledge among craftsmen. The Technical Society received state aid, contributions from foundations, from the craft association and from individual guilds to fund Denmark's first technical school, the Technical Institute. The school was not subject to the Crafts Association (*Håndværkerforeningen*) or the Industrial Association.

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8 In order to sit the entrance exam, students were required to have at least a lower secondary education

9 What is now called Copenhagen Technical College
directly, but was an independent institution where the parties collaborated with academics and politicians on the board of directors. In 1844, the German professor G.F. Hetsch was employed as educational director at the college. The training was primarily drawing and modelling, arranged and adapted for each subject. There were also lectures in mathematics, physics and technology in order to disseminate knowledge of the professions' theory (Det tekniske selskab 1943; 1968; Hornby 1966).

The college soon began to develop a higher technical education in the form of day-classes for builders and machinists. In the Technical Society's 100th anniversary year-book, the influence of the Polytechnic Institute was highlighted as valuable and particularly significant for the development of further training for apprenticeship graduates. The sources clearly indicate that the Polytechnic Institute and the Technical Institute began to cooperate, but it appears that tensions developed between these two institutions, as they increasingly competed to train highly skilled technical specialists. How the cooperation and tensions progressed is an area requiring further study. The same applies to the tensions that developed between industrial circles and craftsmen regarding the content of teaching at the Technical Institute. Here analysis of the sources is very sparse. All we know is that in 1868, a New Craftsman's School (Ny Haandværkerskole) was established, with significant support from the group around the industry association. It intended to place less emphasis on technical drawing and focus instead on academic courses and higher education. The new craft schools and the technical institute competed for students.

After lengthy negotiations, the two schools were merged into one school in 1876: the Technical Society's School (Det tekniske selskab 1943). Copenhagen now had a broad vocational school that covered both craft and industrial needs.

In the area of commerce, small private institutions were established in Copenhagen in the early 1800s and they began to systematise commercial tuition for apprentices. In 1838, the grocers' guild in Copenhagen established a commercial evening school, which seemed to have a difficult start, just like the first craft schools in trade and industry. The school ceased operating in 1861, while other private commerce schools were more successful, such as Svenne Langkjer's "commerce academy", which started in 1842 and eventually became very popular (Lampe 1969). The actual commerce

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10 Together with a few minor craft schools
schools, as an integral part of the apprenticeship system, were only properly established in the period from the 1860s to 1880s, when the trade associations' courses for apprentices became widespread (Hansen 1995). The first colleges for commerce, trades and industry had in common that they originated in the trades' forms of organization: first the guilds and later the chambers of commerce or craft and industry federations.

**Professional journals - a meeting place**

Dissemination of theory related to the guilds' apprenticeship system was not confined to the schools. Professional journals were common in the 1800s and they had a significant influence on the development of craftsmen's level of skills. Articles in the publication (New) Magazine for Artists and Craftsmen (*Nyt Magasin for Kunstnere og Haandværkere*) from 1826 to 1842 demonstrate the close ties between the crafts on the one hand, and the arts, industry and certain academic environments on the other. The list of subscribers to the publication in 1827 consisted of 44 government officials, 26 academics, 48 aristocrats and officers, 99 craftsmen and 17 manufacturers and industrialists. Later, several more publications were established to disseminate polytechnic knowledge to technically minded readers. The journals were a forum for all those who concerned themselves with technical issues in their daily work. The ambition was that academics, government officials and scientists could collaborate with artists and craftsmen to enhance the Danish polytechnic knowledge. Practical and theoretical knowledge of engineering, tools and new industries were disseminated in this way. The starting point for the choice of subjects was often the craft practices. The journals are a historical testimony to the development of new technology in the first half of the 1800s, but are also part of the history of education. Many readers bought the journals, while others read them at the library or in the local craft association or company. A reading association was founded for Artists and Craftsmen in 1830, where enthusiasts gathered to discuss theoretical knowledge and knowledge of the latest advances in technology (Wagner 1999). The school-based part was not a significant element of apprenticeships in the 1800s. Many apprentices obtained their theoretical knowledge in other ways. Some of the master craftsmen were active debaters, they went on study trips abroad and cooperated closely with scientists and academics in relation to communicating this knowledge to their colleagues. This occurred partly at the technical college, but also in non-institutional environments such as trade journals. The guild apprenticeship was both theoretical and practical, and was generally a well-functioning system of education. However, society had moved on from the guild as a necessary element of the social framework. It had become out-dated
and was now an obstacle to further progress and industrialization. There is no need to romanticize the conditions for apprentices under the guilds’ system, as there were also many less favourable aspects. One of them was that the masters’ own children were often given priority over apprentices from outside the family. A certain amount of co-option within a narrow (family) group was probably widespread in the relatively flexibly regulated apprenticeship system\textsuperscript{11}. This social immobility was dominant under the guilds, also for other groups in society (Hansen 1995). A break-up of the entire social fabric was coming. The difference between rich and poor was enormous, creating fertile ground for a revolution among the population and a challenge to the high levels of inequality.

**Dissolution and freedom of trade**

In France, the guild system was abolished by the French Revolution and the social thoughts and ideas of the Enlightenment spread across Europe. Political freedom, democracy, market and human rights were the key words of the new ideological foundations. Mercantilism’s strong belief in state control was replaced by liberalism’s faith in the free mechanisms of the market (Thyssen 2012).

This development led to significant changes in the prevailing social systems in Denmark and resulted in the final demise of the guild system. The constitution established that all restrictions on the free and equal access to trade should be repealed by law. This was implemented through the Trades Act \textsuperscript{12}of 1857, which established freedom of trade and deprived the guilds of virtually all their rights and dissolved their social safety net from after 1862. The Trades Act made 1862 a very significant year in the history of Danish education. The trades that employed one quarter\textsuperscript{13} of the population thereby no longer had a regulated vocational education (Hansen 1995).

The Trades Act meant that any skilled or unskilled worker could call himself a master and could sell his products or services. It was no longer necessary to have completed an apprenticeship to become an independent employer in an occupation. This meant that anyone with sufficient initial capital could establish themselves in business without professional knowledge and without having to

\textsuperscript{11} Masters’ sons could complete their apprenticeship in a shorter period than apprentices from outside the family. The idea was that poor apprentices were given the opportunity to pay for their education, room and board through their professional and domestic labour. This mix of education and care often led to criticism of the apprenticeship system (e.g. Grelle 1993).

\textsuperscript{12} The Danish Act on Crafts and Factory Operation and Trade and Public Houses etc. of 29 December 1857 entered into force in 1862.

\textsuperscript{13} Trades and industry employed roughly 20\% of the population and commerce employed about 5\% (Hansen 1995).
apply to the guilds for permission to employ labour from various guilds (Håkonsson, Kühl & Wechselmann 1978). At the same time, all quality control of apprenticeships (journeyman's test and Master craftsman's qualifying examination) was abolished and people who were not themselves trained in an apprenticeship were allowed to take others into an apprenticeship. This had a profound impact on learning conditions. The professional interest that had previously characterised the master, was replaced by a financial interest, namely the desire to earn as much as possible from the apprentice. While the master had previously considered the apprentice a guild brother, the industrial employer now regarded the apprentice more as an employee (Larsen 1962).

The Trades Act created both internal competition between craftsmen and also in relation to industrial production and imports. There was a change in the form of specialization of the craft firms' production and an increased division of labour in the workshops. That which had previously been the work of one man, was now divided into several operations that could be performed by people who did not have the full training. This more specialised form of production had the consequence that some workshops could not provide adequate professional training. The industrial workshops, however, also felt that they could dispense with fully trained craftsmen and make do with workers with specialised skills. After the abolition of the mandatory contract it became common for apprentices to leave after a year or two to take higher paid employment in specialized workshop production. Thus, the employer/master who had worked hard to train apprentices could not, as previously, reap the rewards when during the apprentices' last year, they could perform almost full journeyman work at apprentice pay levels. Conscientious masters, who followed the old ideals of apprenticeship, now experienced financial difficulties. The employer/master was thus forced to try to avoid training costs and focus instead on ensuring that the apprentice's activities were consistently profitable. Some employers remained "competitive" by basing their production on having many apprentices, who they were unable or uninterested in providing with formal training. The dissolution of the guild system thus entailed that the employers increasingly began to exploit the apprentices, lowering the quality of their education and thus undermining the education system (Betænkning/145 1956).

The crafts, industry and trade were no longer adequately protected by the old guild system against state power. They needed to make themselves visible and establish new networks to replace the culture of solidarity that was shattered by the Trades Act in 1857. The divisions and conflicts between the crafts sector and industry was a major theme in the construction of these new network organizations. At the founding of the Joint Representation for Industry and Crafts (Fællesrepræsen-
In 1879 craft and industrial associations gathered and established a common voice for the production industries in order to eliminate the chaotic conditions that resulted from the Trades Act. This cooperation proved to be fruitful for all parties (Hasslø 1940). Earlier, the guilds had represented the crafts individually, while in the joint representation they could act with more unified strength and were thus able to work together for the common interest of safeguarding the training in the apprenticeship system (Nyrop & Sølver 1929; Rasmussen 1969). In commerce, merchants were losing their monopoly on certain trading objects, as agriculture and industry found their own marketing avenues outside of the merchants’ houses. Commerce took up the fight by agitating for better education through the chambers of commerce immediately after the Trades Act came into force. In 1890, the Danish Chambers of Commerce established a joint organization consisting of chambers of commerce in Jutland, Funen, Zealand and Lolland-Falster (Hansen 1995). During the 1890s, the labour movement's political and industrial organizations achieved a geographical spread and popular support. The trade unions gathered in nationwide trade federations, which in 1898 joined forces in what later became the Danish Confederation of Trade Unions (LO). Also in the late 1800s, the employers formed employers' organizations, which were later gathered into the Danish Employers and Masters Association and finally the Confederation of Danish Employers (DA) (Madsen 1988). Afterwards, the two sides on the labour market no longer spoke with one voice, as had been the case during the time of the guilds, where the guilds were neither employers' associations or trade unions, but a combination of both. There were now two sides; employers (masters) and employees (skilled workers). In the following years, developments continued along two paths: There were lines that were set by the employers, and then there were the lines of development that came about as a result of the demands made by the journeymen's trade unions. The traditional crafts and commerce were thereby seriously divided, and deep social divides were established between employers and employees. There were now clearly conflicting interests between employers and workers, mainly concerning the apprenticeship wage and the time to be spent in an apprenticeship. In simplified terms, the employers wanted a low wage and a long apprenticeship, while the workers wanted high wages and short apprenticeships. The opposing interests that occurred as a result of industrialization and the emergence of capitalism constituted the crucial issues in the conflicts and compromises that determined the subsequent apprenticeship legislation.

Internal tensions between industry and the crafts in the Joint Representation increased in the 1900s and ended with the organisation splitting into the Craft Association and the Industrial Association.
In 1875, a Labour Commission was established to draw up a new Apprenticeship Act. The first bill on apprenticeship was presented in 1881, but because the situation in the labour market was dominated by conflict between workers and employers in the 1880s, it was not until 1889 that the bill was adopted (Christiansen, 1933; Jensen 1926). The learning conditions in the apprenticeship system in the 1800s was closely associated with the efforts of the two sides in the labour markets to develop new organizations and an agreement system to perform the tasks that had previously been the responsibility of the guilds.

**The first Apprenticeship Act of 1889**

The Apprenticeship Act of 1889 was the first attempt to regulate the apprenticeship system after the dissolution following the Trades Act. The first Apprenticeship Act had a limited impact, since it was restricted to youths under 18, and there were no requirements for the professional competence of the masters or formal requirements for the training of the apprentice. There were also no requirements for quality control. This meant that the employer himself was not required to be a skilled craftsman to hire apprentices, and with a system without quality control, there was no requirement for the employer to train the apprentice to pass a final test for completed apprenticeship, thus proving that the master had fulfilled his obligation to provide the apprentice with a proper professional education. The contractual relationship between the employer and the apprentice was the only element from the time of the guilds' apprenticeship system that was reintroduced unconditionally. The apprenticeship period was set at 5 years, with a mutual trial period of 3 months. This meant that the apprentices could no longer drop out of their education in order to take higher paid work when it suited them, for example when they had been with their master for a couple of years and learned the basic skills of the trade (Betænkning/145 1956).

Clarification of the contractual obligation that had been ill-defined since 1862, was a victory for the commerce and craft associations, and also an acknowledgement that Liberalism's ideal of free private apprenticeship agreements had not worked as intended. The new nationwide version of the apprenticeship contract should specify whether the master provided the apprentice with shelter, food and clothing and other necessities, or whether these goods were to be replaced by monetary consideration. The issues in education policy were concerned with whether the state should regulate apprenticeships in order to prevent the exploitation of apprentices. The Social Democrats wanted state intervention, while the middle classes argued that it was voluntarily to be apprenticed to a
master. The Liberals regarded the introduction of government regulation of apprenticeship conditions as an encroachment on personal freedom (Hansen 1995).

Shortly after the first Apprenticeship Act was adopted, a proposal was made to require journeyman to pass a test in order to obtain a license. It proved difficult, however, to find an acceptable proposal for the journeyman's test within the commercial and office trades. For this reason, a proposal was put forward to establish two Apprenticeship Acts, one for craft and industrial apprentices and one for commercial and office apprentices. However, this was not adopted because there was political opposition against having two separate laws (Andresen & Agersnap, 1989). From the beginning, therefore, it was problematic to deal with legislation governing apprenticeship training centrally because of the differences there have existed between the sectors, particularly between the crafts on the one hand, and the commercial and office trades on the other.

Many key elements from the time of the guilds' apprenticeships were still missing, and the mandatory test for completed apprenticeship was probably the most important element for the craftsmen, since it seemed like a quality assurance of the practical and theoretical knowledge which the apprentice had to acquire during the apprenticeship. The dramatic transformation process that befell the whole of society during this period was probably the main reason that there were not greater demands imposed on apprenticeships in the 1889 Act. In short, home industries were replaced by larger companies (though not large in today's terms). In the towns, for example, people no longer baked their daily bread themselves. It was bought in a bakery, which meant a strong increase in employment in the bakery profession within a very short space of time. The same trend also occurred in most of the other trades (Fode, Møller & Hastrup, 1984). The period between 1880 and 1900 was a period with exceptionally strong economic growth. This also meant that there were many new buildings being constructed, which naturally influenced employment patterns in the construction trades. Table 1 shows the growth in the nine largest trades in the period 1840-1901.

Based on the dramatic and rapid changes taking place in the labour market, as illustrated in Table 1 (next page), it is evident that any educational system would have found it difficult to cope with changes of this magnitude in such a short space of time. It is easier to understand, therefore, why there were not greater demands placed on the apprenticeships in the Apprenticeship Act of 1889. It seems that the first Apprenticeship Act was more concerned with quantity rather than quality.
<table>
<thead>
<tr>
<th>Table 1. Employment in the trade</th>
<th>1840</th>
<th>1901</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacksmiths and machine manufacturers</td>
<td>25,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Tailors and seamstresses</td>
<td>33,000</td>
<td>73,000</td>
</tr>
<tr>
<td>Masons</td>
<td>10,000</td>
<td>53,000</td>
</tr>
<tr>
<td>Joiners etc.</td>
<td>14,000</td>
<td>42,000</td>
</tr>
<tr>
<td>Shoemakers and manufacturers</td>
<td>22,000</td>
<td>37,000</td>
</tr>
<tr>
<td>Carpenters</td>
<td>13,000</td>
<td>33,000</td>
</tr>
<tr>
<td>Butchers and sausage manufacturers</td>
<td>5,000</td>
<td>24,000</td>
</tr>
<tr>
<td>Bakers</td>
<td>4,000</td>
<td>23,000</td>
</tr>
<tr>
<td>Painters etc.</td>
<td>2,000</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Source: Fode, Møller & Hastrup, 1984

Strict demands on the businesses and on the masters’ qualifications could have slowed the rapidly growing number of apprentices, which were regarded as necessary in order to meet the demand for skilled labour. The late 1800s were marked by labour conflicts between employees and employers, which culminated in 1899 in the most comprehensive labour dispute ever in Denmark. The conflict ended with a compromise and an agreement model, which eventually also left its mark on the development and regulation of apprenticeships. The so-called September Agreement laid the foundation for an agreement system that was based on the mutual recognition of the other party’s right to organise and which refers decision on contentious issues for negotiation and mediation (Juul 2009).

The school part according to the Apprenticeship Act of 1889

The Apprenticeship Act of 1889 was the first step taken in relation to approving the school-based part as an important part of the apprenticeship education. The Act required the masters to give apprentices the necessary time to go to relevant technical or commercial schools (Fode, Møller & Hastrup 1984). Although the test for completed apprenticeship was not made compulsory by the Apprenticeship Act of 1889, the main idea was that the master was responsible for ensuring that, at the end of the apprenticeship, the apprentice was capable of passing the test for completed appren-
ticeship, when there was access to take such a test (Betænkning/145 1956). He was also obliged to provide the apprentice with time to attend classes at a school (Hansen 1995). If there were no schools nearby, there was no obligation to keep the apprentice at school or pay for the tuition. The masters, who agreed to accept state-regulation, could sign up and received state support and assistance to train apprentices (Hansen 1995). Many were "trained" outside the regulated rules of the law in order to address the need for skilled workers at a time of dramatic and rapid changes in the labour market (see Table 1).

Within the commercial and office trades, systematic and theoretical school education was introduced during the 19th century under the leadership and responsibility of the chambers of commerce. The training was usually organized by older people from industry, who had many years of practical experience. The Aarhus Chamber of Commerce's evening school was established in 1865. It initially provided tuition four hours a week spread over two evenings (Lampe 1969). The Association for Young Merchants' Education was established in 1880. The association established a branch school, the Copenhagen Commercial School (Købmandsskolen i København), which offered higher education to voluntarily paying students. When the Apprenticeship Act was adopted, the teaching of apprentices became the school's principal occupation. As the city grew, the commercial school's opportunities to cater for many industries' special professional requirements were also increased. Special departments were established, such as a banking school, insurance school and a shipping school, all adapted to the regular apprenticeship. The Copenhagen Commercial School grew rapidly and was by far the country's largest school for apprentices.

For the commercial schools, therefore, the Act of 1889 resulted in a significant strengthening of the school-based part of apprenticeships (Hansen 1995). Advanced training for apprentices was also offered in schools, which were established on a private basis. One example is the Niels Brock Business College, which was established in 1885. Initially, the school had one department, which could enrol boys aged 9-10 years in a five-year preliminary section with an emphasis on commercial subjects. After completion of the preliminary education, they would continue with a two-year commercial school programme. The project failed, however, because only few parents considered it wise to let their children make career choices at such a young age. The children's school was closed and only the superstructure continued as a higher commercial school. In 1903, the admission criterion became the lower secondary school leaving examination and girls could also be enrolled. The school enjoyed great success and soon came to occupy the position as Denmark's only "commercial
college”, although this designation was not yet officially recognised. The upper secondary school leaving examination (Gymnasium) was still confined to the privileged few and was taken by less than 2% of children born in any given year (Hansen 1995; 1998).

Until about 1890, the commercial schools had almost only male students, but this changed significantly over subsequent decades (Lampe 1969). As the number of women in training increased, the education became increasingly institutionalized by the state and the link to the learning culture of the apprenticeship was weakened. The Apprenticeship Act of 1889 was the start of this development, but the schools were still run by the private sector and the links to the traditions of the apprenticeship remained strong.

Politically, however, there were divided opinions on the benefits of the vocational schools being created by the private sector. The school policy of the Social Democrats at the end of the 1800s was that the school system should be taken over by the state and all young people should be ensured compulsory education until the age of 18. These requirements were the result of a critical attitude to businesses’ private schools and their apprenticeship system. The proposal for mandatory education for all 14-18 year olds was put forward as part of the labour movement's struggle to protect working class youths from the unbridled exploitation of young people's cheap labour as a result of industrialisation and capitalist society. Making the school education system a state system was seen as a part of the class struggle, a step towards breaking the ruling class monopoly on indoctrination, which according to the Social Democrats, had a dominating influence on secondary education. The middle classes and the employers' federation were opposed to the proposal for compulsory education for all young people under 18 and nothing came of the proposals at the time (Mathiesen 1976).

In 1918, the Ministry for Trade established a commission that was tasked with preparing a proposal for a comprehensive plan for business college education and the commission introduced a bill in 1919. In 1920 an Act on business colleges was adopted, which was fundamental for business colleges over the next 40 years. The Business College Act further institutionalised two higher levels of the business education system: the Commercial Examination and the Higher Commercial Examination. Prior to 1920, the number of students in higher education taking the commercial examination and higher commercial examination was microscopic compared to apprenticeship training for the commercial assistants’ examination. There was only one commercial college in the country, Niels Brock, while there were six schools that offered teaching for the commercial assistants’ examination (Hansen 1998).
Within the trades and industry, the first Apprenticeship Act's lack of supervision of the apprenticeship system led to growing criticism. Gradually it became clear that the law was unable to fill the void that was created when the guilds were deprived of the right to supervise the apprentice training programmes (Juul 2009). In 1919, proposals were put forward for a new Apprenticeship Act, whereby the supervision of apprenticeships would be exercised by local apprenticeship commissions consisting of representatives of the employers and the employees under the auspices of a neutral chairman. The proposal was opposed by the Liberals and the Conservatives and could not gain a majority. In 1920, a proposal for a new law was put forward by the Liberals. It did not contain any provisions concerning supervision of the quality of the training, on the grounds that the best supervision was the supervision exercised by parents/guardians and masters who wished to participate in the scheme. The Social Democrats chose to vote against the bill, which was adopted by the Liberals and Conservatives in 1921 (Juul 2009).

The Apprenticeship Act of 1921

The Apprenticeship Act of 1921 was adopted by the Liberals with the support of the Conservative Party. Despite a lack of oversight, the Act entailed a significant expansion of the area covered by the Apprenticeship Act's because it applied to all youths under 18 and companies in both the restricted trades and in the unregulated trades (Larsen 1962). One of the most important changes was that the trades' request for a test for completed apprenticeship was partially accommodated, as the Interior Minister, on the recommendation of the profession's trade unions and employers' organizations, could lay down rules for the introduction of a compulsory test for completed apprenticeship. Over the following years, many professions utilised this "voluntary" arrangement to introduce mandatory tests for completed apprenticeship (Fode, Møller & Hastrup 1984).

The legislation regulating apprenticeships was still inadequate however. There was virtually no control of the education's versatility and professionalism, or whether the masters neglected the apprentices' education in order to profit from their cheap labour. There were no regulations governing minimum wages. The wage condition could be freely determined by a master (and apprentice) and had only to appear on the apprenticeship contract (Larsen 1998). A significant development was the requirement that a master should be professionally trained. In addition, it became mandatory for the apprentice to attend classes at a technical school and for the master to pay for their education.
However, these legislative amendments were by no means revolutionary for school life or for businesses. For several years before the Act of 1921, it had already been common practice for apprentices to attend school during their apprenticeship, and it had gradually become common for the masters to pay the school fees. The new legislation therefore only really meant that what every conscientious master had already done voluntarily, was now enshrined in law as applying to all the masters (Einfeldt & Rasmussen 1941).

The requirement for school education could easily be circumvented, however, because the legislation contained several waivers, for example if an apprentice lived far away from the school, he was still not required to attend any school. The number of vocational schools continued to grow, however, which meant that increasing numbers of apprentices had the opportunity to attend school (Ellersgaard, Jensen & Nielsen 1981). All vocational schools were established on a private basis. The schools received government subsidies, but they were in the hands of private industry in terms of both their management and the content of the curriculum. This private ownership had both advantages and disadvantages. The disadvantages were, for example, the lack of general insight and control, and the school's isolated position in relation to each other, which resulted in non-homogeneous education programmes. The advantage lay in the fact that the schools had a high degree of freedom to organize the teaching according to the local requirements of industry (Simonsen 1976).

**Higher education options after completing an apprenticeship**

Within the areas of craft and industry, the labour market was demanding higher levels of qualifications. Craftsmen had to be able to read and understand complex engineering drawings and draft tenders. Machinery instruction manuals were also becoming more complex. All of this led to increasing demands for advanced studies at a number of technical schools (Fode 2003). In addition to the mandatory, elementary technical education, students at many technical schools were soon offered the opportunity to choose a higher technical education during their apprenticeship\(^\text{15}\). This was a development that started back in the mid-1800s\(^\text{16}\), but which really gathered momentum during the 1900s. In 1912, the Technical Society's School in Copenhagen started trials with a master build-

\(^{\text{15}}\) Additional theoretical instruction that was not mandatory.

\(^{\text{16}}\) The development of the content of the education is shown in the Annual Reports of the Technical Society's School.
er school\textsuperscript{17}, which was intended to benefit both those who wished to remain in the trade and work as masters, and also those who wished to continue to another education, such as at the Academy of Fine Arts.

In the early 1900s, more and more craftsmen who had completed apprenticeships applied for a higher technical education in Germany, the so-called German Teknika, and the idea was proposed to establish a similar education in Denmark. In 1905, the first Danish Teknika was established in Odense\textsuperscript{18}, providing daytime classes that lasted 6 terms and were designed for skilled workers such as blacksmiths, machinists, mechanics, etc. (Betænkning/502 1968). The then principle, M. Rasmussen, engaged a polytechnic engineer O. Windinge, as head of the technical college. In 1922, the Technical Society in Copenhagen followed the example set by the Odense Mechanical Technical College and further developed day classes for machine builders to a 3-year technical college study programme.\textsuperscript{19}

After several years with a master builder school, a one-year advanced studies programme was established at the school in 1931 with the support the masons' guild and the carpenters' guild in Copenhagen. It was named the Housebuilding Technical College. The emphasis of the tuition was on work supervision and business studies, as well as technical subjects such as reinforced concrete. In 1933, Helsingør Technical College obtained permission to establish a Shipbuilding Technical College. Subsequently, a large number of new further education programmes for skilled workers were approved and accepted numbers of students. However, it was difficult to obtain adequate financial support from the state for the explosive growth in the number of skilled workers who wanted a higher education. The technical college education programmes were therefore operated with a deficit for several years (Det tekniske Selskab 1968). The skilled workers who participated in continuing education at technical colleges participated in a number of field trips, both at home and abroad. They could obtain grants and scholarships for these modern "journeymen travels". Study trips to Germany and Switzerland were described as follows by the Technical Society.

\textit{Every year under normal conditions, and with experienced teachers as travel companions, the final year cohorts from both the Mechanical and Electrical Engineering College visited a large number}

\textsuperscript{17} In 1934, the Trade Ministry approved an education plan and examination regulations for the apprentice school.

\textsuperscript{18} In 1908, 49 students graduated from the college, the first technical college graduates in Denmark (Betænkning/502 1968)

\textsuperscript{19} In 1939, the education obtained state recognition as an engineering education.
of industrial enterprises, government facilities and museums etc. in these countries. The excursions lasted about 14-16 days. (Det tekniske Selskab 1943 p. 37).

Excursions for 14-16 days show that the level of ambition was high. The apprenticeships opened up a number of opportunities for further education, which were established by the parties in the labour market. The state supported these initiatives financially to some extent, but did not follow-up on the success of the schemes and financial deficits therefore slowed the intended development.

The Apprenticeship Act of 1937

The Apprenticeship Act of 1937 laid the foundation for control by the labour market's parties through the occupational self governance, which characterizes Danish vocational education today (Juul 2009). Until the Apprenticeship Act of 1937, the government had intervened very little in the training conditions for apprentices. The formulation of the objectives regarding the masters' obligations to provide apprentices with a broad and balanced education in the relevant trade, were virtually unsupervised. The Social Democrats and the Social-Liberal Party had a majority in the upper house of parliament at the time and could therefore jointly adopt the new Apprenticeship Act in 1937. Both the Conservatives and the Liberals voted against it. The Act of 1937 and the changes it implemented were the culmination of the Social Democrats' efforts in this area over many years. One of these changes was the reduction in the number of years required to complete an apprenticeship. Apprenticeships had normally lasted five years since the introduction of the legislation in 1889, but were now reduced to four years (Møller 1991). After heated discussions on the proposal, however, the legislation allowed for dispensations to retain a 5-year apprenticeship in some cases. In 1938, the Ministry of Social Affairs approved the metals industry's apprenticeship committee's proposal that apprentices, who started an apprenticeship before the age of 14½ years, should serve a 5-year apprenticeship. For apprentices who started as apprentices after the age of 15 ½, their apprenticeship period would be 4 years (Rasmussen 1954).

Another change introduced by the Apprenticeship Act of 1937 was stricter regulation of the number of apprentices a master could hire. This was mainly determined by quality considerations, to prevent the master from employing too many low-paid apprentices, which he would then be unable to educate properly. The basic rule was one apprentice per skilled worker. This would prevent apprentices accounting for the majority of the work-force. The explanation was also based on financial
considerations. Too many apprentices would mean that the employers could lower the wage levels due to the overproduction of trained skilled workers. On the other hand, trade unions would have a problem if the number of workers joining the profession dried up completely. This meant that the basis for maintaining the profession, which the members had once fought to win, could be eroded. It was therefore in the interests of the trade unions to ensure a sufficient number of apprenticeships, and the apprenticeship rates were of major importance in this regard (Sørensen et al. 1983). The interests for and against restricting the number of apprenticeships, which was very important for the development and function of apprenticeships, were extremely complex. Finding a balance in this area was one of the preconditions for the apprenticeship system operating appropriately as the dominant vocational education. The trade unions wanted to see the introduction of a special, trades-oriented system of supervision, which would improve conditions for the apprentices, while also providing the trades with greater participation in joint decision-making in this area. This resulted in, among other things, the introduction of trade committees and an apprenticeship council, which were granted a consultative role and also the authority to make decisions. The trade committees for each trade or for each industrial area (joint committee), could thus declare a company as unsuitable for apprenticeships (Andresen & Agersnap 1989). The Apprenticeship Council was consulted by the ministries on apprenticeship issues and was allocated the authority to make decisions on a number of questions and to act as the highest court in relation to the trade committee on certain points. After the adoption of the 1937 Act, the trade committees and the apprenticeship council exercised a significant influence on the apprenticeship system (Klöcker-Larsen 1964)

The trade committees had the opportunity to advise the authorities not to approve a company's right to hire apprentices (Juul 2009). The reason that this provision became law was that some trade unions won test cases where they had questioned whether certain firms were capable of training apprentices adequately. One of the first cases was when the Danish Goldsmiths and Machine Operators' Union, based on a survey of learning conditions, came to the conclusion that a certain company was unsuitable as a training company. The conclusion was sent to the chief of police, who forwarded the matter to the Directorate for Employment Assignment and Employment Insurance, which forwarded the case to the Ministry of Social Affairs. The Ministry of Social Affairs' decision had a major impact on the metal industry's apprenticeship committee. In this way, they had obtained the legal authority to exclude the unsuitable companies from training apprentices. This is an example of the provisions of the Apprenticeship Act being an "acknowledgement" of an existing practice, in this case the metal industry's practices, which employed about 50% of all apprentices in crafts and
industry. These trades had their training rules approved as early as 1935. Prior to the commence-
ment of the Act, the trades' self-regulation had shown itself to be effective in practice, whereby em-
ployers were monitored and unsuitable employers were deprived of the right to hire apprentices
(Rasmussen 1954). Regulation of the apprenticeship system came about as a result of the represent-
atives of employees and employers adopting a joint position to strengthen the regulation and quality
assurance of the training programmes. The state's role was to support this work with more general
legislation, which supported and recognized the trades' autonomy.

The adoption of the 1937 Act did not stop the discussions on the legislation governing apprentice-
ships. On the contrary. The early period after the adoption of the legislation saw a lively discussion
on the design of the craft apprenticeships. The fact that an apprentice who had passed a test for
completed apprenticeship could immediately call himself a master was considered wrong in many
professions. They wanted a special education and examinations introduced as a condition for gain-
ing the title of master. Just as with the implementation of the voluntary tests for completed appren-
ticeships, where they had managed to have these recognised to such an extent that they eventually
became mandatory, it was hoped that it would be possible to do the same for the master craftsman's
qualifying examinations. Regarding the content of such an examination, it would predominantly be
a test in business management, i.e. subjects such as book-keeping, calculation and craftsman law. It
had become increasingly clear that a craftsman was not only required to master his profession, but
he should also be able to market his products, and he also had to know something about finance and
law. Over the following years, a master craftsman's qualifying examination was introduced in many
trades, and when the Ministry of Trade was persuaded to subsidize the master examination courses
at the technical colleges, the system was implemented nationwide in a number of professions (Fode,
Møller & Hastrup 1984).

In the 1930s, it was frequently discussed in the trade union movement whether apprentices' labour
was being exploited by the employers. The strong position of the skilled workers in the 1930s
meant that they achieved results that improved the quality of the education programmes. After the
Apprenticeship Act was adopted, the number of training agreements for apprenticeships declined
because there were restrictions imposed on the "factory-related" production of skilled workers in
many trades. The skilled workers claimed that the employers were boycotting the law because it
was too expensive and difficult to employ apprentices. The conflict of interest between the skilled
workers and the employers thus contributed to the decline in the number of apprentices. An important influence was the skilled workers' efforts to improve the quality of trainee placements in companies by setting limits on the number of apprentices a master could hire. Depending on which trade it concerned, the apprentice ratio was designed as a fixed, maximum correlation between the number of apprentices and the number of skilled workers. Another factor was the high level of unemployment in the 1930s, which meant that employers could hire cheap, unskilled labour, which in turn reduced their motivation to hire new apprentices. There was also a reluctance to let young people take any of the limited number of jobs away from the adults (Mærkedahl 1978).

In a number of respects, the Apprenticeship Act of 1937 was favourable to the craftsmen. It was proposed by the Minister for Social Affairs Ludvig Christensen, who had a background as a craftsman himself and had for many years been chairman of the apprenticeship committee for the moulders. He was very familiar with the craftsmen's struggle for better education and this had probably affected the form and content of the legislation. The Apprenticeship Act of 1937 regulated the conditions for apprenticeships and prioritised quality rather than quantity. The downside was that the number of unskilled workers increased and there were a growing number of experiments with education programmes that resembled apprenticeship, but were not covered by the Apprenticeship Act.

**The school part according to the Apprenticeship Act of 1937**

Prior to 1937, day classes at apprentice schools were virtually non-existent. The apprentices generally had to attend school in the evening after a long working day. Supporters of evening classes argued, among other things, that if apprentices had to be given time off during working hours, the masters might then find it expedient to employ skilled workers or unskilled workers instead of apprentices, because it would be too expensive to take responsibility for the apprentice during the apprenticeship period. Supporters of daytime classes argued that there must always be time during the day, when it was not so busy at the company. The debate resulted in a compromise, since the arguments against daytime classes were too strong. The compromise resulted in articles of the 1937 Act, which allowed for the possibility of making day classes mandatory, if the trade bodies, the apprenticeship council and the Ministry decided to do so (Larsen 1962). The question of day school or evening school, which was also a question of whether or not to have a centralised school system, was closely linked to the question of whether the apprenticeship schools should only give appren-
tices supplementary theoretical training (nothing else could be offered by the decentralized evening school, with many small schools dispersed in local areas), or whether there should also be practical, vocational learning provided in the schools (Hornby 1966).

Under the Apprenticeship Act of 1937, apprentices were older and more mature than under the first two Apprenticeship Acts. Many apprentices now had a middle-school examination or lower secondary school leaving examination or had applied for advanced tuition in lower secondary school before they became apprentices. The development of school tuition tended to associate people from the practice of the occupations with the school. Craftsmen, artists, engineers and architects increasingly replaced the previous lower secondary school teachers, primary school teachers and drawing teachers as instructors in the technical schools. The vocational and technical schools were greatly expanded under the Apprentice Act of 1937. Government subsidy was a contributory factor to this expansion (Hornby 1966). In 1940, after much negotiation, it was allowed to use the name "Engineer in Machine Technology" (Ingeniør i Maskinteknik) for graduates from the technical college (Det tekniske Selskab 1943). This was an important acknowledgement of the technical schools as (higher) educational institutions.

Summing up

A central dilemma in the first phase was Regulation versus deregulation of apprenticeships in interaction with the general social development, labour relations, industrialization and political ideological battles. This chapter has described how the Danish apprenticeship system has its roots in the European apprenticeship system that existed under the guilds, which was strongly influenced by German education culture and was established through ongoing negotiations with the authorities with regard to rights and regulations. Close cooperation between business, trades, industry and government has a long and sometimes stormy, but also successful tradition in Denmark. A recurring central theme of this period is the dissolution of the Guilds' apprenticeship, which created a chaotic dissolution situation under the Trades Act. All the basic elements that regulated the education were abolished and left to free market forces. The first phase was characterized by a complex power struggle between the two sides the labour market, who were trying to find consensus in cooperation with the state regarding a new form of regulation of apprenticeships after the dissolution of the guilds. New labour market organizations and a new Danish collective bargaining system took shape and made it possible to find a durable consensus for this cooperation. The new bargaining system played an important role in restoring the apprenticeship through regulation according to the
Apprenticeship Act, and it renewed it by establishing a school-based part as a component of the apprenticeship training. The Apprenticeship Acts of 1889, 1921 and 1937 primarily regulated the legal relations between master and apprentice, but also the requirements for participation in teaching at a school. Table 2 provides an overview of the regulation and deregulation of apprenticeships in the first period up to 1945.

<table>
<thead>
<tr>
<th>Table 2. Vocational training in Denmark until 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 1857(^{20})</td>
</tr>
<tr>
<td>Regulations</td>
</tr>
<tr>
<td>Duration</td>
</tr>
<tr>
<td>Access route</td>
</tr>
<tr>
<td>Contractual obligation</td>
</tr>
<tr>
<td>Skilled master</td>
</tr>
<tr>
<td>Maximum apprenticeship period</td>
</tr>
<tr>
<td>Mandatory test for completed apprenticeship</td>
</tr>
<tr>
<td>Mandatory master craftsman's qualifying examination</td>
</tr>
<tr>
<td>Common age of apprentices at the start of the education</td>
</tr>
<tr>
<td>Requirement for qualifying education</td>
</tr>
<tr>
<td>Mandatory school-based part of the craft apprenticeship</td>
</tr>
</tbody>
</table>

\(^{20}\) The key features of the guilds' apprenticeship.

\(^{21}\) Dissolution and freedom of trade

\(^{22}\) Apprenticeship Act of 1889

\(^{23}\) Apprenticeship Act of 1921

\(^{24}\) Apprenticeship Act of 1937.
The contract obligation, requirement for a skilled master, tests for completed apprenticeship and master craftsman's qualifying examination are important regulatory elements that were eliminated by the Trades Act and gradually reintroduced through the Apprenticeship Act. The master craftsman's qualifying examination had an important function for apprenticeships at the time of the guilds in relation to judging a master's competence. During the 1900s, technical colleges and commercial colleges built up a large number of continuing education programmes for skilled workers, including master training programmes that acquired a similar function. As shown in Table 1, the general trend was that the time required to complete an apprenticeship gradually decreased during the period.

Figure 1 shows that the number of apprentices in craft trades and industry increased in the first half of the 1930s, but then decreased drastically during the economic depression and explosive growth in unemployment. The 1937 Act's stricter requirements and increased oversight also contributed to this trend. Developments in the commercial and office sectors seemed to be less affected by these factors, as the figure shows a relatively stable increase in the number of apprentices throughout this period.

![Figure 1. Absolute distribution of apprentices in crafts and industry - commercial and office 1931-1945](image)

Source: Albæk, 1992

Figure 2 shows that the total number of completed apprenticeships increased until 1939 and then decreased until 1944, when it began to increase again. The number of student trained increased slowly throughout the period.
It is clear from Table 3 that the number of students at commercial colleges and technical colleges multiplied during this period. Agricultural colleges and home economics colleges also experienced an increase in the number of students, although these programmes were not covered by the Apprenticeship Act. Some colleges had crafts departments for apprentices, but the number of students was limited compared to the number of students in commercial colleges and technical colleges.

### Table 3. The development of the number of upper secondary school pupils

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>1915</th>
<th>1930</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial colleges</td>
<td>3,130</td>
<td>7,769</td>
<td>13,222</td>
<td>32,742</td>
</tr>
<tr>
<td>Technical colleges</td>
<td>15,385</td>
<td>18,456</td>
<td>27,787</td>
<td>53,309</td>
</tr>
<tr>
<td>Gymnasiums</td>
<td>2623</td>
<td>5,065</td>
<td>7,604</td>
<td></td>
</tr>
<tr>
<td>Agricultural colleges</td>
<td>741</td>
<td>1,748</td>
<td>2,986</td>
<td>2,530</td>
</tr>
<tr>
<td>Home economics colleges</td>
<td>1,748</td>
<td>945</td>
<td>2,352</td>
<td></td>
</tr>
<tr>
<td>Colleges</td>
<td>2,829</td>
<td>5,533</td>
<td>6,380</td>
<td>5,902</td>
</tr>
</tbody>
</table>

Source: Nepper-Christensen, 1998

Table 4 shows that the number of pupils in upper secondary education and in lower secondary education did not increase as markedly as the number of students in technical colleges and business
colleges (Table 2). The increase in the number of pupils in middle school was a sign of the apprentices' higher level of education before starting their apprenticeship.

**Table 4. Number of pupils 1910-1945**

<table>
<thead>
<tr>
<th></th>
<th>1910</th>
<th>1920</th>
<th>1935</th>
<th>1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle school (mellemskole)</td>
<td>18,752</td>
<td>29,430</td>
<td>48,055</td>
<td>54,708</td>
</tr>
<tr>
<td>Lower secondary school classes (realklaserne)</td>
<td>2,343</td>
<td>3,595</td>
<td>6,204</td>
<td>7,473</td>
</tr>
<tr>
<td>Gymnasiums</td>
<td>2,024</td>
<td>3,125</td>
<td>5,484</td>
<td>7,749</td>
</tr>
</tbody>
</table>

Source: Nepper-Christensen, 1998
2. Expansion and specialisation of apprenticeships  
- the second phase 1945-1967

Main theme: The large youth population (baby boomers), specialization and vocational schools

The Danish economy experienced relative stagnation in the postwar period and well into the 1950s. The state demanded adjustments, which it considered necessary if the entire population was to be ensured reasonable levels of employment and income in the long-term. In the preliminary work for the Apprenticeship Act of 1956, the economic situation and the prospect of soaring numbers among youth cohorts was discussed extensively, and it was decided to introduce some easing of the regulations that had gradually been introduced by the Apprenticeship Acts of 1889, 1921 and 1937. The Apprenticeship Act of 1956 led to the practical training becoming more specialized, the time required to complete an apprenticeship was reduced and less stringent demands were imposed on the companies that were allowed to employ apprentices. Contributing to this was the fact that industrialization was progressing strongly in the 1950s and 1960's and (large) industrial organizations acquired more influence over the apprenticeship system, which was extended to cover semiskilled work. The locally controlled schools established by local business organizations were replaced by more centrally controlled state schools. Teaching at the schools, which was originally designed as supplementary theoretical teaching at many small schools after working hours, was developed to some extent into daytime teaching at central vocational schools\textsuperscript{25}. The cohorts that previously were usually composed of apprentices from various disciplines and were often also at different stages of their apprenticeship training, were now increasingly composed of apprentices from the same trade (or industry) and from the same stage of their apprenticeship training.

Youth Commission of 1945

During the occupation of Denmark during WWII, the Danish authorities experienced a crucial loss of authority in the eyes of the younger generation, who had played a crucial role in the campaign of resistance (Højstøen 2000). In order to address this loss of authority, the government set up a Youth

\textsuperscript{25} However, it was the general rule that day classes only began in earnest in the 1960s, but with a few exceptions, they were primarily based in Copenhagen, where there was a sufficient student basis.
Commission, with an unusually large number of members from various youth organisations. There were also members from the Association of Colleges and Agricultural Colleges, the Danish Women's Society, the Workers Education Associations, as well as officials from various ministries. There were no members of the crafts or commerce organizations, which had hitherto played a major role in the development of the upper secondary educations. A large number of publications, letters and statements were published during the seven years that the Youth Commission existed. To shed light on issues such as youth employment and income and professional training, the Youth Commission carried out a number of statistical surveys. These surveys showed, among other things, that 18% were receiving a school education beyond the 7-year primary school. Only 5% of all young people achieved an upper secondary school leaving examination, 2% achieved a general middle-school examination (practical) and 11% received a lower secondary school leaving examination. In addition, the survey could demonstrate that education was very unevenly distributed by gender, region (rural-urban) and parents' occupation (Ungdomskommissionen 1951).

The Youth Commission was concerned with helping young people who achieved neither an academic or vocational education. Although the apprenticeship system had been expanded with many new professions, a large part of the workforce was still unskilled. The Commission wished to examine whether it was reasonable within some professions for the apprenticeship to continue in its current form and it wanted the apprenticeship system to be adapted so that more young people obtained a vocational education. They proposed additional vocational school training as part of an effort to streamline apprenticeships and reduce the time required to complete the apprenticeship. In addition, they wanted more emphasis placed on education with general education purposes. The Commission reported in detail on the now numerous youth educations that now existed, including training for unskilled workers in industry, who were not covered by the rules of the Apprenticeship Act. These education programmes were usually 2-year educations and, in addition to practical training in the workplace, the pupils received theoretical instruction in vocational schools, paid for by the employers. The situation was very similar to regular vocational training provided in an apprenticeship, but without control of the nature of the education. After completing the education, the youths were considered semi-skilled workers but not skilled workers. They also mention work-technical youth

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26 The commission's members came from, among others, political youth organisations like Liberal Youth, Young Conservatives, Communist Youth, the Social-Liberal Youth Federation, the Danish Youth Associations and the apprentice’s organisation.
schools (*arbejdstekniske ungdomsskoler*), which had evolved from being camps where young unemployed people (in the 1930s) received a more or less random education, to being, according to the Commission, actual schools, where the referred youths received a theoretical and practical education (*Ungdomskommissionen* 1952a; 1952b). The Youth Commission wanted to see further integration of the education programmes for skilled and unskilled workers, as evidenced by the following quotation:

*One would like to see the introduction of more opportunities for unskilled workers by reorganizing certain aspects of the work that is currently reserved for skilled workers, in such a way that it could be undertaken by unskilled workers with one or one and a half years of special training. One would also like to see an opportunity for unskilled workers with some practical experience in the relevant profession to be trained and obtain the same rights as other skilled workers in less time and with higher wages than is usually paid to apprentices. In this regard, one can refer to the schemes introduced in the metal industry in recent years* (*Ungdomskommissionen* 1952b p. 113).

Thus, the Commission wished to open the areas reserved for skilled workers to unskilled workers, increase levels of specialization and introduce a shorter apprenticeship. The intention was to train so-called industrial apprentices as a way of providing a vocational education that was limited to certain work operations within a given industry, i.e. an education that could be completed considerably more quickly than the full, all-round and comprehensive apprenticeship within all disciplines under the trade in question. The reason for this was that a number of employers were requesting less stringent professional boundaries and believed that the skilled craft workers were far too restrictive. The skilled workers fought against the proposal, because they felt that the employers had an interest in replacing skilled labour with unskilled workers or workers with short training, who can be paid less. Many skilled workers believed that the professional pride that the apprenticeship had instilled in the craftsmen for centuries was now in danger, because employers in large companies were prioritising unskilled and cheaper labour rather than skilled workers (Bendtsen 1985). Christensen (1985) concludes in a comprehensive analysis of labour markets, however, that employers in many of the craft professions supported the skilled workers' attempts to maintain a broad range of skills in the apprenticeship.

The Commission's proposal was therefore very controversial among the two sides in the labour market. There was a major difference between the tradition-bound crafts and the more industry-
oriented professions within the iron and metal industry. Both the employees and the employers were split internally on this controversial reform proposal. The Commission pointed out the restricted and short-term perspective that had characterized the work and was the basis for this proposal. The work of the Commission was increasingly influenced by the prospect of an extremely high level of youth unemployment during the 1950s due to the high level of births during the 1940s, as well as the fact that an increasingly large proportion of the rapidly growing youth generation would be unable to access either higher education or vocational education. The Commission decided therefore to initiate some measures to address the looming youth crisis. These included establishing full-time school-based vocational programmes for use in the difficult period of transition, so that young people who could not begin on an apprenticeship or in upper secondary school in the normal way, would nevertheless receive an education. The argument for the introduction of full-time school-based vocational programmes was to try to avoid the serious consequences of unemployment (Ungdomskommissionen 1952b).

Within the commercial and office area, conditions were characterized by both the employers and the employees being particularly critical of the apprenticeship situation. They believed that many companies actually evaded the training of apprentices. The response of the Youth Commission to this challenge was to attach more training in general subjects to the apprenticeship and move much of the education programme from working life to the school environment. The Youth Commission advocated postponing the final choice of education as long as possible so that young people would have the option to change their choice of occupation without significant loss (Højsteen, 2000). This consultation process regarding education was key to the second phase and had a major influence on legislation for many years.

**Labour market Commission of 1949**

The Labour Market Commission was established by the Social Democratic government in 1949 on the basis of a trend toward increasing unemployment in some areas. It was tasked with investigating conditions in the labour market, addressing the employment problems that exist and proposing solutions to these problems (Betænkning/143 1956). The composition of the Labour Market Committee was different to the composition of the Youth Commission. Now the Danish Federation of Small
and Medium-Sized Enterprises and the construction sector's National Federation each had a member: In addition to civil servants from the ministries, there were also representatives from the Danish Labourer's Union, the Federation of Agricultural Employers' Associations, the Danish Employers' Confederation and the Economic Council of the Labour Movement. Based on the large youth cohorts that were anticipated, the Labour Market Commission tried to negotiate with the labour market organizations in each individual trade to achieve an increase in the scope of the apprenticeship. They pointed to the general problem that the variation in the intake of apprentices in line with employment, had been unable to ensure an adequate supply of skilled labour. According to the Commission, the main reason for this problem was that the intake of apprentices at any given time determines the number of new skilled workers 4-5 years later, when the employment situation and prospects could be materially changed. The preconditions for obtaining the right number of apprentices for an occupation is to have a reasoned estimate of employment conditions in the occupation a number of years into the future. Here, the apprentices' ratios from the 1937 Act played an important role, because these were considered to be an obstacle to expanding the number of apprentices sufficiently to accommodate the large youth cohorts (Betænkning/143 1956). The introduction and maintenance of the apprentices' ratios was in many trades predominantly or entirely a result of the desire to ensure the quality of the training, while also preventing masters from obtaining cheap labour by taking on too many apprentices in relation to the company's training capacity. This was a dilemma for the function of the apprenticeship. A relaxation of the apprenticeship ratios could lead to lower quality training and reduced requirements imposed on the companies that were allowed to hire apprentices, and would therefore mean that those who were unsuitable to provide broad professional training, would be allowed to hire apprentices.

The starting point for the Commission was to negotiate with the professions to increase the intake of apprentices by almost 40% relative to the average intake in 1950-1954. After extensive negotiations with the individual professions, 18 out of 29 of them agreed to the target. For the remaining 11 major craft and industrial trades, their attitudes were divided such that the employers in some trades and the trade unions in other trades, did not believe that there was a basis for such a major increase in the number of apprenticeships (Betænkning/143 1956).

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27 The Danish Federation of Small and Medium-Sized Enterprises, the Danish industrial policy interest group for small and medium-sized businesses, founded in 1950 by the merger of the Joint Representation for Danish Industry and Crafts, founded in 1879, and the Craft Council, founded 1940.
28 The number of young people (14-24 years) would grow from 650,000 in 1950 to 865,000 in 1965.
29 Regulation of the number of apprentices a master could employ
The Commission described a number of other ways to increase the number of training places, other than increased specialization and shorter apprenticeships. One of them was the professional employer associations subsidising the masters in the relevant organization that trained apprentices. Some professions practised various schemes that were more or less intended to financially compensate for the cost of training apprentices. Thus, those companies that employed apprentices were refunded the cost of training the apprentice, from a fund to which all companies in the industry contributed. The old craft associations had initiated these schemes, among others for bricklayers. Other trades reacted positively to the idea of establishing such a system. Many masters in small craftsman's enterprises were frustrated about the fact that they trained labour for the industry's companies, which themselves had been unable to hire apprentices because of the cost and effort it required. With the new scheme, it was possible to get the industrial companies that did not participate in the training of apprentices to contribute financially to the training costs (Betænkning/143 1956).

Within some occupations, the difficulty in obtaining an adequate number of training placements was associated with technical and economic developments. This had resulted in the companies either being forced into a high degree of specialization or, due to a lack of mechanical equipment or a transition from production to repair operations, were no longer able to provide the all-round education and training which the traditional apprenticeship system was based upon. This development was especially prevalent in the metal industry and in the timber industry, particularly in provincial towns and rural municipalities. The problem manifested itself in several places by some masters, who wished to employ apprentices and who believed that they were capable of providing the necessary all-round training, were nevertheless restricted from doing so because of the control of the training companies exercised by the trade committees, which resulted in a number of the apprenticeship venues being declared as unsuitable. The Labour Commission requested the technical joint committees to change their practice in this area in order to provide more suitable apprenticeship places. Instead of declaring companies as unsuitable to offer apprenticeships, they would increasingly approve them under certain conditions. These conditions were that during their apprenticeship, the apprentices should have additional training in certain types of other companies within the

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30 These pilot schemes was the predecessors to the Employers' Reimbursement Scheme (AER), which was established in 1977. Here, the scheme was extended so that all companies paid a certain percentage of their payroll costs to the reimbursement scheme. The funds were used to cover apprentices' wages during their school attendance.
profession or at a vocational school. The different trades implemented the measures differently. The chef profession would combine the training of apprentices in summer and winter season businesses respectively. The carpenters were in favour of a system of supplementing the training at other companies. Within the blacksmith and machine operators' profession, the trade committee preferred supplementary education at vocational schools. By that time, there were special vocational schools in a total of 15 trades that offered practical workshop instruction. The Labour Market Commission wished to extend the use of workshop teaching so that more companies could be approved to offer apprenticeships (Betænkning/143 1956).

During negotiations with the trades, several of them expressed an interest in placing a portion of the vocational school instruction at the start of the apprenticeship, a so-called preparatory school. The special feature of the preparatory school in Denmark, compared to other Nordic countries, was that the preparatory schools were part of the apprenticeship contract. In other words, the apprentices would not be granted access to a preparatory school until they had found an apprenticeship placement. The preparatory school was conceived as an element that could contribute to streamlining and improving the training so that the length of the apprenticeship could be reduced. A permanent full-time school-based vocational programme that totally replaced the apprenticeship was rejected in negotiations with the trades (Betænkning/143 1956).

Under the conditions at the time, it was very much the smaller craft companies that trained most apprentices. In order to increase apprenticeship numbers substantially, it was necessary that the larger firms participated to a greater extent in the training of skilled labour. Many medium and large companies had difficulties integrating the training of apprentices in the on-going production process. Some companies had established internal apprenticeship workshops in order to improve the training of apprentices and make it less difficult to get them trained. The Commission wished to develop and financially support such schemes. Another element in the negotiations was that the prevailing education rules for a broad and professionally ambitious test for completed apprenticeship prevented a number of companies from training apprentices. The Commission encouraged the employers' organizations to support and guide the individual master to a much greater extent with regard to the format and scope of the training within the company (Betænkning/143 1956).

The Labour Market Commission carried out very extensive negotiations with the labour market organizations in order to further develop the apprenticeship system and adapt it to the current social
conditions and technological developments. There were many complicated conflicts of interest influencing the work of the Labour Market Commission, and these conflicts of interest were probably the reason why the Labour Market Commission's reports only to a limited extent considered the fundamental principles for the occupational training in the apprenticeship. They left this to a new commission, the Apprenticeship Commission.

**The Apprenticeship Commission of 1952**

In 1952, the Ministry for Labour and Social Affairs set up the Apprenticeship Commission to review the Apprenticeship Act and to decide on the proposals regarding apprenticeship, which the Labour Market Commission and the Youth Commission had set out in their reports. The Apprenticeship Commission consisted of politicians, civil servants and members nominated by the employers' association, the craft association, the Danish Merchants Joint Committee, the Cooperative Grocery Associations, the Federation of Trade Unions, the Technical School Association and the National Association of Commercial Colleges. The Apprenticeship Commission was broadly composed of labour market organizations and school associations that had been leading forces in building up the vocational educations. The issues that the Commission had to consider included whether the age limit for those who were covered by the Apprenticeship Act should be increased, the introduction of mandatory day school tuition, any additional workshop schools and possible restrictions on apprentices' overall working and school hours. With reference to the experiences gained from the 1937 Act, the Apprenticeship Commission began by stressing that they attached great importance to avoiding the provisions of the new Apprenticeship Act, which they feared would lead to restraint or even resistance on the part of the masters to taking on apprentices. A radical way to increase the number of apprentices, which was often discussed, was the Youth Commission's ideas about full-time school-based vocational programme, which the Apprenticeship Commission strongly opposed. The Commission did not want training to occur exclusively in schools, because it was an expensive and inadequate solution (Betænkning 145 1956).

The Commission wanted clarity regarding how the individual sectors viewed the issue of a division of their sector by contacting 33 joint trade committees, consisting of employers and employees from the 90 recognized apprenticeship programmes. Each trade committee was asked to decide whether there was a possibility for a division of the apprenticeship educations into more specialized programmes of shorter duration. The vast majority of trades disagreed with a division of the existing
apprenticeship areas, regardless of whether there was a specialisation in connection with the apprentices' activities after completion of the apprenticeship. Despite the fact that the craftsmen opposed increased specialization of the recognized vocational educations, it was the Commission's view that special attention should be given to this issue. The Commission wanted such a division implemented due to the issue of the large youth cohorts. The Commission was in favour of the principle of the broad, comprehensive apprenticeship education, however, and clearly disagreed with the idea of industrial apprentices, as this was too specialized to be described as an apprenticeship (Betænkning/145 1956).

Crucial to this dilemma was the opposing interests of the skilled and unskilled workers. To avoid special industrial apprenticeships within each trade, the Apprenticeship Commission proposed more specialized apprenticeship training. This was a compromise that was contrary to the interests of skilled workers, but accommodated the unskilled workers' desire for better education.

**The Apprenticeship Act of 1956**

In 1956, parliament adopted a new Apprenticeship Act and shortly after its entry into force, the trades were divided in accordance with the recommendations of the Apprenticeship Commission. As a consequence, there was an increase from 91 trades in 1954 to 166 approved apprentice trades in 1966. Some trades maintained their broad vocational education, while others enthusiastically supported specialisation, such as the iron and metal industry, which was increased from 12 to 32 trades. One of the explanations for this development was that they wanted to increase the number of apprentices in order to meet the industry's need for qualified labour for the machine industry (Ellersgaard, Jensen and Nielsen, 1981). While the 1937 Act emphasised the importance of restricting the number of apprentices in order to ensure sound vocational training, this consideration had to yield to the requirement of industry for a rapid and less costly expansion of the skilled labour force.

The heavy industries placed less emphasis on the professional broadness of the skilled workforce and preferred more specialised workers (Mathiesen 1976). The Apprenticeship Act of 1956 led to a deterioration of the regulations that were necessary to ensure the quality of training provided in the apprenticeships. The apprentice ratios were largely eliminated and the duration of the apprenticeships was reduced in conjunction with a specialisation of the trade. Existing trades were thus divided into two or more, with shorter apprenticeship periods than the original trade. These changes have undoubtedly contributed significantly to the rapid
growth in the number of apprentices in apprenticeship, but they do not explain everything. The growth in the economy, especially in the crafts and industrial production, also played a major role in the growth of the vocational educations (Mærkedahl 1978).

In the course of an eight-year transition scheme, the Apprenticeship Act of 1956 totally changed the content, the format and the organization of school instruction for apprentices. Teaching in schools, which was originally designed as supplementary, theoretical tuition at many small schools after working hours, developed into daytime teaching in the centralised schools. The provision for teaching divided according to trade and stage of training required a high degree of centralisation of the vocational schools, which meant the abolition of smaller schools. The number of vocational schools was reduced from 360 in 1955 to 63 of 1964 (Hornby 1966). The reduction continued so that there were only about 50 schools a few years later. This reduction created many problems and bitterness around the country, when local communities had to close their school and send their apprentices to central schools in the nearest large town. The Act was received with a mixture of scepticism and optimism. On the one hand, it meant a break with a long tradition and abandonment of numerous small technical colleges, which had been extremely important for many small towns. On the other hand, the new Act contained many advantages of a professional and pedagogical nature, which entailed aspects of renewal of the apprenticeship system (Pedersen 1987).

A new element of the apprenticeship was the introduction of a preparatory school in some subjects, such as practical training at the school prior to the apprenticeship period with a master in the company. Based on previous experiments, the metal industry's apprenticeship committee had established a rule that an apprentice should, if possible, complete the trade's preparatory school within the 6-month probationary period. Many masters turned out to be dissatisfied with the fact that the apprentices had to attend the preparatory school (Olesen 1988).

Subsequently, the apprenticeship period was usually interrupted by four school periods of six weeks' duration, divided into one school period per year of education. The school tuition took place in classes dedicated to a particular trade and the apprentices were instructed in the trade's practice and theory (Rasmussen 1993). The profiles of the teaching staff changed from being part-time employees to being full-time teachers who were increasingly likely to be trained in the trade they were
teaching. The teacher was required to have a pedagogical basic education (PG\textsuperscript{31}), which took place at the National Technical Learning Course, which was established in 1959 (Olesen 1988). The technical colleges were thus primarily vocational schools, according to the Act of 1956. The practical work was key from the start, and the school teaching was conceived as a supplement to the practical training in the company. The training was largely defined by the companies’ needs and was primarily based on the trade-related skills, while the general academic subjects were given a lower priority. For the technical area, the Apprenticeship Act of 1956 thereby builds on a relatively pure "vocational school idea" (Betænkning/453 1967).

The Apprenticeship Act of 1956 has a special chapter for education in the retail, commercial and office sectors. In these trades, the apprenticeship would not end with a practical test for completed apprenticeship. Instead, a final examination was introduced, which was subject to the apprentice having passed the commercial assistants examination or an equivalent or higher level of scholastic test (Bøtefyhr & Nielsen 1956). There was a sharp distinction between craft and industrial apprentices on the one hand, and commercial and office apprentices on the other. The mandatory, theoretical training in crafts and industry was focused (after the amendment of the 1956 Act) directly at the profession’s working area. In the commercial and office trades, the training was without sharp boundaries and was not highly specialized. In the commercial college sector, the number of colleges was quickly halved and the colleges changed from being owned and operated by the chambers of commerce to being independent institutions (Larsen 1962).

**Adult vocational training and specialization of the apprenticeships**

Alongside the apprenticeship system, there also existed so-called adult vocational training for the adult section of the workforce, and courses aimed at introducing both younger and older unemployed workers to an education or a job\textsuperscript{32}. The reason for this was that industry demanded labour with limited productive skills. In the 1960s, the demand for semi-skilled workers' education put the apprenticeship system under pressure (Ellersgaard, Jensen and Nielsen 1981). From the mid-1960s

\textsuperscript{31} The course lasted 2x4 weeks with a 6 week internship in between.

\textsuperscript{32} The Danish education and training system can be divided into two parallel parts: the mainstream education system (vocational and general youth education) and the (vocational and general) adult education and continuing training system (Rolls 2012).
to the mid-1970s, the intake of apprentices fell, while the intake to the semi-skilled workers' educations and to upper secondary schools soared. A range of factors in society and elements of the implemented education policy have certainly contributed to this decline. The introduction of the semi-skilled workers' education must be regarded as a factor contributing to the sharp decline in the number of apprentices, because this resulted in a workforce with qualifications that were alternatives to those of the apprentices. It should be noted that no single factor can serve as an explanation for the decline in the intake to apprenticeships. Rather, this was a result of an interaction of several factors (Mærkedahl 1978).

The extremely short and limited semi-skilled workers' training courses replaced an actual craft education for an increasing number of young people, because a large proportion of the students were under 25. In the short-term, both the employers and the youths were satisfied, since the youths obtained the possibility to earn a "normal" salary more quickly. But in the long-term, such a use of the semi-skilled workers' courses in practice contributed to maintaining and sharpening the polarization within the apprenticeship system and in the workplaces. More apprenticeship educations were dissolved and replaced by a large number of more directly job-adapted courses and specialised courses. On the one hand, the number of low-level workers increased rapidly, with a very short job training programme as the sole vocational education. On the other hand, the number of middle managers with predominantly theoretical educational background, also increased. Both of these developments occurred at the expense of the more coherent, basic apprenticeship. For the individual apprentice, an apprenticeship of 3-4 years would in any case have meant better opportunities to find a job on the basis of broader qualifications, which could be used within the entire industry (Mathiesen 1984). So, there were some unfortunate side-effects of replacing the apprenticeship system with the short adult labour market training. In the "swinging 60s", when there were "enough jobs for everyone" and good opportunities to earn money as an unskilled worker (short training), apprenticeship places were difficult to fill. In many trades, the apprenticeship had also become specialised by following the advice put forward by a number of commissions during the 1950s.

**Summing up**

A recurring main theme during this period was the challenge of the large youth cohorts. The Youth Commission, the Labour Market Commission and the Apprenticeship Commission negotiated with the labour market parties about how the apprenticeship system could be developed and renewed in
order to overcome this challenge. At the same time, a greater degree of specialization and industrialization had meant that the number of unskilled workers had increased. The Apprenticeship Act of 1956 was intended to integrate the education of skilled and unskilled workers in a renewed apprenticeship system. This was achieved by reorganising the functions for the school-based part and the company-based part respectively in the apprenticeship, so that the school acquired a much greater responsibility for the technical training, while the companies acquired greater opportunities to adapt the apprentices to the existing division of labour and the associated level of organization. The intention behind the Apprenticeship Act was to relax the requirements for a broad company internship programme and instead supplement the specialization in a vocational school. The reason for this was partly the desire to achieve the target of a 40% increase in the number of apprenticeships and partly because the apprenticeship system was under pressure from short adult labour market training programmes, which offered short specific courses and quick access to jobs on wage conditions that were often similar to those of skilled workers. Reforms of the apprenticeship system in the 1950s and 1960s impaired the basic vocational qualification in the company-based part and there was a greater focus placed on central vocational schools. The schools were taken over by the state, the teaching and training took place at day schools and was free, common and mandatory. The number of apprentices increased significantly following the Apprenticeship Act of 1956. The 1960s were characterized by economic growth, significant growth in the number of people employed and a significant decline in unemployment. In order to meet the need for skilled labour, the requirements for obtaining an apprenticeship were relaxed and Figure 3 clearly shows that the measure worked as intended, both in craft and industry and also in the commercial and office sector. The decrease in the number of apprentices at the end of the period was due to the fact that more youths choose upper secondary school education, shorter adult labour market training or work as unskilled labour rather than being employed at low apprentice wage in the apprenticeship.
Figure 4 shows that the number of young people who completed an apprenticeship and upper secondary school respectively, rose sharply during the period. In the 1960s, a large number of young people had the (financial) opportunity to take gymnasiums (academic, upper secondary education), which may explain the growth in the number of educated students.

Source: Albæk, 1992
Table 5 shows that the number of students at business colleges and technical colleges grew substantially during the period. The number of students in gymnasiums increased relatively more than the number of students in vocational education. Agricultural, home economics and folk colleges experienced a significantly smaller increase in their number of students.

Table 5. The development of the number of upper secondary school pupils

<table>
<thead>
<tr>
<th></th>
<th>1950</th>
<th>1955</th>
<th>1960</th>
<th>1965</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial colleges</td>
<td>32,742</td>
<td>22,022</td>
<td>44,477</td>
<td>52,786</td>
</tr>
<tr>
<td>Technical colleges</td>
<td>53,309</td>
<td>55,544</td>
<td>56,630</td>
<td>69,531</td>
</tr>
<tr>
<td>Gymnasiums</td>
<td>7,604</td>
<td>9,442</td>
<td>15,188</td>
<td>24,612</td>
</tr>
<tr>
<td>Agricultural colleges</td>
<td>2,530</td>
<td>2,600</td>
<td>3,403</td>
<td>3,018</td>
</tr>
<tr>
<td>Home economics colleges</td>
<td>2,352</td>
<td>2,840</td>
<td>2,840</td>
<td>3,027</td>
</tr>
<tr>
<td>Colleges</td>
<td>5,902</td>
<td>5,918</td>
<td>7,309</td>
<td>8,732</td>
</tr>
</tbody>
</table>

Source: Nepper-Christensen, 1998

It is clear from Table 6 that the number of students at middle school, lower secondary and upper secondary schools increased markedly during the period. This meant that more apprentices had already completed middle school or lower secondary when they started their apprenticeship.

Table 6. Number of pupils 1945-1970

<table>
<thead>
<tr>
<th></th>
<th>1945</th>
<th>1950</th>
<th>1960</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle school (Mellemskole)</td>
<td>54,708</td>
<td>67,726</td>
<td>105,752</td>
<td>144,994</td>
</tr>
<tr>
<td>Lower secondary school classes (Realklasse)</td>
<td>7,473</td>
<td>8,020</td>
<td>18,299</td>
<td>25,211</td>
</tr>
<tr>
<td>Gymnasiums</td>
<td>7,749</td>
<td>7,604</td>
<td>15,188</td>
<td>33,642</td>
</tr>
</tbody>
</table>

Source: Nepper-Christensen, 1998

The vocational schools had a wide range of higher education programmes provided by craftsman e.g. master craftsman programmes, designer programmes and engineering programmes. There were also a number of courses for preparation for studying at engineering college and for the admission examination for the Academy of Art (Betænkning/ 502 1968). For an overview of the extent of the education programmes on offer, refer to Table 7, the number of students in 1950.
Table 7 The number of skilled workers taking higher education in 1950 (examples)

<table>
<thead>
<tr>
<th>Study time in years</th>
<th>Number of pupils 1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>400</td>
</tr>
<tr>
<td>3</td>
<td>1038</td>
</tr>
<tr>
<td>2-3</td>
<td>297</td>
</tr>
<tr>
<td>2</td>
<td>1118</td>
</tr>
<tr>
<td>1-1½</td>
<td>573</td>
</tr>
<tr>
<td>1</td>
<td>136</td>
</tr>
<tr>
<td>1-2</td>
<td>447</td>
</tr>
<tr>
<td>1-2</td>
<td>394</td>
</tr>
</tbody>
</table>

Source: Betænkning/502 1968

In the 1960s, the vocational schools experienced financial difficulties due to the strong growth in the intake levels at technical engineering college and inadequate government subsidies. This led to an increase in the academic entry requirements for engineering colleges. The requirement became the lower secondary school leaving examination or taking an entrance examination in Danish, German, English, arithmetic, mathematics, physics and chemistry.

In 1965, the engineering college was changed so that the requirements for training in a workshop school for 12 months, followed by 15 months of relevant work experience, would qualify applicants for admission in the same way as a traditional apprenticeship in a relevant craft trade. The idea was to allow students with an upper secondary education to enter the education programme. Similarly, semi-skilled workers with 3-6 years of approved work experience could be enrolled under certain conditions. There was also the option that training as a technical assistant, supplemented with approved practical employment, could qualify applicants for engineering college.
The list of qualifying apprenticeship programmes was also extended (Betækning/502 1968). In 1966, the Ministry of Education established a committee with the task of investigating the relationship between the three existing engineering educations as well as the opportunities for further harmonization of these programmes. The committee proposed the development of A, B and C engineering educations based on centralized planning (Betænkning/502 1968).

The trend in the second phase was a liberalization of the qualifying educations and increasing the academic part of the entrance level for continuing education for apprentices.
3. The conflict between apprenticeship system and the new vocational education and training system

The third phase 1967-1990

*Main theme: Basic Vocational Education and training [Danish: erhvervsfaglige grunduddannelser or EFG] versus apprenticeships*

The apprenticeship system was subjected to major social pressures as a result of the change from the economic boom of the 1960s to the recession and high rates of unemployment of the 1970s and 1980s. During this period, the foundations were laid for a new vocational education and training system (EFG), which was intended to replace the apprenticeship system, but which in practice was to operate in parallel with the apprenticeship training established by the Apprenticeship Act of 1956. Both the EFG and the apprenticeship systems were dual systems with alternating educational periods at school and at a company. The main difference between these two systems was the entrance route and the length of the company internship programme. The apprenticeship system began with an apprenticeship contract, and the main part was comprised of the company internship, which was supplemented with a number of short school periods. The basic vocational education and training (EFG) began with a basic course at school, and only then did it take on the form of a dual system, which was significantly more school-based than the apprenticeship. Critics of the EFG system felt that the academic tradition's basic concept was now presented as a model for a new structure in the vocational education and training. In other words, that it was based on the formalized education system (upper secondary school) and accepted that the context in which that had been developed in the general education schools, would also apply to the new vocational and training system. The apprenticeship's traditions and educational approach was under increasing pressure. The education debate was characterized by fierce disputes between supporters and opponents of apprenticeships and EFG respectively.

The education debate

In the late 1960s, however, there was a growing realization that there was a downside to specialisation. Part of the core of the traditional apprenticeship had been a strong professional identity and professional pride, which was now disappearing from many occupations. Criticism of the apprenticeship system grew in the 1960s. It was especially directed at the structure and organization of the education. The criticism can be briefly summarised in the following points:
• The vocational specialization and hence the choice of profession, took place immediately at the start of the apprenticeship, when there was often no realistic basis for the choice.

• The actual apprenticeship itself did not include any possibility of transition to other educations during the apprenticeship period. This therefore resulted in a situation where young people, from the very outset, were placed in a narrow educational and professional framework.

• The education at school contained only a modest amount of education of a general nature, which, among other things, created educational divisions in relation to the young people who chose academic educations.

• The practical training was criticized for, among other things, the fact that the companies' financial results had priority over educational considerations. That there was a lack of detailed planning of the training programme, which was also often poorly coordinated with the school-based education. And also that many companies, because of technological progress, had to specialise to such a degree that they were no longer capable of giving the apprentice the required broad education within the trade (Betænkning/1112 1987).

Some of the criticism of the apprenticeship system was based on a very strong faith in the importance of the general subject as the best (only) way to achieve personal development. Supporters of school-centred vocational training regarded the work component as a barrier to personal development. One of these proponents was Jens Ahm (1966), who eagerly engaged in the education debate over a number of years. In an article in the journal “Uddannelse og Erhverv”, which was a contribution to the debate on education for 15-19 year olds, he wrote:

“General education must form the basis for any specialization and it must continue throughout the entire school years in order to ensure that personal development is not restricted or inhibited by professional specialization” (Ahm 1966 p. 56).

Anker Jørgensen also expressed a view (1966):

*From a democratic point of view, it is dangerous that a very large group in the population receives no general education after the end of primary school. It is true when rector Ahm points out that upper secondary school pupils have their right to education fully realized, while the apprentice receives professional training, but must stop their general education when they are 15 (Jørgensen 1966 p 68).*
Jens Ahm and Anker Jørgensen were proponents of school-entered vocational education and wanted longer schooling for all young people. Far from everyone agreed with their presentation of the situation. K. Helveg Petersen (1966) was one of those who criticized rector Ahm’s for assuming that everyone’s personality would develop fully, as long as the young person stayed sufficiently long in the school system. In his own words:

*The problem is quite complicated. One should refrain from making too sharp a distinction between vocational education and general education. There are many examples of young people for whom formal general education is not very stimulating, but who experience acceptance in the workplace, which in turn encourages their general development. The pupil, who during the review of a literary work may completely lack the preconditions to identify with the problems the work addresses, and is therefore left unmoved by it, may become really engaged in apprenticeship training, which then serves his human development more than the other. We must look behind the slogans* (Petersen 1966 p. 80).

The point of highlighting this discussion is that it can provide a better understanding of the attitudes that lay behind the design of the Danish vocational education and training over the following decades. On the one side were those who wanted a more school-based vocational education and training programme, in line with the ideas of Jens Ahm and Anker Jørgensen. On the other side were those who wanted to maintain vocational training based on the apprenticeship system, in line with the ideas of K. Helveg Petersen. The year after this special issue of "Uddannelse og Erhverv" was published, a committee for vocational training was set up, which adopted the ideas of Jens Ahm and Anker Jørgensen. This changed the nature of the disputes about the apprenticeship system from being about integration of the training of unskilled and skilled workers in renewed apprenticeships in the second phase (chapter 2), to being about the integration of general upper secondary education and apprenticeship in new basic vocational and training system which was intended to replace the apprenticeship system.

**Mikkelsen-committee of 1967**

The Mikkelsen Committee of 1967 was tasked with reviewing the current provisions for youth vocational training and to prepare a draft proposal for changes in the educational structure. The Mikkelsen committee presented a first draft in 1968 in the form of a report called "Vocational Education Model". This report outlined the criticism of the apprenticeship system and proposed a new objective and planning model for the future alternating training programmes. The argument that was
used against the apprenticeship system was that its structure was not like the more academically oriented educations. A significant part of the criticism was directed at the fact that the career choice had to be made by the start of the education and could not be postponed to a later date. In addition, the increasing level of specialisation (introduced by the 1956 Act) was now criticized for impeding the flexibility that would be important for the business community in the future.

The Committee envisioned a model of general education, divided into three main levels. The first level would consist of primary school's 1-9 grade levels, possibly supplemented by a 10th grade. The second level consisted of the upper secondary school educations, i.e. the general upper secondary school education, the Higher Preparatory Examination Course and the vocational upper secondary school educations. The vocational upper secondary school programmes should be geared towards business employment and also encompass general education and provide access to third level education, so that all young people had the opportunity to continue onto the next level, third level education (universities, colleges, etc.) (Undervisningsministeriet 1968).

This new model was constructed so that the vocational upper secondary school education should begin with education of a general nature and then the teaching would become more specialized as the education progressed and would be completed within a specific subject. In the first step, a pupil would choose between eight main sectors, which were divided later at the second step into occupational areas. In the third step, pupils could choose between different industries, and it was only at the fourth step that they would choose the trade they wanted. A student who, for example, wanted to become a chef, should according to this model in the first step select manufacturing, the second step the food, beverages and tobacco industry, then the hotel and catering industry and first at the final step would he be able to choose the actual chef profession. The Mikkelsen Committee also discussed possible changes to the length of time allocated to classroom teaching relative to practical training, but did not decide on the duration of the overall education or its individual steps. The advantages of the model would be that the choice of profession was postponed, that the choice would be made on a much broader basis than in the past, that the mobility of labour would be increased, and that it would be easier to make changes in the education programme when changes occurred in society (Christensen 1985). The unskilled workers welcomed the Mikkelsen Committee's ideas because they were considered to be a suitable means of removing the old apprenticeship system. The disadvantages of the Mikkelsen model were e.g. that a broad introduction to a specific profession, instead of a clear purpose from the start, would mean a deterioration of the professional level (Un-
dervisningsministeriet 1968). In order to continue working on the proposals, the Mikkelsen Committee set up working groups in each of the following six key areas:

- The commercial and office trades (the Tøttrup group, named after the chairman E. Tøttrup)
- The construction trades
- The iron and metal trades
- The craft service industries
- The graphic trades
- The food and beverage trades

With the so-called new basic vocational education (NFG), the iron and metal trades were the first to have trial programmes within the blacksmith and machine trades, based on the Mikkelsen Committee's model (1969). The commercial and office areas' proposal from the so-called Tøttrup working group played a significant role in the subsequent reforms. The Tøttrup group presented a proposal for an education structure that would begin with a one year basic course in school, followed by a 2-year programme that alternated between school and internship. The structure was already known from one year basic courses for the Commercial Examination, which since the mid-1960s had been the preferred route to Higher Commercial Examination (HHX) or apprenticeship in the commercial trades (Sørensen & Tetzchner 2000). It was common until 1950 for young people to take an apprenticeship before they continued studying for the Higher Commercial Examination (HHX). In the 1950s and 1960s, this pattern changed so that the majority of the students at HHX came direct from the one year basic course (Commercial Examination). At same time the enrolment into the Commercial apprenticeship programmes decreased (Hansen 2000). There were many factors that meant that the apprenticeship system was under pressure. Instead of renewing the apprenticeship system, as phase two, the political agenda now was to find a new model for vocational education and training that could replace the apprenticeship.

The Lund Christiansen Committee of 1970

As part of the implementation of the reform of the apprenticeship, the Minister of Education established a committee in 1970 to review the Apprenticeship Act, the so-called Lund Christiansen Committee

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33 Later, two other main areas were established: transport and agriculture.
34 It was later called the EGF.
Committee (after its chairman, Professor H. Lund Christiansen from the Aarhus School of Business). The Committee was critical of the fact that the school-based part of the apprenticeship placed too little emphasis on general academic subjects, creating a gap between the young people with an academic education and those with a vocational education. The Committee proposed, therefore, that the experimental programmes (NFG) should be integrated into the mainstream education system, i.e. upper secondary school.

In the opinion of the committee, the structure of the apprenticeship meant that young people had to choose their vocational training too early, and often without having a realistic basis for their choice. But there was no mention of the vocational orientation, which the Act on primary and lower secondary education had as its main objective for the last grades in the school. It was taken for granted that the alternating training would now fulfil the role previously performed by the primary and lower secondary school, namely vocational orientation. According to the Lund Christiansen Committee, this would be achieved through a model for alternating training, which would begin with a 1-year basic course within each main vocational area. The basic education would provide realistic career and education guidance, a basic education in the main vocational areas, and a general academic education as a continuation of the primary and lower secondary school education (Betænkning / 612 1971). Based on these basic ideas, the Committee proposed a gradual extension of the trial education programmes (NFG), which started in 1969.

The Lund Christiansen Committee and the Mikkelsen Committee issued a joint report in 1971 (Betænkning / 612 1971), which contained a draft law on trial vocational educations, which in 1972 became the basis for a second proposal submitted by the then Minister of Education Knud Heinesen. With the adoption of the Act on Trial Vocational Educations (No. 291), the name was changed to EFG or Basic Vocational Education and training. After the adoption of the Act, the Mikkelsen Committee and the working group on the commercial and office trades (the Tøttrup Group) were replaced by the Trial Council for the Basic Vocational Educations and the Trial Council for the Basic Vocational Educations and training in Commercial and Office Trades respectively. The intention with the trial Basic Vocational Educations and training Act was that it would be revised in 1975-1976 based on the experiences gained during the period, so that the EFG system could be fully deployed in 1979 and the apprenticeship system totally abolished in 1982 (Betænkning/ 612 1971).
The Højby draft of 1973

Before undertaking the review of the Trial Basic Vocational Educations Act (1975-1976), Knud Heinesen (then Minister for Education) found it appropriate for parliament to establish some general principles on children's 10th-12th school year. A working group was therefore established, which consisted solely of employees of the Ministry of Education, with a former rector of an upper secondary school, Sigurd Højby, as chairman. Knud Heinesen (2000) has explained that he had an agreement with the chairman that the existing educations at the upper secondary level would be part of a common education system with joint planning of the educational structure and its content and development. The Minister wanted the upper secondary school educations to include strong common elements, but unlike many others in the Social Democratic Party, he was opposed to extending the compulsory education system beyond the extension from 7 to 9 years, which had been adopted in 1972.

The Højby group presented a draft proposal in 1973 for a parliamentary resolution on 12 years of basic education and training for all from 1980. The main idea in the draft was that the upper secondary educations, i.e. upper secondary school, the Higher Preparatory Examination Course and the alternating training programmes (EFG/apprenticeship), would be part of a common education system for everyone, which in itself would accommodate variations and options for transition between these programmes. The existing gap between the different forms of education would thus be abolished and replaced by new upper secondary educations, which would also include the social and health educations. The integrated system would therefore include a high level of general education, with strong common elements (Undervisningsministeriet 1973). The Højby proposal indicated that the Social Democrats, like in the other Scandinavian countries, were trying to design a structure for a 12-year education for all (comprehensive school), a structure that integrated all the separate areas of education and created continuity in a 3-year programme, building on top of the 9-year undivided primary and lower secondary school (Christensen 1982).

The Højby model was not directly translated into a legislative proposal because of strong opposition from the Conservative and Liberal parties. After the election in 1973, which saw the Progress Party win strong representation in the parliament for the first time, the Social Democrats' efforts to provide all young people with 12 years of schooling within a common institution, a model that resembled the Swedish upper secondary school system, was not politically feasible, although the proposal
was presented repeatedly. This social democratic vision was resisted from the start by the conservative-liberal parties, who considered it to be inappropriate egalitarianism and a waste of public resources (Andersen et al. 1997). The Højby proposal was therefore shelved when the Liberal government came to power in December 1973. After the formation of a new social democratic government in 1975, the idea of coordinating the educations for the 10th-12th school year was raised again, as expressed in the comprehensive report U90.

The Central Education Council of 1975

The background for the U90 report was that the then Minister of Education Ritt Bjerregaard established a working group in 1975, the Central Education Council (CUR), which was initially tasked with reviewing the Højby Committee's proposal for a 12-year education system and to further develop the proposals for a comprehensive solution of the problems in the education system. The council should especially consider the problems that existed in the 10th-12th school years, partly those problems that could be resolved in the short term, and partly those that required longer-term planning for the entire education system. The Education Council consisted of a combination of academics appointed by the Minister, and representatives from various organizations appointed by these organizations. In 1978, CUR's then chairman, Permanent Secretary Erik Ib Schmidt, published the U-90 report. It stated that the Central Education Council regarded it as problematic that a quarter of the youth cohorts had no formal education. At the same time, they were concerned about the ever-increasing levels of enrolment in upper secondary education and third level education, a problem they sought to solve with access restrictions.

The Central Education Council 35 wanted all young people to have a combination of theoretical and practical subjects. They wanted the EFG system to resemble upper secondary school education more closely. The overall management from the Ministry of Education should be gathered under one directorate in order to avoid a two-tier system. The social partners distanced themselves from the aim of a common overall educational planning and management of secondary education. They felt that it would be significantly better to organize a two-stranded education system, i.e. upper sec-

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35 The report included a large number of minority statements, especially from the representatives of the business community, who opposed the proposals endorsed by the majority.
ondary school in one track and the various vocational educations in another. The rationale was that it would be impossible to maintain the industries' commitment if managerial coordination was introduced between upper secondary school/Higher Preparatory Examination and the vocational programmes. The relationship between the content of the alternating training programmes and the needs of the labour market would thus be weakened and it would be more difficult for young people to find employment. This could mean that industry would not obtain the necessary influx of young people with good vocational qualifications, which would probably have a negative impact on production in the broadest sense. It was predicted that it would be difficult to motivate the individual companies to make apprenticeship places available, if they perceived that the education of the youths was taking place in a system in which industry was not jointly responsible. The result, therefore, was that it was proposed to maintain the two strands in the secondary education programmes, and that there would be no integration to the extent proposed by Højby. The majority believed, however, that there should be some break down of the sharp divisions between the secondary education programmes. This could be achieved by strengthening the academic subjects in the alternating training programmes, and should also be easier to switch from one education strand to the other, without substantially extending the time required for completion. The Central Education Council proposed that all young people should be ensured a 12-year education by 1990, but that this should occur on a voluntary basis (Undervisningsministeriet 1978a; 1978b).

The Central Education Council therefore proposed a comprehensive education system, where everyone would be guaranteed 12 years of education in an education system that was flexible regarding the possibilities of combining a number of subjects. It should also lead, on the one hand to qualifications for further study, and on the other hand to vocational qualifications. It should also contain common elements of general education. The difference from the Højby Committee's proposal of 1973 for a 12-year comprehensive school was a much higher degree of vocational orientation and a function of attaining vocational competency. The proposal from the Central Education Council was based on the coordination and review of the upper secondary school educations, but not an actual integration or total restructuring of the existing educations (Håkonson, Kühl & Wechselmann 1978).

The U90 report described the concept of "general vocational competency", which everyone on the new youth education should be equipped with. This general vocational competency would be characterized by a number of characteristics, which in principle would be relevant for all vocations, in-
cluding interpersonal skills and knowledge of working conditions in general. The concept of "general vocational competency" signified a continuation and an attempt to embody the thinking that lay behind the prominent position of general subjects in the trial education programme. John Houman Sørensen (1984) criticized this idea, pointing out that the understanding of the concept of development in the U90 report overlooked the development or culture associated with specific roles in the workplace, especially in the craft trades. In his own words:

*These trades have specific ways of behaving, in relation to colleagues, clients and superiors, and we probably all know stories of the various types of craftsmen as something that represents the particular profession, regardless of personal differences, which of course also exist between a profession's practitioners. Fundamentally, the skilled workers have a perception of themselves and their role in a workplace that gives them a certain identity. You don't accept just anything. You have a certain amount of self-confidence and self-respect, which of course also influences how you function in life outside of working hours! How you are treated in the workplace must affect how your character is "formed". In this perspective, it is not just general subjects and common subjects that play a role in the formation of an apprentice's character, but rather the overall interaction between the apprenticeship, the workshop training, subject theory and the common subjects* (Sørensen 1984 p. 252).

John Houman Sørensen thereby criticized the narrow concept of education in the U90 report and pointed out that if one were to explain the development and history of vocational education, then you had to have a broader concept of education, which also included working life. This is perhaps one of the reasons that the Central Education Council's proposal attracted such intense criticism, especially from the conservative-liberal parties. The conservative-liberal policy was based on a different view of school learning and development than the Social Democrats' approach to "general vocational competency". An example of the former is Bertel Haarder's position in the book "The 'tyranny of institutions'":

*Childhood is extended in the educational institutions' secure, protective environment. In order to teach young people about life, they are prevented from participating in it. The school teaches them the sacred tenets of educational ideology:

1. The belief that you can only learn something by spending time in an educational institution.*
2. The belief that a person's skill, talent and spiritual horizon grows with the length of the education and degree of theoretical abstraction.

3. The belief that technical-economic development and social changes increasingly make such educations essential.

The pedagogical hierarchy sells indulgences in the form of expensive services to a youth who gradually come to accept that they are incapable of doing anything on their own (Haarder 1974, p. 19).

The Employers' Confederation and the conservative-liberal parties strongly opposed the Social Democratic integration ideas. According to the conservative-liberals, integration would mean that the skills level in the educations would be considerably weakened and the close relationship between industry and alternating training would be more than difficult to maintain with the unnecessary difference between what young people learned in school, and what was required by the companies (Tøttrup, Glendrup & Kristiansen 1989).

The conflict between EFG and apprenticeships

There were extremely divided opinions on the idea of the Basic Vocational Education and training (EFG). In particular, the masters in the traditional craft trades feared that the quality of their education would decline if it was integrated with semi-skilled educations, and if the alternating training was organised based on the terms and traditions of upper secondary school. The skilled workers disagreed with such a strong integration of vocational and semi-skilled worker educations and they therefore opposed a broad vocational education (Christensen 1985). The discussions on education in the trade journals from the 1970s show that many craftsmen believed that the apprenticeship system was the victim of a political game, and they felt that their views were not being respected. The discussion developed into a conflict between supporters and opponents of apprenticeship and EFG respectively. On the one side of the debate were the opponents of the apprenticeship system, who had the ambition to create equality in society by integrating upper secondary school and the alternating training programmes into a single scholastic model. Among these were many from the ranks of the unskilled workers in the trade union movement (Christensen 1985). Many apprentices, or at least apprentices' organizations, also fought for the abolition of the apprenticeship system (Christensen et al. 1972).

36 Here we are referring to the apprenticeship system under the Apprenticeship Act of 1956-1991.
On the other side, there were many masters and skilled workers who supported the apprenticeship system and were opposed to the school-based model of vocational education. The skilled workers focused largely on the professional quality of the education, and many of them considered it to be unreasonable that the traditional crafts should be compelled to change their education due to considerations for the situation in the major industries. Many industrial companies were either not even interested in establishing apprenticeships, or were so specialized that they could not be approved to hire apprentices. The conflicts were about whether the unskilled workers could utilise short-cuts to gain access to the skilled workers' qualifications, which the skilled workers perceived as a threat to the quality of the educations. The diversity in Danish businesses created problems for efforts to reach an agreement on the development of alternating training. There were very large differences between the trades, between large and small companies within the individual professions and between the different parts of the country (Møller 1991).

Politically, there were also major disagreements about the development of alternating training. In summary, and somewhat simplistically, the Social Democrats and the Socialist People's Party apparently preferred a development towards coordinating the vocational educations and upper secondary school into a single education system. The main argument was that it would be wrong to divide the students into two groups, of which only one received a general education that provided them with the opportunity to progress further in the education system and subsequently get high status jobs. Supporters of the integration system, however, had to admit that neither the Upper Secondary School Leaving Examination nor the apprenticeship would be able to maintain the same quality as before.

The Employers' Confederation and the conservative-liberal parties strongly opposed the integration ideas being advocated by the Social Democratic and the Socialist People’s Party. According to the conservative-liberals, integration would mean that the professional level of the educations would be weakened considerably, and the close relationship between the business community and alternating training would be more than difficult to maintain, because of the unnecessary difference between what young people learned in school, and what was required by the companies (Tøttrup, Glendrup & Kristiansen 1980).
The disagreements about the advantages and disadvantages of the EFG and the apprenticeship system were about the extent to which the vocational qualifications and labour market-oriented parts of the education should be emphasised in relation to the societal and general formative development objectives. The criticism of the EFG was primarily centred on the point that the EFG was an inappropriate mixing of the generally formative elementary school and the apprenticeship. The EFG system had problems with the general subjects, which did not hold the interest of the apprentices, because they could not see their usefulness in relation to their profession. It was perceived as a dreary continuation of the content, situations and defeats that many of them knew all too well from primary and lower secondary school. The EFG system also had major problems finding apprenticeship places for all EFG students (Stahr 1982).

Those who were opposed to the emphasis on general academic education, argued that general education basically belonged to the primary and lower secondary school, and that apprenticeships should therefore only cover relevant theoretical and practical training. This was contrary to a view that gradually become more popular, that the students in apprenticeship should as far as possible receive the same offer as their peers in upper secondary school and those taking the Higher Preparatory Examination. In other words, this was part of the struggle between the ideal of a comprehensive school versus the ideal of a two-tier system, in which the apprenticeship system would retain some of its basic features and not be integrated into upper secondary school to the same degree.

Revision of the EFG Act of 1972

The EFG experiment ran into some difficulties and the enthusiasm from when the Act of 1972 was enacted on a trial basis had become less intense when the time came for it to be revised in the parliamentary session 1975-1976. The then Minister for Education, Ritt Bjerregaard, therefore decided, based on the obvious disagreement between the parties, to introduce a bill that contained only a postponement of the revision of the Act until 1976-1977. In preparing for the new EFG Act, the original intentions behind the trial Act of 1972 on the establishment of vocational upper secondary educations had long since been abandoned. The Mikkelsen Committee established an educational model, where education for 16-19 year olds was divided between the general and the vocational upper secondary educations. The intention behind the vocational upper secondary educations

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37 The desire for closer links between alternating training and upper secondary school
was vocational employment, but they were also intended to have a general educational purpose. According to the Mikkelsen Committee, the generally formative purpose was fulfilled by the general, academic elements that provided opportunities for transition to the general upper secondary school. A report was published in 1976 on the revision of the Act on trial vocational educations, in which it appears that the desire for an interaction with the upper secondary school moves away from the original concept model as it was employed in the EFG system. The committee wished to place more emphasis on the company-based apprenticeship than previous committees (the Mikkelsen, Lund Christiansen and Højby committees), and it wanted more stringent requirements imposed on the companies that received EFG students (Betænkning/764 1976).

The original vision of the 12-year compulsory education, which should lead to less inequality in recruitment for education, was not implemented. The EFG and apprenticeship systems continued as one track, and general upper secondary school as the other. The development that occurred was that many trades chose to extend the length of the education in EFG to 4 years, thereby increasing the company-based apprenticeship by 6 months, e.g. for chefs, hairdressers and electricians. The reason for this extension of the apprenticeship period was demands from employers, who felt that these educations placed major demands on the practical experience of the practitioner, which necessitated an extension of the training period. In several fields, the idea of the apprenticeship was reintroduced. The committee on the proposed revision of the trial education legislation considered it appropriate that the labour market partners should be increasingly involved in defining the requirements that were to be imposed on the companies.

The EFG Act of 1977

After several years of committee work and trial teaching, the EFG Act was adopted in 1977. The provisions that from 1982 it would not be possible to conclude new contracts under the Apprenticeship Act were voted down by the conservative-liberal parties, who believed that the apprenticeship system could very well coexist with the EFG system and that, in this way, the two systems could be compared. According to the conservative-liberal parties, the apprenticeship system had a number of qualities which should be preserved, and they did not think that the experiences gained from the EFG trials justified setting a final deadline for the transition to EFG and thus the abolition of apprenticeships as an educational system. The result was an Act that established that the EFG and apprenticeship systems should continue side by side in the same manner as during the trial period.
The individual trade committees would be entitled, however, to propose that the apprenticeship should be terminated in their respective professions (Tøttrup, Glendrup & Kristiansen 1980). One of the purposes of the EFG system, at least from the perspective of the civil servants, was that a quasi-public education allowed the state to manage the education at the expense of the employers’ influence and control. However, there was a strong political will to retain vocational educations in the private sector, and the EFG system was therefore designed as an independent part of the education system and was not integrated into the upper secondary school education. A Vocational Education Training Council was established to conduct the overall planning of the EFG education. The equivalent body for the apprenticeship system was the Apprenticeship Council (established in 1956). The Apprenticeship Council had the authority to make certain decisions and had a consultative role for the Ministry. The Vocational Education Training Council was a nominating council for the Ministry. In practice, however, there was no difference between the powers of the two councils. The employers and employees were equally represented on both councils. The school-based part of the EFG educations was, however, very evident on the Vocational Education Training Council, where the teacher organizations had their representatives. A vocational education committee was established to deal with the technical content and objectives of the EFG education within each main area, with representatives appointed from both the employers’ and the employees’ side, as well as representatives from the school organizations, corresponding to the technical committees for the apprenticeships (Ellersgaard, Jensen and Nielsen 1981).

The two parallel systems of vocational education in Denmark therefore remained in place: apprenticeships under the Apprenticeship Act of 1956, and the EFG education under the EFG Act of 1977. Both types of education were dual system, but the main difference was in the access routes to the two educations. The apprenticeship training began with an apprenticeship contract, and the emphasis was placed on the company-based part, which was supplemented with a number of short school periods. The EFG education, on the other hand, started with a broad basic education of one year's duration at a vocational school, and only then, after an apprenticeship contract was agreed between the student and the company, did it take on the character of dual system. This part of the EFG resembled the apprenticeship, alternating between periods in the company and periods at the school, but it was usually somewhat shorter, due to the preceding basic year. In the first year of EFG, the students gained a broad insight into an entire "family" of vocational educations. There was a real rivalry between the two educations due to the shortage of apprenticeships. Apprentices who chose the apprenticeship system were in a better position because they were paid wages from the first day,
and the establishment of the apprenticeship contract from the very start of the training, prevented apprentices from experiencing problems obtaining an apprenticeship place at a later stage during their training (Betænkning/1112 1987). The Apprenticeship Act of 1956 established strict guidelines on how each education's technical committee should participate in the assessment of whether, and under what conditions, a company could hire apprentices. Similarly, detailed rules did not exist for the EFG system, where it was simply stated that the individual company had to be approved (Betænkning/764 1976).

**Perspectives on reform efforts in the 1980s**

In the 1980s, Denmark continued with upper secondary education (youth education) broadly divided into two pathways. One pathway was with dual systems\(^\text{38}\), which included a wide range of educations, all of which were aimed at providing students with vocational competency. The other pathway consisted of the general upper secondary programmes, which primarily served as a preparatory system for third level educations. These were divided into two strands, the general and the vocational upper secondary educations. The vocational upper secondary educations (the vocational Gymnasiums) included the Higher Commercial Examination (HHX) and the Higher Technical Examination (HTX), which to some extent cuts across the two main pathways, though these programmes do not give access to skilled employment.

The Higher Commercial Examination (HHX, formerly known as HH) had existed since before the turn of the century and was a continuation after the first school year within the commercial and office sector. Inspired by HHX, the technical schools set up trials with a 2-year upper secondary education in 1982, the HTX (Higher Technical Examination). Here students from the EFG basic year, could shift from the dual system of EFG into the general (technical) upper secondary programme leaving examination that was primarily preparatory for a subsequent engineering degree.

The vocational Gymnasiums, HTX and HHX, became increasingly popular in the 1980s, and they therefore began to some extent to displace dual system. A large number of students thus began on an EFG continued to a vocational Gymnasium to acquire the Higher Commercial Examination or Higher Technical Examination. This came to mean that a growing share of those entering a training

\(^{38}\) This is alternating training as envisaged under the Apprenticeship Act of 1956 and the EFG Act of 1977.
contract in EFG or apprenticeships had completed a higher technical or commercial examination (HTX or HHX). This development created the so-called "cuckoo in the nest effect", which has made it difficult for young people with fewer resources and "diplomas" to obtain a training placement in the dual system. The requirement for a general upper secondary background, before dual systems contract, had become more common in some vocational areas like office work, finance and insurance (Højstteen 2000; Hansen 2000).

The large youth cohorts (number of 17-19 year old) from the world war two generation started to enter the labour market echoing back in the early 1980s. These substantial fluctuations in youth cohorts gave banal capacity and planning problems in VET. In the same period, education propensity changed significantly. The education explosion in 1950s and early 1960s was by apprenticeship training but in 1960s apprenticeship lost prestige and youth wishes in the new education explosion in 1970s and early 1980s were directed towards academic programs (Højstteen 2000). In late 1980s increased number of students in VET, but now it was becoming more common to have background from academic programs, before starting internship training. VET as a youth education was challenged.

**The Nordskov Committee of 1986**

After years of criticism of the alternating training system and as a result of many years of tensions between the apprenticeship system and the EFG system, the Minister for Education Bertel Haarder from the Liberal Party set up a committee in 1986 to look at a revision of the basic vocational educations. Professor Lars Nordskov-Nielsen was appointed chairman (the Nordskov Committee). The Committee was asked to scrutinize a number of problems regarding the administration of alternating training and to present proposals for a more appropriate administration. The situation was that in 1986 there were about 46,000 apprenticeship contracts and EFG contracts signed, with almost equal distribution between the two forms of education (48% for apprentices and 52% for EFG students). The Nordskov Committee was to prepare the basis for a coordination of the two education systems, i.e. EFG and apprenticeship. The Committee submitted its report in 1987 regarding basic vocational education. In the report, the committee presented a critical assessment of the existing alternating training system and concluded, among other things:

- That the dual systems had an inadequate ability to retain young people who began an education.
• Too many and too narrow individual educations had been developed that did not meet the requirements for comprehensiveness. Furthermore, not all the educations provided sufficient opportunities for professional immersion. Finally, some educations were inadequate with respect to further educational opportunities.

• Different pathways in Danish VET i.e. the fact that there were three fundamentally different types of dual systems (the EFG programmes, apprenticeship and the basic technical educations), was criticized for creating confusion, imbalance in student recruitment and inequality between students with regard to economic conditions and educational conditions (Betænkning/1112 1987).

The question of access routes in a new structure for alternating training was the most problematic issue in the committee's work. The committee was divided into a majority and a minority side (the employers). The majority's proposal was that the alternating training would start with a basic education consisting of basic teaching at a school for 40 weeks, or an internship in a company according to an education contract, combined with basic education at a school for at least 20 weeks. The minority proposal differed from the majority's proposal by including a more generally designed, practical "internship access" (Betænkning/1112 1987). The Nordskov Committee suggested that the detailed design of the educations' structure and duration should be determined by the trade committees.

On the basis of the Nordskov Committee report, the Minister for Education introduced a bill on vocational education and vocational schools.

That created a new, comprehensive vocational education and training system that replaced the two parallel pathways that had operated since 1976: the apprenticeship and the EFG-programmes. The new VET-system (Reform 1991) combined elements from both pathways. The main route was that the students started with school-based teaching (school access), which was divided into a first and a second school period and had many similarities with the EFG-basic year. The first school period was intended to qualify the young people's choice of education, while the second period was intended to prepare the young people for placement in a company lasting typically 3 years. However, the possibility was retained that students could start directly in a training placement in a

39 The basic technical educations were also based on alternating between school and work, but the school-based part usually occupied a relatively larger part than for an apprenticeship and the EFG 2-part education.
company (*internship access*). Danish apprenticeship-system with roots in the guilds apprenticeships, principally was now replaced with new “Danish dual VET system” (Dansk vekseluddannelse).

**Summing up**

The main theme during the third phase was the conflict between the EFG system and the apprenticeship system. Trials were conducted with comprehensive education efforts in the form of basic vocational education and training (EFG), which was intended to replace the apprenticeship system. As part of the integration of the apprenticeship and the upper secondary school, these trials included requirements for increased general, academic school learning in the alternating training. This period is characterized by education policy intentions to coordinate the youth educations and thus to break down the sharp divisions that existed between upper secondary school on the one hand, and alternating training (EFG/apprenticeship) on the other. These intentions were influenced decisively by the Social Democrats’ plans to create "equality" through education, partly expressed in the Højby proposal and the U-90 report, both of which were produced on the initiative of the Social Democrats. This new model was designed such that the vocational education would start with school tuition of a general nature, after which the teaching would gradually become more specialized and would be completed within a specific trade. The Social Democrats wanted to achieve a total integration of the alternating training educations (EFG/apprenticeships) and upper secondary school in a 12-year comprehensive school. These efforts did not succeed, despite repeated attempts, because, among other thing, the Social Democratic minority governments were often forced to rely on conservative-liberal votes to implement the changes in the upper secondary school educations. The conservative-liberal parties were opposed to the abolition of the apprenticeship system and wanted a system with two main pathways, i.e. general upper secondary school and Higher Preparatory Examination Courses in the one pathway and the dual systems programmes with their particular characteristics in the other pathway. In the early 1980s, a conservative-liberal government came to power and pursued a different education policy agenda. The 1980s witnessed an increase in the number of new apprentices after the introduction of subsidy schemes. The Liberal Party focused on providing more apprenticeship places, unlike the Social Democrats, who wanted to abolish the apprenticeship system in 1970s.
Table 9 provides an overview of the laws governing vocational training during the period. The crucial difference between the apprenticeship system (the Apprenticeship Act) and the EFG system was their different access routes.

<table>
<thead>
<tr>
<th></th>
<th>1956</th>
<th>1972</th>
<th>1977</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulations</td>
<td>Apprenticeship Act</td>
<td>EFG Act</td>
<td>EFG Act</td>
</tr>
<tr>
<td>Duration</td>
<td>34 years</td>
<td>5 years</td>
<td>13 years</td>
</tr>
<tr>
<td>Access route</td>
<td>Internship</td>
<td>School</td>
<td>School</td>
</tr>
<tr>
<td>Contractual obligation</td>
<td>Yes</td>
<td>Yes (No)(^{40})</td>
<td>Yes (No)</td>
</tr>
<tr>
<td>Skilled master</td>
<td>Yes</td>
<td>Yes (No)</td>
<td>Yes (No)</td>
</tr>
<tr>
<td>Maximum apprenticeship period</td>
<td>2-4 years</td>
<td>2-4 years</td>
<td>2-4 years</td>
</tr>
<tr>
<td>Mandatory test for completed apprenticeship</td>
<td>Yes</td>
<td>Yes (No)</td>
<td>Yes (No)</td>
</tr>
<tr>
<td>Requirement for qualifying education</td>
<td>7 years</td>
<td>8 years</td>
<td>9 years</td>
</tr>
</tbody>
</table>

Figure 6 shows how the number of apprentices and EFG interns declined and increased respectively in trade and industry - commercial and office. The differences between these two very different disciplines is clearly visible. Within the commercial and office sector, there was a large increase in the number of EFG students in the late 1970s and during the 1980s, while the apprenticeship system was the most popular system within trade and industry throughout the period.

\(^{40}\) Yes (No) Means that some subjects had contractual obligations and others do not (e.g. semi-skilled worker training).
Figure 7 shows how the number of trained students and trained apprentices/EFG interns increases and decreases.
It is clear from Table 10 that the number of students at business colleges and technical colleges increased greatly during the period. The number of students at technical colleges declined from 1970 to 1975. Generally, throughout the period, the increase in the number of students in trades and industry was considerably lower than at the commercial schools and gymnasiums.

<table>
<thead>
<tr>
<th>Table 10. The development of the number of upper secondary school pupils</th>
</tr>
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<tr>
<td>------------------</td>
</tr>
<tr>
<td>Commercial colleges</td>
</tr>
<tr>
<td>Technical colleges</td>
</tr>
<tr>
<td>Gymnasiums</td>
</tr>
<tr>
<td>Agricultural colleges</td>
</tr>
<tr>
<td>Home economics colleges</td>
</tr>
<tr>
<td>Colleges</td>
</tr>
</tbody>
</table>

Source: Nepper-Christensen, 1998
Perspectives

Apprenticeships in Denmark have a long-standing successful mode of integrating young people into skilled employment and have been able to adapt to major changes in society and the labor market. Deissinger (2008) has characterized the German apprenticeships as a system of training rather than a system of employment. This report has focus on the intrinsic logic in the Danish apprenticeships-system and arenas of struggle and negotiation in the working on legal framework to give the system the same character as German apprenticeships, system of training rather than system of employment. This history is marked by complex challenges and dilemmas that have been outlined in this report and now shortly will be summed up and put into perspective with reference to the theoretical background sources. The guilds’ apprenticeship dominated in Danish VET until mid-1800s and was closely linked with Europe’s (German) guilds’ trade organisation. With the Trade Act in 1857 accordingly the guilds were abolished and stripped of their privileges in relation to the regulating apprenticeships system and that gave risen to exploitation of apprentices who could be used as cheap labour. Without any legally binding contracts apprentices more often left their masters before the completion of the training, when they had access to better paid employment as semiskilled workers in the emerging industry productions. It was no longer a requirement for apprenticeship, that masters themselves had a master certificate. As a result of the lack of regulation of apprenticeship the employers increasingly encountered problems with the recruitment of qualified skilled employees. The legal requirements for apprenticeship contracts, tests for completed apprenticeship (journeyman tests) and the master craftsman’s qualifying examination where main arenas of struggle and negotiation in the first Apprenticeship Act of 1889 and its reforms up through the 1900s that slowly reregulate and renewed apprenticeship after the dissolution of the system in Trades Act of 1857. Apprenticeships governance and legal framework were determined by the state with regard to the nature or quality occupational standards as well as to legal conditions underlying apprenticeships. The development of German apprenticeship in the 1900s is often attributed to Georg Kerschensteiner (1854-1932) who was considered a highly respected reform pedagogue not only in German but also international. Kerschensteiner presented vocational education as an important component of human development in his 1904 essay Vocational or general education? According to him vocational education was a necessary part of true education because the gab between general and vocational education was said to be artificial and to lead to one-sidedness and philistinism. In his path-
breaking publication *The Concept of Activity School* he sought to lay out his views on school reform and to ground them on theory (Gonon 2009). Which pedagogic ideas had an influence on renewed apprenticeship after the dissolution in Denmark is an underexposed field of research. However, it is very suggestive that the Kerschensteiner pedagogic ideas have been of great importance for the development of apprenticeships in Denmark. Kerschensteiner´s slogan the “arbeitsschule” had an international impact, making him into the proponent of the concern to make work a fertile, innovative source for education in general (Gonon 2009). Convergence between apprenticeships and general educational programmes were characterized in the first phase with apprenticeships dominating youth education. In the first half of 1900s increased number of students in Commercial and Technical colleges for apprentice from 26,225 (1915) to 86,051 (1950). At the same time numbers of students in secondary schools (Gymnasiums) increased from 2623 (1915) to 7,604 (1950).

The system of occupational self-governance in the Danish VET-system is embedded in the overall institutional architecture on Danish labour market model, which was founded in 1899 when a national agreement, the September agreement, was concluded after major strike and lockout (Due, Madsen & Jensen 1993). The Danish model leaves most of the regulation of labour market to the social partners with little interference from state. The cross class alliance (Thelen 2004) behind this system is based on the one hand on the employers’ long term interest in securing a sufficient number of skilled workers with high quality and to spread the cost and obligations of training apprentices on all the firms that employ skilled workers. On the other hand it is based on the interest of the labour organisations to control training and wages of apprentices and avoid apprentices being used as cheap labour that could undermine the wages and general agreements of the skilled workers (Juul & Jørgensen 2011). The legal framework in apprenticeships Act in 1937 meant that the management of the apprenticeships system was left to the social partners on labour market and managed through the joint trade councils.

The large youth cohorts from the world war two generation started to enter the labour market giving rise to shortage of training placement in the early 1950s. The Apprenticeship Act of 1956 led to the practical training becoming more specialized, the time required to complete an apprenticeship was
reduced and less stringent demands were imposed on the companies that were allowed to employ apprentices. Contributing to this was the fact that industrialization was progressing strongly in the 1950s and 1960's and (large) industrial organizations acquired more influence on the apprenticeship system, which was extended to cover semiskilled work. Different Commissions carried out very extensive negotiations with the labour market organizations in order to further develop the apprenticeship system and adapt it to the current social conditions and technological developments.

The Apprenticeship Act of 1956 was intended to integrate the education of skilled and unskilled workers in a renewed apprenticeship system. In order to meet the need for skilled and semiskilled labour, the requirements for obtaining an apprenticeship were relaxed. This was achieved by reorganising the functions for the school-based part and the company-based part respectively in the apprenticeship, so that the school acquired a much greater responsibility for the practical training, while the companies acquired greater opportunities to adapt the apprentices to the existing division of labour and the associated level of organization. With this reform the state was given a greater role in the planning and governance of apprenticeships.

Number of young people in apprenticeship and “Gymnasiums” respectively, rose sharply during the phase two. Apprenticeships was the absolutely dominated youth education, despite the number of students in gymnasiums increased. In 1967, 31.827 finished apprenticeships and 8612 finished Gymnasiums. In phase three this pattern changes. In 1975 the number of educated students and trained apprentices was on same level about 20.000. Then apprenticeships where no longer the dominant youth education in Denmark. This development took place in connections with growing political criticism of apprenticeships for serving too much the employer’s interests and requirements of the labour market. In addition criticism of apprenticeships was raised from the apprentices organisations, who organised and started a wave of demonstrations against the apprenticeships in the late 1960s. In the late 1960s the number of apprentices decreased dramatically, which was seen as a sign of that young people where turning their backs on apprenticeship-system. In the 1960s the German tradition of vocational pedagogy and especially Kerschensteiner’s approach was sharply criticised as being obsolete, backward, apologetic and as legitimising the current capitalistic regime (Gonon 2009).
The period from the late 1960s to 1977 can in theory of path dependency be considered a “critical juncture” (Thelen 2004). The outcome of struggles and negotiations and coalitions formed in this period has set direction for the institutional trajectory in the following decades until today.

Number of students in academics pathways in Gymnasiums, Commercial colleges and Technical colleges increased strongly in the late 1960s at same time the number of apprentices decreased dramatically. In 1970s, the foundations were laid for a new vocational education and training system (EFG), which was intended to replace the apprenticeship system, but which in practice was to operate in parallel with the apprenticeship training established by the Apprenticeship Act of 1956. EFG was to operate in parallel with the apprenticeship, because main part of the representatives of the social partners (labour markets partners) lined up in defending apprenticeship training as the 'heart' of the Danish VET system. They were skeptical about an expansion of the general subjects and argued form maintaining the clear vocational profiles of “their” programs. After fierce disputes between supporters and opponents of apprenticeship the VET reform in 1991 created a compromise between apprenticeship and EFG in new modernized form of comprehensive vocational education and training system (EUD). The term apprenticeships (mesterlære) was replaced with a new term Danish dual VET system (Dansk vekseluddannelse). An important element from apprenticeships, the possibility that students could start directly in a training placement in a company (internship access) was retained and the plan about convergence between the general academic pathways and vocational pathways was replaced by the continuation of two separate pathways.

Particular focus in this report has been to describe challenges and dilemmas in Danish apprenticeship and when, why and how apprenticeship has been updated, denounced or prioritized in educational policy. In the European context, there is increasingly interest in apprenticeship as an important part of future training system. The European Commission and the OECD have highlighted apprenticeships as an important tool to reduce early school leaving and improve the transition from education to work. (European Commission, 2012a;2012b;2013a;2013b;2013c;OECD 1994; 2010; 2013). Apprenticeship system is an important part of a common EU policy process, with the "Copenhagen process", "European Alliance for Apprenticeships"41, "Youth Guarantee"42 and " Bruges

Communique\textsuperscript{42,43} as key education policy documents. This paves the way for EU systemic change and comprehensive effort to promote work-based learning in modern apprenticeships. The process aims to launch a pan-European modernization of apprenticeships to meet the challenges of global competition. Apprenticeship, the oldest type of vocational education and training, has experienced a revival in recent years (Rauner & Smith 2010).

Internationally there is not a single and commonly accepted definition of apprenticeship. Definitions can be considered more or less open. Different stakeholders have different views on what an apprenticeship is and the different countries have VET programmes with different characteristics, which are called “apprenticeships\textsuperscript{44}” (EU 2012). In 2006 introduced the “New Apprenticeship” in Danish VET in order to enable students who are academic disadvantaged but are skilled in a practical manner, to complete a VET without having to deal with academic issues in school. In this alternative pathway apprentices typically spend the first year of their education receiving practical training in an enterprise (Rolls 2012). The terms apprenticeships in Danish view is now only used on this alternative pathways to vocational qualifications and not the main pathways in the Danish dual VET system. Why is that? When even in the less open understanding of the terms in EU, Danish VET will clearly be defined as a modernized apprenticeship.

Somehow an apprenticeship has been considered as the "ugly duckling" in Danish VET. The Danish apprenticeship system has been developed and expanded according to the German traditions and educational culture. After Danish kingdom lost the German-speaking Schleswig and Holstein this tradition and culture did not fit in well with ideological currents. And this trend intensified in 1960s, German educational culture was denounced and it was uphill to argue apprenticeship culture. In 1999 the Danish VET got the international recognition "world's best VET" by the German global media company Bertelsmann AG\textsuperscript{45}. Somehow the “ugly duckling”, as in the fairy tale of Hans Christian Andersen, has turned out to be a “beautiful swan” in Danish VET. Danish apprenticeships that include more than simply practical training is a model that successfully balance-

\textsuperscript{42} http://ec.europa.eu/europe2020/pdf/youth_en.pdf
\textsuperscript{44} In the national languages: apprentisage, opipoisiope, mesterlære, beroepsbegeleidende leerweg, duales system, etc.) (EU 2012 p 116).
\textsuperscript{45} http://www.bertelsmann.de/
es different interests. Curricula of vocational school and general orientation of Danish VET-system are still marked by Kerschensteiner and his colleagues. A deeper study of this orientation is of interest not only historically but also as a basis for future educational reforms.

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