The future of vocational education – learning from the Nordic countries
Nord-VET – The future of Vocational Education in the Nordic countries
A research project supported by the NordForsk programme Education for Tomorrow

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This publication includes an introduction based on four country reports on the current challenges for VET in the Nordic countries. In addition, it includes the four research reports on recent reforms and innovations in VET published on the homepage of the Nord-VET project.

A list of all the research reports published in the project is included in the last pages of this publication.

Nord-VET – The future of Vocational Education in the Nordic countries

The purpose of the Nordic research project, Nord-VET, 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 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 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.

The project is publishing three sets of country studies on Finland, Denmark, Norway and Sweden. The first set of reports is on the historical emergence of vocational education (VET) in the four countries. The second set of reports is on the current challenges for VET in the four Nordic countries. This is the Danish report. The third report to be published February 2015 is on innovations in VET.

For more information visit the homepage: www.nord-vet.dk
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Introduction to Nord-VET and the Nordic VET-systems
What are the aims of the Nord-VET project?

The aims of the Nord-VET project is to generate new knowledge on the strengths and weaknesses characterizing the different systems of initial vocational education and training (VET-systems) in the Nordic countries. This new knowledge is intended to support systematic policy learning in relation to a number of key dilemmas in the development of VET for the future in these countries.

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 social and political values and a shared history. On the other hand, they exhibit significant differences in their systems of VET. This situation has made the Nordic countries a fruitful living experiment of diverging forms of VET, in which a variety of significant qualities can be explored in relation to similar social contexts.

The specific aim of this project is to generate knowledge on how the Nordic systems of vocational education manage a number of key challenge for initial VET. A major challenge for VET is to provide access to the skilled labour market and at the same time to provide eligibility for higher education. In addition, the project explores what consequences the different ways of managing these challenges have on social equality, inclusion and the esteem of vocational education. The project compares strengths and weaknesses of the VET-systems of the four countries with the aim of encouraging trans-national policy learning in the field of vocational education and training.

This publication first presents the aims and the research approach of the project. Next, it presents short overviews of how the four Nordic countries have managed the dilemma of providing eligibility for higher education and at the same time to offer direct access to skilled employment. The rest of the publication includes four chapters on recent reforms and innovations in the Nordic VET-systems. The project does not intend to give direct recommendations for policy or to assess what VET-system is ‘best’. But we do hope that these chapters can inspire stakeholders and policy makers to learn from experiences from other Nordic countries.
Common opportunities and challenges for the Nordic VET-systems

The starting point of this project is that the Nordic countries have different models of vocational education, but share a number of challenges for the future development of VET. All Nordic countries have developed well-organised labour markets, consensual political cultures and universalist welfare states. Education policy in all the Nordic countries have given priority to the aims of equal opportunities, social justice and social inclusion. These basic qualities are challenged by the current wave of globalisation with outsourcing of low-skilled jobs and immigration of labour from low-wage countries. Growing competition in the labour market and increasing requirement for qualifications provide critical conditions for marginalisation for young people who do not complete any post-compulsory programme of education. Vocational education at upper secondary level can play an important role in handling these challenges by providing a high quality, attractive pathway to employment for young people.

In all of Nordic countries, the shift towards a knowledge society has been followed by a strong ‘academic drift’, with a significant expansion of general education and HE (Jónasson 2003; Börjesson et al. 2014). This raises the urgent question of how to improve education for the other half of a youth cohort, which does not aim for higher education. Vocational education at upper secondary level has been the main pathway to the labour market for the majority of this ‘second half’ of the youth group, and it is anticipated to remain so in the future. But initial vocational education has not been given priority in education policy.

Initial VET has an important role to play by linking school-based and work-based learning and by connecting education with the labour market. VET is important as a pathway to employment for young people. At the same time, a modernised VET-system has a key role for the successful development of a knowledge society. This society depends not only on high levels of formal and academic knowledge, but very much on the connection of this knowledge with specific and applied knowledge in order to solve complex and ill-defined problems (Streeck 1992).

Vocational education that combines school-based and work-based learning is well suited to connect codified knowledge to problem solving in practice (Guile 2006). Modern forms of apprenticeship has proved to be very effective in providing access to the labour market for non-academic youths, when employers are engaged in providing high quality vocational training (Wolbers 2007). However, VET-systems based on the apprenticeship model generally have weak linkages to higher education. This weakness has increasingly made VET suffer from decreasing esteem and falling participation (Deissinger a.o. 2013). Furthermore, initial VET in most countries struggles with high dropout rates and a risk of evolving into an instrument for social policy, rather than an attractive pathway to high-skills employment. These basic challenges for the Nordic VET-systems and the reforms to manage them are being studied by the Nord-VET research project.

Key dilemmas for VET

The point of departure for the Nord-VET project is a number of related challenges that vocational education at upper secondary level is facing in all the Nordic countries:
• How do the systems handle the double challenge of qualifying for employment and providing access to higher education? The revitalisation of modern forms of apprenticeship programmes in a number of Nordic countries has drawn attention to the risk that these programmes become ‘dead-ends’ in the educational system, with weak linkages to the tertiary level of education. Comprehensive education systems on the other hand suffer from weak linkages to the labour market and difficult transitions to employment for the students. What are the experiences of programmes for double or hybrid qualifications that provide access to higher education as well as work-based learning and skilled employment?

• How do the systems provide work-based learning of a high quality and a sufficient number of training placements for young people in the labour market? How smooth is the transition to the labour market for VET graduates, and how are the social partners engaged in securing a high level of quality?

• How do the systems cope with problems of esteem in vocational education in comparison to general programmes? Which factors influence VET esteem and what is the current status of VET in the Nordic countries in relation to current trends towards ‘academic drift’, and what strategies have been applied to raise the attractiveness of VET?

• The task of social inclusion has become high on the agenda for VET, as all governments have raised their targets for completion rates in upper secondary education. Labour markets of the future will have little to offer youths with only compulsory education and, at the same time, vocational programmes face increasing problems with high dropout rates. What solutions do the existing systems offer to the double challenge of including more weak learners and, at the same time, increasing their attractiveness for companies and ambitious youths?

Each of these questions represents a significant challenge for the future of VET. In addition, they are interconnected: coping with one challenge involves the risk of aggravating another. In this way they constitute trade-offs and dilemmas for policy and educational practice. The project’s primary interest is the dilemma posed by the double challenge of qualifying for employment and providing access to higher education. Providing access to employment through work-based learning tends to limit the attainment of qualifications that provide access to higher education – and this adds to the declining esteem of VET. Giving priority to the attainment of academic qualifications by extending school-based learning tends to limit the direct access to employment – and makes VET less of an alternative for non-academic youths. The purpose of this research project is to examine the way in which four Nordic countries have managed these dilemmas and to explore the opportunities for mutual policy learning, in order to adjust or innovate institutional designs, transition pathways and the development of new teaching/learning arrangements.

Learning from the divergent Nordic VET-systems

In all the Nordic countries, initial vocational education has a variety of different, politically defined aims. Initial VET has the aim to qualify for employment in a specific occupation, to prepare for future mobility on the labour market, promote competitiveness and economic growth, qualify for studies at the tertiary level of education and prepare for lifelong learning. In addition, VET
is intended to facilitate the student’s development as a person and as a democratic citizen, and in order to contribute to social cohesion. Furthermore, VET is expected to be inclusive for weak learners, retain all the students who start on a programme, and make them complete with a degree or a certificate, which gives access to skilled employment.

This multitude of aims are to some extent competing and even contradictory. Developing VET for the future thus involves coping with inherent and recurring dilemmas, trade-offs and contradictions. The priority given to each of the diverse set of policy aims and the ways in which they are managed differ significantly between the Nordic countries. This is mirrored in the differences in institutional architecture and the organisation of learning embedded in the national VET-systems.

The Nordic systems of VET differ with respect to their integration with general and higher education, and they also differ regarding their connections to the labour market. The divergent organisation of the Nordic VET-system relates to the amount of specific occupational qualifications offered, the balance between work-based learning and school-based learning and their governance structures, especially the involvement of the labour market partners. In addition, they differ their links with higher education on the one hand, and the labour market on the other, the balance between local-central governance and the degree of standardisation or flexibility of the programmes. The systems also differ concerning the level of segregation in relation to gender, ethnic and socio-economic background of students – and thus with respect to the role of VET in achieving equity in education, as well as on the labour market.

These differences are the result of divergent developmental trajectories, which have been studied in the first stage of the Nord-VET project (the country reports are available on the homepage www.Nord-VET.dk). These divergences mean that the Nordic systems of VET have different experiences in the past, which can be learned from. They also have different opportunities to cope with the common future challenges of providing attractive, high-quality programmes that connect school-based and work-based learning, provide access to high-skills employment, and link up with higher education. The aim of the Nord-VET project is to enhance the opportunities for learning between the Nordic countries in relation to these future challenges.

Theoretical framework

The project builds on the methodology of comparative research in education that was first developed in German-French comparisons by Lutz (1976) and Maurice, et.al (1986) and in later studies by Streeck (1992) and Thelen (1999; 2004; 2014). This tradition argues that comparisons should be based on recognition of the path dependencies and institutional complementarities in specific national or occupational regimes. It means that direct comparisons between separate educational institutions and their performance in different countries are dubious, due to differences in the general institutional architecture (Lutz 1991). It has demonstrated how the development of VET-regimes can be interpreted as a result of learning processes related to basic dilemmas, critical junctures and resulting struggles and alliances between key stakeholders. The strengths and weaknesses of different educational systems can be explored by comparing their handling of common challenges.

This project will compare the Nordic VET-systems with an interest in the path dependency of
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these systems, but will also explore the potentials for transformation of trajectories (Antikainen 2010). The comparisons focus on the VET-systems’ response to the challenges and a holistic examination of the institutional architecture in each country. This includes a focus on the institutional complementarities between education, labour market and production system. The project draws on conceptualisations of the ‘classic’ European models of VET described by Greinert (1999) and the studies on the institutional embeddedness of school-to-work transitions (Shavit & Müller 1998; Müller & Gangl 2001; Breen 2005; Wolbers 2007) and David Raffe’s (2008) discussion of different ‘transition systems’. In addition, they are inspired by conceptualisations of ‘Varieties of Capitalisms’ (Hall & Soskice 2001) and of different national ‘training regimes’ or models of collective skills formation (Busemeyer & Trampusch 2012). However, analytical models tend to be too simplistic and static to capture the complexities and dynamics of the closely related educational systems of the Nordic countries. Therefore, the project has shifted focus from identifying models and typologies to exploring the specific historical trajectories of the diverse VET systems by exploring the driving forces, struggles and coalitions of stakeholders in the context of VET, with the aim of explaining why these systems have developed differently (Thelen 2004). This involves first of all the employer federations, trade unions and how they organized themselves, alliances made between skilled and unskilled workers organisations and between crafts-based employers and larger mass-producing manufacturers. The ambition, though, is to go beyond the static descriptions of various regimes and explore the potentials for institutional change, transformation of trajectories and policy learning (Deeg & Jackson 2007). This is done by examining the detailed workings of the systems through social interactions and agency at the local level.

A multi-level research approach

The project applies a multi-level analysis that combines macro-societal theories of diverging national systems with micro-sociological studies. It applies the methodology employed in comparative and micro-sociological studies of the institutions of labour markets (Marsden 1999) and networks and partnerships between institutions of VET and companies (Stenström & Tynjälä 2009). Micro-sociological research may help to connect analyses on the system-level to the micro-level, by investigating the challenges mentioned as they are handled in schools, workplaces and training centres throughout the Nordic countries. In order to inject further empirical reality into current debates about VET, there is a need to explore the function, purpose and lived experience of VET in different forms of educational settings, where social and institutional dilemmas and tensions are explicitly addressed. The analyses draws on studies that focus on institutional dilemmas, and on how tensions between education and work is negotiated and acted on by teachers and students within schools and workplaces from a comparative perspective (Hodkinson, 2005; Fuller et al, 2007).

Micro-sociological research has contributed with new knowledge by illuminating how tensions between schooling and work are manifested and negotiated by vocational teachers, instructors and students in everyday teaching and learning (Berner, 2010; Persson Thunqvist & Axelsson, 2012). The ways in which teachers and students handle multiple positions and conflicting viewpoints, paradoxes and overlapping institutional and educational practices is crucial for understanding the local premises for VET. Expanding on earlier micro-sociological research, it is also important
to focus on how broader institutional and political processes influence different forms of VET. Previous research shows that external ‘demands’ are not translated directly into training content: What is taught in vocational training is mediated, for instance, through teacher priorities, different pedagogical traditions and practices, resources, curricular demands, and student characteristics and motivation (e.g. Carlsson, 2001; Lindberg, 2003). Another strand of micro-oriented research has argued for the need for a closer examination of how VET intersects with the issues of social class, inclusion/exclusion and gender (e.g. Heikkinen, 2000; Salminen-Karlsson, 2006; Nielsen, 2008).

The project has selected two occupations, Health and Construction, for case studies in each of the four countries. These two cases represent a predominantly female, public sector occupation, where upper secondary vocational programmes (auxiliary nurse/health assistants) were introduced in the post war period, and a male, private sector occupation with a very long tradition of craft based apprenticeship. These two occupations are compared in local case studies that are sensitive to differences in the institutional contexts, the different VET systems in the Nordic countries. The micro-sociological case studies of social interaction at the level of vocational colleges and workplaces is used to gain detailed knowledge of the working of the VET system by combining them with studies of the VET system at industry and national level in the selected occupations. This contributes with new dimension of knowledge regarding the strength and weaknesses of these systems based on an insight into the inner dynamics of the systems.

Research design in five stages

The project takes an interdisciplinary and problem-oriented approach and apply a comparative methodology in a study of the historical trajectories of national systems of VET, a policy study of current reforms and comparative case studies of selected occupations. This is organised in five consecutive phases:

1. **The evolution** of the four different Nordic systems of VET and the emergence of the current challenges for VET: to provide access to employment and to higher education, to achieve high esteem in relation to general education and to offer social inclusion. Focussed national studies explores the historical background for the emergence of these challenges in the national systems of VET in the four countries. The purpose of this part is to embed our understanding of the dilemmas in the specific historical trajectories of VET and the institutional architecture of each system. This involves analysis of the structures, institutions, pathways and social interest in VET and the institutional complementarities between VET, the labour market and the production systems in each country. The comparative dimension of these studies emphasises similarities and differences in the nature of these challenges in relation to the educational system as a whole. This first historical part will establish a common framework for the studies of the current situation for VET.

2. **The current situation** of the four challenges with a specific focus on the dilemma: access to higher education or the labour market. This will include a combination of quantitative and qualitative studies to map the patterns of recruitment to VET, the extent of segregation in VET programmes (SES/gender/ethnicity), the transition to different forms of employment and
the pathways to higher education of students from upper secondary vocational education. In addition, it will explore the organisation, extent and quality of work-based learning in the programmes. A special interest is to compare VET-programmes that combine work-based learning and employability with access to higher education and the way these programmes have handled the dilemmas. The four research reports on the current challenges for the national VET-systems can be downloaded from the homepage, www.Nord-VET.dk

3. Recent reforms and outcomes. This section will explore the way the dilemmas have been managed through policy reforms and institutional adjustment and innovation since the mid-1990s. In addition, it will assess the outcome of the reforms with special attention on potential, unintended consequences of reforms relating to the dilemmas. The assessment of policy interventions is expected to uncover some of the basic social dynamics of each system and the scope for policy-making in relation to the balance of social interests that sustain and influence the current systems of VET. The four national research reports on recent reforms and innovations can be downloaded from the homepage, www.Nord-VET.dk

4. Case studies of selected occupations. This part of the project has selected two occupations (health and construction) to be examined in each country as comparative, multi-level case studies. The purpose is to compare the current conditions and handling of the four challenges in comparable occupational areas (a traditional male manufacturing/craft-based and a female service occupation). The empirical studies includes interviews and observations in schools and training companies in order to examine social and gender inclusion and segregation, work-based learning and preparation for higher education. In addition, they will include multi-level studies of the institutional architecture of each occupation at local, regional/municipal and branch/national level. This will make it possible to assess the strengths and weaknesses in the detailed working of the systems, their governance structures and the institutional complementarities of the systems - especially the coordination of education-work relations on different levels.

5. Learning from the Nordic countries to develop vocational education for tomorrow. The concluding part of the project aims to contextualise the empirical case studies in the institutional and policy context of each country and to systematically compare the way the basic dilemmas for VET are handled in each country. This will be used to explore the opportunities for mutual learning in policy and didactics of vocational education. The results of the comparative studies of the two occupations are published in two books to be published with Routledge (see at the last pages of this publication).

Four different Nordic VET-systems

Comparative research in vocational education and training has expanded strongly during the last 20 years and attracted much attention since it offers explanations for differences in two areas of high political interest. One is the specific institutional set-up, or ‘skills regime’, that regulates work based learning and the production of skills and more generally the articulation between the educational system, the labour market and the employment system. The other is the ability of upper secondary vocational education to offer attractive pathways for young people who do not
opt for higher education, and to support their smooth transition to employment and thus to reduce youth unemployment. However, the VET-systems in the Nordic countries are under-researched in comparative education.

Some comparative studies of VET operate with a common Nordic model of vocational education (Walther 2006; Niemeyer 2007). This model is described as being school based, non-selective, and based on the egalitarian type of universal welfare regime (Esping-Andersen 1990). Though the concept of a Nordic model might be relevant with respect to compulsory education (Blossing et al 2014), it is not for upper secondary education. None of the Nordic countries fit in the ideal types defined by Greinert (1999) or Ashton (2004), but Sweden and Finland on the one hand and Denmark and Norway on the other represent two different ways of handling some basic dilemmas.

Upper secondary vocational education in Sweden and Finland is mainly school-based and offers all students eligibility for higher education. Not all students actually, though, do acquire qualifications that provide access to higher education. The VET-systems in these two countries offer mainly broad vocational introduction and include limited amounts of work-based learning. Consequently, the access to the labour market is more prolonged and difficult than in the Norway and Denmark that have VET-systems based on the apprenticeship model. Youth unemployment has for many years been higher in Sweden and Finland than in Norway and Denmark that have VET-system with more work-based learning based on apprenticeship.

The apprenticeship model provides efficient transitions to employment for those who complete a vocational programme, and it contributes to a low level of youth unemployment (Pettersson 2006). But the strong and early tracking, especially in Denmark, tends to reproduce educational inequality between generations, and to maintain strong gender segregation in VET (Jørgensen 2015). The scarcity of training placements in the vocational programmes contributes to high drop-out rates and falling participation rates. In addition, VET increasingly appears as a ‘blind alley’ in the educational system as it does not give access to higher education (Jørgensen 2013). The Finnish/Swedish and the Danish solutions to the ‘double challenge’ mentioned above shows the difficulties of achieving access to higher education and the labour market and having high esteem and inclusiveness at the same time. The Norwegian 2+2 model combines both strengths and weaknesses from the two other systems of VET in Scandinavia. But the current problems of limited participation, decreasing esteem and high dropout rates demonstrates that the dilemmas defined above have to be addressed in the future development of VET in Norway.

The structuring and timing of the risks in the transition process in the work-based systems in Norway and Denmark is very different to those of school based systems in Sweden and Finland. In school-based systems the greatest risks lie after completion of a vocational education in connection with the transition into the labour market. The Danish and Norwegian cases confirm the advantages of dual systems (modern apprenticeships) in supporting the transition into the labour market, but also reveals the unresolved problem connected with early tracking and work based learning: the weak connections from VET to higher education.

Few comparative studies have explored these differences (like Olofsson & Wadensjö 2011; Pettersson 2006) plus some parallel country studies (Olofsson & Panican 2008). The Nordic countries offer very promising opportunities for comparative VET-research, because they repre-
sent similar models of welfare states and labour markets and yet represent substantial variation in VET-systems. This project will use a problem oriented, comparative approach to generate important new knowledge for the future development of VET in the Nordic countries. The next sections present short analyses of how the four Nordic VET-systems manage the dilemma of providing access to skilled employment and access to higher education at the same time. More extensive analyses can be found in the research reports on the homepage www.Nord-VET.dk

Sweden

Upper secondary education in Sweden represents most clearly the characteristics that are ascribed to the Nordic model of education based on universalism, equity and a low degree of selection and tracking (Antikainen 2010). The integration of vocational and general education in the unified ‘Gymnasieskola’ intends to give all young people opportunities to get access to higher education. This system has reduced early and narrow specialisation in work based training and offers broad general education for all to provide a social safety net and reduce class and gender bias (Arnesen & Lundahl 2006). The emphasis on academic qualifications favours students with strong socio-economic background and offers few opportunities for non-academic forms of learning. The strong connections of upper secondary vocational education to higher education implies that the links with the labour market are weak (Olofsson & Panican 2008). The vocational programmes do not as on Norway and Denmark offer journeyman’s certificate, but are only preparatory.

In 1991, the Swedish parliament decided a radical change of the upper secondary school including the VET-system. The reform took place gradually and was fully implemented in 1994 (Nilsson, 2009). The central aim of the 1991-reform was to create small numbers of vocational and academic study programs with broad scope that would allow for gradual differentiation and specialization in order to promote flexibility, lifelong learning and access to higher education (Lundahl & Olofsson, 2014). The role of working life orientation and preparation was redefined in the new national curriculum for compulsory school and for upper secondary school and municipal adult education. More attention was paid to the quality of subject content and academic preparation. The reform comprised the introduction of 17 3-year national educational programs, 14 of which were vocational (Appendix, table 2). The upper secondary vocational education was extended to include a third, mainly theoretical, year, which made the upper secondary vocational program students eligible for higher education, similar to students in the general programmes. This reform was a significant step to reduce the gap between the general programmes aiming at higher education and the vocational programmes. The VET-programmes are typically 85% school-based and include at least (or sometimes as best) 15 weeks at a workplace outside the school, so-called workplace training.

The increase of the elements of general education in the vocational programs weakened the connections between vocational education and the labour market. There is little formal frameworks for co-operation between VET providers and the labour market partners. This also implies that there are no national standing arrangements for consultation with labour market partners on emerging policy initiatives, such as, for instance, the development of an apprenticeship system (Cedefop,
To put it somewhat incisively, employers tend to see themselves as outsiders served by the education sector, not as partners and stakeholders who shape VET (OECD, 1998: 19).

Another challenge associated with the reform in 1991, is the problems with student throughput, particular in the vocational programs. According to the latest statistics from the National Agency of Education (2012), 23% of students did not meet the requirements for a final certificate after four years of study; and 36% did not achieve basic eligibility for higher education after four years (The National Agency of Education, 2012, comparative figures; Olofsson & Persson Thunqvist, 2014).

The strength of the Swedish VET-system is that it offers eligibility for higher education for all students in upper secondary education, even in the vocational programmes. This is a significant difference to the Norwegian and Danish VET-systems. With this opportunity, the Swedish VET-system, in line with the Finnish VET-system, comes closest to the principle of egalitarian Nordic education policy, which seeks to reduce social inequality in the access to all levels of education. However, this strength of the non-selective, comprehensive school comes with a significant weakness. Around one third of the students do not complete with a degree that gives access to higher education. Another weakness includes giving limited qualifications for occupational employment, as the programmes are only preparatory. In a number of occupations (construction, hairdressers), a final apprenticeship training is required after completion of three years upper secondary education in order to acquire a journeyman’s certificate.

The new apprenticeship programme 2011 intends to improve employability and make more students complete with certification, but this measure is at the expense of providing access to higher education. That is why this programme was reformed in 2013. Still, the enrolment and status of the programme is significantly lower than expected (Olofsson 2015).

Norway

The main model for VET programmes is the so-called 2+2 model, with two years of school based education, followed by two years of apprenticeship training in a workplace. Students who do not acquire an apprenticeship are offered an alternative school based training. Vocational programmes generally do not provide access to higher education. In this way, the Norwegian system has similarities to the Danish apprenticeship system. However, students in vocational programmes have the opportunity to choose a third supplementary school based year, qualifying for higher education. It is also possible to complete the supplementary year after completing an apprenticeship and graduating from the VET system.

The Norwegian VET-system combines features from the comprehensive, unified Swedish and Finnish upper secondary education and the Danish separate apprenticeship system. It combines some of strengths of both systems – and some of the weaknesses. The Norwegian system postpones the selection and separation of students in general and vocational education two years compared to the Danish system, which separates the students immediately after they complete compulsory education. Compared to Denmark, young people in Norway have more time to decide, if they will opt for higher education or choose an apprenticeship and enter the labour market with a journeyman’s certificate. The postponed selection tends to reduce social and gender inequality.
in education. In contrast to students in the Danish VET-system, the Norwegian students can after two years continue in one year of general education to gain eligibility for higher education, if they do not choose the two year apprenticeship. This opportunity for horizontal transition between the two tracks improves the opportunities for vertical progression to higher education. In order to provide this opportunity the two first years in the general as well as in the vocational programmes are mainly school-based, and since 2006 about one-third of the curriculum is ‘common core subjects’ (math, language, etc.) and two-thirds particular vocational subjects. The vocational subjects are divided in ‘common programme subjects’ and specialisation a so called ‘in-depth study project’. The in-depth study project is preferably organised as work-based training carried out in cooperation with companies.

The distribution of students between general and vocational programmes has been about 50-50 since the 1990s. However, only about one third of the students starting in VET complete the programme and obtain a trade or journeymen’s certificate within 5 years. About one third of the students change to a general programme along the way, and another third either drop out or fail the examinations.

After the reform of upper secondary education in 1994, the Norwegian model can be characterized as a hybrid model, combining elements from a comprehensive state-led model (like Sweden) and a collective skill formation model (like Denmark). One element from the state-based regime is that initial VET is deeply integrated in the national education system. School-based education and apprenticeship training are both regulated by national curricula. Formal decision-making powers on issues regarding the content and structure of the programmes rest with the national education authorities. However, the labour market organisations are involved through an infrastructure of tripartite bodies with advisory functions at the national and regional levels.

A significant achievement of the Norwegian VET policy is that it has succeeded in revitalising the apprenticeship system. After the reform in 1994, apprenticeship has expanded strongly, and it has been extended into new sectors outside the traditional craft and industry sectors. While apprentices in 1994 constituted only 3% of 17-19 year old in employment, this figure was at 11% in 2008 (Michelsen, Olsen & Host 2014). The success of the policy to expand apprenticeship in Norway is a contrast to similar policies in Sweden and Finland, where the re-introduction of apprenticeship has not been a success. The share of upper secondary education students in apprenticeship in Norway is still significantly below the share in Denmark (table 1). One explanation for the Norwegian success is that the institutions and traditions for apprenticeship in Norway were preserved until 1994, even though it was at a low level. In addition, the apprenticeship programmes generally had support from the employers, and were mostly not seen as a measure for social policy of inclusion of weak learners. In some industries, though, the introduction of apprenticeship programmes were mainly driven by the state, and the occupations have not gained any strong position in the labour market (e.g. Health assistants and Office & Administration).

Similar to other apprenticeship systems, the transition to employment from VET is generally smooth. The proportion of students with vocational education who enter employment is high, in both the short and the long term. Two thirds of the apprentices continue to work in the firm where they were trained (Nyen et al 2015). However, there are large variations between different vocational programmes. The most stable connection to the labour market is found among VET
graduates within electricity and electronics, and weakest among those with a vocational training aimed at the service sector, for example office work and health (Reegård 2016; Høst 2008). While more than 80% of the employed in the Construction and Electricity/Electronics industries work in full-time jobs, only 27% of the employed in Healthcare and Childcare work in full-time employment. Newcomers to the labour market in these occupations very seldom have access to stable, full-time jobs.

Though the main model is the 2 years mainly school-based plus 2 years work-based apprenticeship, the system allows for other models. Under certain conditions, apprenticeships may start after the first year, or even the very first year. It is then organized in a traditional dual model, with one or two days at school and the rest as apprentices in the companies. These alternatives have spread the last 5-10 years, especially in the building and construction industries.

Another distinctive mark of the Norwegian VET-system should be emphasised: Since 1950, an experience-based trade certification scheme has been provided for assessment and recognition of prior experiential learning. This opportunity gives adults in the labour market the right to pass the trade- or Journeyman’s examination upon proof of long and relevant practice. This scheme has been very popular, and it has played an important part in establishing new trades or training occupations.

Finland

The Finnish educational system has a long tradition for pursuing equal opportunities for participation in education. The establishment of a common nine-year basic education system started nation-wide at the end of the 1960s and this comprehensive education stabilised in the 1970s (Antikainen, 2007; Laukia, 2013). Like Sweden, Finnish initial VET represents a mainly school-based and comprehensive system of state-led vocational education. Upper secondary education is divided in general and vocational programmes, provided in separate institutions. Both offer three years of education. General programmes provide general eligibility for higher education, but do not qualify for occupational employment. The vocational programmes offer vocational qualifications, which provides general eligibility for polytechnic and university studies. Accordingly, vocational qualifications in Finland provide access to both the labour market and higher education. The opportunity to conclude vocational education that affords eligibility to higher education is a specific characteristic that differentiates Finnish VET from the Norwegian and Danish systems.

Vocational education and training in Finland is intended both for young people and for adults already active in working life. Employers have not been obliged to take a major responsibility for initial training of newcomers to their field of industry, but have left training to the state and the municipalities. There is no established tradition among employers for providing apprenticeship training as initial training, and apprenticeship has mainly been aiming at adults. In the early 1990s, apprenticeship training was promoted as an alternative for young people, but it did not have the expected success (table 1). In 2014, apprenticeship was presented as part of a ‘youth guarantee’ aiming at youth without any upper secondary qualifications. It remains to be seen whether the shift suggested by educational policy will be supported by the employers.

The vocational qualifications provided in the VET programmes are modularised and individu-
alized. Still, national qualification requirements standardize them. These requirements are decided by the National Board of Education and designed through co-operation between employers’ organisations, trade unions, the Trade Union of Education and student unions. The national qualification requirements also direct the content of local curricula designed by education providers. In contrast to apprenticeship system and Swedish model individual’s competences are assessed in skills demonstrations organized individually for each student during their on-the-job-training periods in relation to each occupational module. They produce information on students’ competence for the employer, student him-/herself, and the teacher. The status of Finnish VET qualifications is relatively weak in occupational labour markets compared to other Nordic countries. The model of VET is school-based, the transition to employment in Finland have been difficult, and youth unemployment rates are higher than in Norway and Denmark that have apprenticeship systems. The unemployment rates are highest among VET graduates, at 14 per cent. A study in 2012 indicated that 68 per cent of the students who started in VET in 2004 and graduated by 2009 were employed. However, there are big differences between different fields of study.

In contrast to the falling enrolment and esteem of VET in the other Nordic countries, enrolment in VET in Finland has grown a little over the last ten years. While 37% of compulsory school leavers went directly to initial vocational education and training in 2003, this number has risen to 42% in 2008 and has stayed at this level since. Two main reasons are given for this relative success of initial VET in attracting young people. The first is that all VET programmes following a reform in the early 2000s include work-based learning. Since the turn of the millennium, a number of new initiatives have been created with the aim of strengthening cooperation between working life and vocational education in Finnish VET. These include the introduction of work-based learning periods and skills demonstrations as part of school based VET. The minimum overall length of work-based learning is 6 months of the 3-year vocational programmes. The aim is to provide vocational skills in accordance with the requirements of the labour market and to promote students’ employment opportunities, as well as to facilitate the recruitment of skilled labour in the labour market. Work-based learning does not require a training contract between the employer and the student and students do not get paid for work duties completed during the training periods. In addition to extending the length of work-based learning periods in VET, measures have been taken to improve the quality of the training and facilitate students’ structured and self-directed and interactive learning. This includes a shift from the traditional behaviourist forms of training towards more experiential and cooperative forms of learning based on a larger variety of learning methods (Virolainen & Stenström 2014). The local organisation of on-the-job learning periods involves agreements between employers and vocational education institutions regarding the sharing of duties between the participants, the organisation of student guidance, and student assessments as well as possible reimbursements to the employer (Tynjälä, Virtanen, & Valkonen, 2005). In addition, employers and educational institutions must agree on the aims and essential contents of work-based learning together with its length and timing.

The second reason given for the increased popularity of VET is that they give access to higher education. As a result of the commitments undertaken in educational policy, the Finnish education system has no dead-ends. Students’ opportunities to progress from one level of education to the next are safeguarded by legislation. Both general and vocational upper secondary certificates
provide eligibility for further studies. In addition, new institutions of higher vocational education have been strengthened during the last 20 years. The Finnish polytechnics (universities of applied sciences, UAS) were created in the 1990s as a parallel tertiary education track with a competitive status, but distinct profiles and missions. By 2000, all polytechnics were established on a permanent basis. The extent of polytechnic degree studies is generally 3.5 – 4 years of full-time study. Around 14% of graduates with a VET qualification from the upper secondary level have moved on to higher education at a university of applied sciences within two years of their graduation. If we look at the entrants to UAS, the picture is different. In 2003, 24% of entrants to UAS had a VET qualification as their former education background, and 13% had completed both general and vocational upper secondary education (Virolainen & Stenström, 2014).

**Denmark**

The connection between the dual system of VET and the tertiary level of education is weak in Denmark, while the connection to the labour market is very strong. The completion of a vocational programme in the Dual System of VET in Denmark (apprenticeship) gives smooth access to skilled employment. During the vocational programmes, the students typically become well integrated into the labour market. Around half of the students from the technical programmes continue as employed in the company where they were trained. Their transition to the labour market has been achieved successfully, when they complete VET. Typically, they will be members of a skilled workers union and have a strong occupational identity. This smooth transition does not cover the large group of young people who enrol in a vocational programme, but drop out before completing. The high dropout rates in the basic course of VET shows that transitions inside the Danish VET-system have become more difficult, especially the transition from the school based course to a work-based training placement (Jørgensen, 2015, 2013). The difficult transition point in the Danish VET-system is located between the basic course in a vocational school and the main course in a training placement in a company. Once the students have completed the apprenticeship placement, they start receiving high introduction wages and generally have high employment rates. If they want to progress to higher education, they have to break off from this trajectory and re-enter the educational system, which relatively few do.

This strength of the Danish VET-system also represents a major weakness. Generally, the VET programmes do not provide eligibility for higher education (only to a limited range of short cycle post-secondary programmes). This makes VET appear as a dead end in the education system. This is a major challenge for the future of the Danish VET-system. Over four decades it has been the intention of policymakers to improve the permeability from initial vocational education to higher education. But the measures taken to achieve this have not been successful, and the share of students progressing from upper secondary vocational education to higher education has decreased for the last two decades (Frederiksen et.al. 2012). Several reasons can be identified for the low rate of progression to higher education from upper secondary vocational education.

First, the tracking of upper secondary education and the structure of the educational pathways diverts young people who complete a vocational education, from progressing to higher education. This is in accordance with the ‘diversion effect’ of a separate vocational track found in interna-
tional research on young people’s transition pathways (Aynsley & Crossouard 2010; Iannelli & Raffe 2007; Holm et al. 2013). Students in the dual system of VET are not being prepared for entrance into higher education. Secondly, the social and cultural background of the students in the vocational educations make it less likely that the students progress to higher education. In their family and social environment, higher education is unknown territory and investment in higher education has an uncertain outcome (Jørgensen 2013). A third reason relates to the life course of vocational students. When vocational students complete their education and enter the skilled labour market, they have earnings close to the earnings of the experienced workers. Apprentices double their income, when they change status from being an apprentice to become an ordinary employed craftsman. Financially, it is not very attractive for them to take at least two or three years out for studying.

The labour market organisations have a more dominant role in the governance of the VET-system than in the other Nordic countries. These organisations constitute the backbone of the political coalition supporting the existing apprenticeship system of VET. They have rejected the unification strategy for upper secondary education that has succeeded in the other Nordic countries. Instead, the main stakeholders of the Danish VET-system have opted for a strategy for enhancement of vocational education, to use the terms proposed by Lasonen & Young (1998). The enhancement strategy means improving VET as a separate track and emphasizing the distinctive qualities of vocational education. This strategy has been successful in maintaining VET as an alternative for young people not opting for higher education. However, it has at the same time made VET appear as a dead end, limiting the future opportunities of young people.

The continued tracking and the organisation of VET as a separate track is related to the early institutionalisation of a corporatist form of governance of VET, which gives the labour market partners an extensive control over vocational education (Juul & Jørgensen 2011). The evolution of this ‘dual-corporatist’ system (Greinert 1999) has contributed to sustain the craft type of unions that have engaged in the upgrading of occupational skills and improvement of the opportunities for further education courses and training of their members. Similarly, the Federation of Employers have opposed reforms to integrate the two tracks, as they have feared that this would reduce the dominance of vocational skills in the programmes and thus the employability of the skilled workers. In this arrangement an occupational concept of qualifications has been dominant and has prevented the introduction of hybrid qualifications that could give access to higher education. However, in 2011 a new combined programme, eux, offers hybrid qualifications and the enrolment in the programme has been quite promising (though only below 2% of the vocational students). In the Danish chapter on innovations, we will examine this programme in more detail.
Tables

<table>
<thead>
<tr>
<th>Table 1. Share of students in upper secondary education in apprenticeship (in %)</th>
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<tr>
<td>Share of upper secondary education</td>
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<tr>
<td>students in apprenticeship</td>
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<td>Share of total number of students in apprenticeship</td>
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<td>Denmark</td>
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<tr>
<td>40,5</td>
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<td>20,6</td>
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<td>Finland</td>
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<td>3,4</td>
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<td>1,9</td>
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<tr>
<td>Norway</td>
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<td>14,4</td>
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<td>8,3</td>
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<tr>
<td>Sweden</td>
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<tr>
<td>0,9</td>
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<td>0,5</td>
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<td>Source: Segendorf p.18</td>
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<th>Table 2: Unemployment rates of 25-34 year-olds</th>
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<td>Denmark</td>
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<tr>
<td>3,9</td>
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<tr>
<td>Sweden</td>
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<tr>
<td>5,6</td>
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<tr>
<td>Norway</td>
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<td>3,7</td>
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<tr>
<td>Finland</td>
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<tr>
<td>10,4</td>
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<td>Source: OECD Education at a Glance 2015 Table A5.4a.</td>
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Introduction to Nord-VET and the Nordic VET-systems


24
Introduction to Nord-VET and the Nordic VET-systems

Thelen, Kathleen 2004. How Institutions Evolve: The Political Economy of Skills in Germany, Britain, the United States and Japan. New York: Cambridge Univ. Press


Recent reforms and innovations in Swedish Vocational Education and Training
1. Introduction and aim

In this report we discuss the recent reforms and other innovations within Swedish initial VET since the mid of 1990s. Using a descriptive approach, we will analyse the current state of play for initial VET in relation to what we in the Nord-VET project address as key challenges for the Nordic VET systems. One of the challenges concerns the double challenge of creating and maintaining strong links between education and the labour market while at the same time securing young people’s pathways to further studies and higher education. Related to this double challenge is the associated policy-goal for achieving parity of esteem between general and vocational upper secondary education respective social inclusive goals. However, the different policy-goals of initial VET can sometimes come in conflict. That is, something that is intended as an improvement in one area can have negative side effects in another area, thus leading to a numbers of dilemmas for policy-makers.

Regarding the sources or agency for innovations in the field of initial VET one may distinguish a range of various sources, such as: politically initiated innovations; internal initiation of education change (e.g. the initiatives of education personnel); external transactions where groups outside education impose new demands and pressures on schools (Lundahl, 2011; Billett, 2014). The first part of the report illuminates governmental reforms and innovations that might indicate more or less profound changes within the school-based VET-system in Sweden. Here, the latest educational reform of upper secondary school and the political movement to create a stronger fit between initial VET and working life, including the reintroduction of regular apprenticeship programmes in the gymnasium, is a case in point.

Such politically driven reforms and innovations can in turn be analysed in relation to the institutional preparedness of school institutions and labour market organisations to make the indented education changes to happen in reality. Even if school institutions are influenced by educational policies, they enjoy a relative autonomy vis-à-vis governmental politics. In consequence, adjustments and different interpretations of political reforms are made in school settings in accordance with the values, norms, and conditions that constitute and reproduce the institutions (Streek & Thelen, 2005). Besides changes initiated by governmental politics, the report will also point at the recent innovations emerging from different labour market sectors that need skills provisions from upper secondary schools.
2. Recent reforms and the movement toward the world of work

In recent years vocational education and training has been subject to reforms in Sweden, and several innovations have been made as attempts to handle current challenges in the field of initial VET. While school-based VET still dominates the scene of initial VET, the most recent 2011-reform of upper secondary school has been given an upgraded priority for strengthening the vocational side of the gymnasium as well as increasing the quality of workplace learning and apprenticeship. The reform comprised at least two significant changes compared to the previous reform cycle in the early 1990s, characterised by strong integration between vocational programs and higher educational programs.

Since 1994, all programs have been organized to provide better general education as well as basic eligibility for higher education. This integrated system was replaced by a modified system (comprising 18 national programs, 12 of which are vocational) with three broad orientations: (a) general education, mainly for those intending to pursue higher education; (b) school-based vocational programs; (c) workplace-based apprenticeship. All programs lead to a diploma. Second, the new system aims to ensure that VET students acquire more specific vocational training (Olofsson & Persson Thunqvist, 2014). While the vocational content and subjects increased in the VET-programs at the expense of general education, the links to higher education became weaker.

The latest 2011-reform (henceforth GY-11) of upper secondary school can be seen as part of a broader policy-trend and political movement toward the world of work. Looking at the national educational system as a whole, several political reforms have been conducted since the mid-1990ies. In 1996, the government launched the reform of Advanced Vocational Education (AVE) in order to meet the demands from domestic industry and commerce, but also to counteract youth unemployment (Lindell & Stenström, 2005). Since early 2000, regular programs provide tailored education in close cooperation with working life. A common characteristic of these programs from different parts of the educational system is the effort to bridge the existing gaps between the world of education and the world of work. The reforms also respond to the difficulties, experienced in various sectors of the educational system, including the gymnasium and adult education. Difficulties are experienced regarding a mismatch between what schools can supply and what the labour market demands (Nilsson, 2008). By bringing educators and representatives or working life together, the political intentions behind the reforms were to develop frameworks for cooperation and new innovative forms of workplace learning.

The mismatch between school and labour market needs for skills provisions in different sectors have also been a decisive factor for the rise of innovative forms of organizing networks and partnerships between schools, companies and labour market partners. Technical Colleges and Healthcare Colleges have been established (Andershed & Ljungzell, 2009). Here, working life representatives have initiated far-reaching cooperation with each other and with schools. These non-profit organizations have been recognized by the government as innovative in contributing to strengthen the quality of different vocational programs (SOU, 2010). In particular, these organizations have gained an important role for increasing the status of schools and programs that qualify for branch-specific certificates by fulfilling certain quality-standards (Persson-Thunqvist & Hallqvist, 2014).
Apprenticeship has become an important question on the educational agenda as well. Inspired by an ongoing educational debate on whether the dual systems of Denmark, Germany and Austria are better at dealing with youth unemployment and fostering skills for modern economies, the former government (since returning to power in 2006) has pushed for a re-introduction of apprenticeship. Although the opposition parties and large trade unions (particularly LO) have been critical to many parts of the reform (see below), they have gradually acquiesced with the former government’s ambitions to expand the apprenticeship-component in upper secondary school.

The upper secondary report (SOU, 2008) that preceded the launch of GY-11, concluded that extensive improvement in vocational tracks had to be made regarding the generally weak links to the labour market. First, initial VET in Sweden shares the disadvantage of all school-based VET in terms of preparing students for working life (“job ready”), and in keeping up with technological development in advanced industry-settings and workplaces. In the well-regulated Swedish labour market, these characteristics of school-based VET also contribute to youth unemployment. Second, high drop-out rates from the vocational programs during the 1990s were regarded as connected with the strong theoretical and higher education preparatory orientations in the vocational programs. These were also the main arguments in the policy-text for need of developing a modernised form of apprenticeship as a regular feature of upper secondary VET (SOU, 2008).

2.1 Emergent tensions and dilemmas in the initial VET reforms

Since the launch of GY-11, one of the major issues within educational policy concerns the decline of students in the vocational programmes. Since 2007 there is a decline from approximately 39 per cent to 27 per cent 2013 (Table 1). The decline is largest among females (from 36 % 2007 to 22 % 2013). It is lower among men (from 42 % 2007 to 32 % 2013). The decrease of students in the vocational programs coincides with decreased pupil cohorts, affecting the gymnasium as a whole. Table 1 below also indicates some other recent changes. Since 2006/2007 it is possible for municipalities and school companies to provide individual programs for students who are not eligible for national upper secondary programs. These programs cover different forms of education, including apprenticeship and vocational training (see Figure 2 for the distribution of students to the new apprenticeship programs). Moreover, since GY-11, the former Media vocational program is integrated into the general programs.

Table 1. Distribution of upper secondary students (year 1) by program (General, Vocational and Individual programs)

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<tr>
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<tbody>
<tr>
<td>General</td>
<td>51,2</td>
<td>46,7</td>
<td>53,3</td>
<td>58,7</td>
</tr>
<tr>
<td>Vocational</td>
<td>48,8</td>
<td>39,4</td>
<td>33,6</td>
<td>27,5</td>
</tr>
<tr>
<td>Individual</td>
<td>13,8</td>
<td>13,2</td>
<td>13,2</td>
<td>13,7</td>
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</tbody>
</table>

Notes: Adopted from Statistical Sweden, 2013 and Skolverket, 2013: 21. It should be noted that individual programs earlier (before 2000) often were included in the vocational programs in public statistics.
The political movement (driven by the former government) toward creating stronger ties between school and working life, implicates weaker connections to higher education. In the current educational debates the weaker links between initial VET and higher education are generally discussed as a decisive factor for the decline of applicants to vocational programs. The strength of the school-based initial VET system has for a long period of time been associated with strong integration between different educational tracks. Internationally, it is widely recognized that early tracking in educational systems creates initial VET as a route for the less fortunate with respect to general education (Bourdieu & Passerson, 1997). By bridging the gaps between school-based vocational education and higher education, the Swedish model of VET has also aimed at increasing the parity of esteem between vocational programs and general programs. Even if transitions from vocational programs to higher education programs in reality have varied considerably over time, the mere possibility for young people to keep doors open to different imagined futures has been a core value (Lundahl & Olofsson, 2014).

GY-11 has also been met with opposition. Within the educational policy, the left wing political parties (Social Democrats, Left Party) and the Green party have criticized the reform for creating dead alleys in relation to higher education. Criticism has also been directed at the social stratification. The opponents argued that differences related to class, gender and ethnicity will increase because young people are forced to make carrier decisions at a very early state of their educational and vocational carriers (Lundahl et al, 2010). The Gy-11 reform has also been criticised for lacking a long-term perspective on future demands in the labour market and economy, and for pursuing the interests of local firms at the expense of national interests (Lundahl et al, 2010).

However, there is also a more fundamental criticism directed at GY-11. It describes the reform as a historical break in the modern history of initial VET. Educational research (Fejes & Nicoll, 2008, Nylund, 2012) have pointed out that previous core values in the educational system in terms of citizenship, democracy and equality have been largely replaced by another grand narrative concerning employability and efficiency (e.g. smooth transitions from school to work). According to the critics (Nylund, 2012), the notion of employability shifts attention and responsibility away from the structure of the labour market to the individual’s ability to acquire the skills necessary. One main criticism concerning GY-11 is that the stronger division between different educational programs will enhance the social division of labour between the work of the hands and the work of the minds. These different positions in the ongoing discussion in Sweden might point at some genuine dilemmas for initial VET. One the other hand, the need to improve the school-work ties is generally recognized as a key within VET-policy and there seems to be a broad political consensus of the value of a larger apprenticeship component within upper secondary school (Olofsson, 2014). If a modernized apprenticeship had the capacity to secure employment for young people in skilled occupational work, while at the same time contribute to good working conditions and individual development, this could perhaps increase the general esteem of apprenticeship.

The following sections will explore the ways in which key challenges and dilemmas have manifested themselves and how they were managed through the initiation of the new vocational programs and the apprenticeship track within the gymnasium. The focus will particularly be on the main challenges for apprenticeship when trying to bridge the existing gaps between the world of education and the world of work.
First, we will deal with the challenges when bridging existing gaps between apprenticeship, school-based VET and higher education. Given that initial VET in Sweden has followed a path-dependency at least since Second World War toward a state-regulated school-based system (Olofsson & Persson Thunqvist, 2014), and given the strong institutional and cultural traditions that have been established and intertwined during this historical trajectory, it is not likely that the political intention to radically expand apprenticeship within the gymnasium will come easy or become a “quick fix”. In addition, before the 2011-reform, apprenticeship has mainly been used by previous governments as a social-political measure within the field of youth politics to deal with youth unemployment and other social problems (Olofsson, 2014). In fact, since the initiation of the pilot apprenticeship scheme in 2008, the apprenticeship track in the gymnasium is still characterized as a rather small track (Figure 2, Appendix) in progress and not yet fully established in the secondary school system. Hence, the initiation phase can be analyzed as a dynamic process marked by gradual institutional adjustments and innovations in relation to the four challenges.
3. Bridging the gap between apprenticeship, school-based VET and Higher Education

3.1 Situating apprenticeship within school-based VET

Since the 2011-reform or upper secondary school, apprenticeship comprises a regular part of the gymnasium as one of three educational pathways. Upper secondary schools are responsible for providing apprenticeship education along with school-based vocational programs. Goals and syllabi for these two pathways are formally the same, but students in apprenticeship education spend at least half of their time at one or more workplaces. Since 2013, the apprenticeship track also formally qualifies for higher education (Skolverket, 2013).

As Sweden lack well-established traditions of apprenticeship in the gymnasium, some interesting questions arise: What is the actual role of apprenticeship within the upper secondary educational system as a whole? Do the new apprenticeship programs first and foremost work as a supplement or an alternative to the other educational pathways? The following section will focus on these significant questions, which are largely under-researched in the Swedish educational context.

Firstly, therefore, we will briefly situate the apprenticeship track in relation to previous research on initial VET in Sweden. Significant part of research on apprenticeship in Sweden has been based on comparative approaches examining how different VET-systems and transition regimes support young people’s transitions from school to work (e.g. Arnell Gustavsson, 2007; Olofsson & Panican, 2008; Olofsson, 2014). In an international perspective, similar to Finland (Virolainen & Stenström, 2014), apprenticeship in Sweden has mainly been developed outside the upper secondary school system. Hence, upper secondary apprenticeship in Sweden has to be contextualised in relation to the historical development of the school-based VET-system (Olofsson & Persson Thunqvist, 2014). Within this system, apprenticeship has retained a rather marginal role.

Recently, qualitative research has also examined the functions of vocational training in relation to other educational programs within the gymnasium (for a brief overview see Olofsson & Persson Thunqvist, 2014). Within school-based VET, vocational training and apprenticeship can be situated in the midst of two different but overlapping cultures: the vocational and the academic. This also applies to vocational teachers, who stand with one foot in each culture. In particular, research on vocational training has focused on the boundary work between school-based VET and working life (Berner, 2010; Fejes & Köpsén, 2012), demonstrating both similarities and differences between school-based vocational training and workplace-based training. Some similarities are striking since vocational training in both schools and at workplaces often are geared toward a clearly defined vocational labour market. Therefore, they are both part of a similar and wider culture with many linking attributes (e.g. Hodkinson, 2005; Berner, 2010). In addition, even in a school-based system, vocational training differs significantly from the so called core-subjects (e.g. Swedish, Mathematics). While the former consists of intense interactions between students and vocational training teachers, tools and machines, the latter are more academically oriented.

A few Swedish studies have compared company-based apprenticeship-training with school-
based vocational training for industry work (Berner, 1989; Carlsson, 2001) and work in the service sector (Arnell Gustavsson, 2007). In contrast to school-based vocational training, industry-based schools can select its students and thus get students with “better” educational background. Furthermore, industry-based schools generally have more advanced machines and many more weeks of factory-based training of an apprenticeship character. Also in the service sector, employers generally prefer to recruit committed students even if they are formally over-qualified for the unskilled job at hand (Arnell Gustavsson, 2007). The major advantage of school-based training, however, is that schools are more oriented to social inclusive goals. Students with low grades are given possibilities to gain competences and self-esteem, partly because of the support of their teachers and inclusive working methods (Berner, 2010).

Apprenticeship in the technically oriented programs differs from other school-based VET-programs in Sweden as they have been under considerable influence by labour market sectorial conditions during a considerable amount of time. There is a long tradition of apprenticeship outside the school system in the sectors that are closely linked to the school-based vocational programs. The path vocational students have to follow to become a certified and fully paid construction worker follows a standardized model consisting of seven steps: a completed upper secondary construction program (3 years; step 1-4) plus apprenticeship in the construction sector (2-3 years; step 4-7). While this standardized model for school-to-work transition and occupational socialization is well-recognized, research on the construction programme (Härding, 19954; Berglund, 2009; 2014) also reveals a recurrent tendency that this model contributes to preserve traditional forms of apprenticeship (e.g. strong power asymmetry between apprentices as “novices” and experienced workers as “masters”), social structures (e.g. working class masculinity cultures), and distinctions between “work of the hands” and “work of the minds”. At present, this particular model (i.e. school-based VET complemented with final apprenticeship) is also under debate within the construction sector. One issue concerns the extent to which the model is flexible enough to accommodate innovations in work organisation and in keeping up to date with technological development within the construction trades (Berglund et al, 2014).

Other studies have focused on hybrid forms of vocational training and workplace-based learning in school-based VET (e.g. Persson Thunqvist & Axelsson, 2012a; Persson Thunqvist, 2012). Workplace-based learning (APL) is mediated by different educational traditions with roots both in school and working life and, in addition, youth cultures in school. This results in multi-functional educational practices but also inbuilt contradictions between different logics and functions (e.g. school-based individual grading of pupils vs. cooperating as a team in “real” production work). In addition, in the intersection between school and working life, hybrid educational practices (e.g. project-based work) occur in cases where different categories of teachers and professionals from working life cooperate and integrate different traditions of knowledge and competencies. Potentially such local initiated innovations might also transgress historically rooted distinctions between “theory” and “practice” in initial VET, but also challenge gender-distinctions. For example, in the former Media vocational program, close cooperation between professional film-producers and TV-producers respective vocational teachers, created opportunities for female students to participate in vocational training aimed for technically oriented, and conventionally male-dominated, occupations within the media and culture sectors (Persson Thunqvist & Axelsson, 2012b).
However, from an institutional perspective, the vocational programs and the apprenticeship programs are also part of upper secondary school system and its particular goals. One point of interest then becomes the institutional connections between the new apprenticeship program and the vocational programs.

3.2 Connecting school-based VET and apprenticeship: towards a hybrid model?

The initiators of the GY-11 reform put considerable emphasis upon the new character of apprenticeship as an alternative track for youth, thereby making the workplace in enterprises or public institutions (e.g. hospitals) into a learning site that is equivalent to school (SOU, 2008; 2010: 75). At the same time, according the educational goals, school-based vocational education, core subjects and workplace training in the apprenticeship programs should be joined together to form a whole (Skolverket, 2013). This also implicates strong institutional connections between different parts of the upper secondary system. In policy texts, the differences between school-based vocational training and workplace-based training are also emphasized. The central goal for workplace training is that students become part of the vocational culture and community at a workplace, and develop vocational identities (Skolverket, 2011: 2). Such professional socialization is difficult to achieve in school-based training only.

Recent comparative research on the development of initial VET in Denmark and Sweden (Dobbins & Busemeyer, 2014) has characterized the current apprenticeship track in Sweden as “a hybrid model in which school-based vocational education is complemented with school-organized apprenticeship” (p. 22). In contrast to the dual system in Denmark with apprenticeship as a parallel system and with strong links to the labour market, in the Swedish school-based system, there is yet not so much trust in the capacity of firms and workplaces to create pedagogical milieus without the support of schools (e.g. experienced supervisors and teachers).

It could be discussed, however, if the current apprenticeship program has yet taken the form as a distinct “model”. Compared to Norway with more established traditions of apprenticeship integrated in the upper secondary school system, the coupling between school-based VET and apprenticeship are still under progress in Sweden. In the Norwegian so called 2 + 2 model, the linkages between school-based and firm-based VET are (since the 1994-reform) structured in a fixed, statutory sequence consisting of two years of education in school followed by two years of training in the firm as an apprentice (Michelsen, Olsen, Høst, 2014: 69). At present, the Swedish apprenticeship programs lack a fixed structure between school-based VET and workplace-based learning. This has created organizational problems that are currently on the educational agenda.

Evaluations of the apprenticeship programs reveal that school-based training and workplace-based training in many schools are organized as separate tracks (School Inspection, 2013). That is to say, in practice, the work that the students conduct at workplaces is seldom related to what they learn in the school settings, and vice versa. Core subjects, vocational subjects and workplace training tend to be treated as separate units and blocks, with weak connections to each other.

A related issue is at what point in the educational career it is advisable for students to begin
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Apprenticeship training. In the trial with apprenticeship, students mostly started apprenticeship directly after primary school (16 years old). Since the launch of GY 11, many schools have chosen to gradually assume students to apprenticeships first to grade 2 (Skolverket, 2013). This gives the students a greater opportunity to assess what an apprenticeship track means and also to get more information about different occupations that the vocational programs are directed to. Given the weak connection between primary school and working life, pupils in primary school might have difficulties in making informed decisions about their future occupations and carriers during their last year in primary school. Industry organizations and companies involved in the apprenticeship program generally prefer that students receive a basic year of vocational education in school before starting work-based-training (Skolverket, 2013). Students are then supposed to become better equipped for vocational training in a workplace.

Yet, there are institutional conditions in the school settings that work against the postponement of apprenticeship until the second year. Formal requirements that half of the apprenticeship takes place in a workplace and the fact that the state grant is to search already the first semester are factors that pushed schools to accept pupils who come directly from primary school. The upper secondary schools as informal arenas for socialization into youth and peer cultures might also play a role. Once young people in year two start to know each other in school, they might find it hard to break up the community to join the main part of the education at a workplace with adults. In fact, according to recent evaluations (Skolverket, 2013), this is one of the reasons why students shift from apprenticeship to a school-based vocational program during their second year. This pattern is prominent in municipal schools where apprenticeship is integrated into the regular vocational programs. It is less prominent in school companies that only offer apprenticeship.

3.3 Improving the progression from initial VET to higher education

The institutional connection between apprenticeship and school-based vocational education is also important for linking apprenticeship to higher education. If different parts of the upper secondary school are disconnected, such division will likely affect students’ possibilities to formally qualify for studies at a tertiary level. A related challenge concerns the degree of equality and comprehensiveness versus differentiation and elitism. As mentioned earlier, the latest GY-11 reform created a stronger division between vocational programs and higher education preparatory programs. Some of the previous largest vocational programs (the Media program, the Art program) were integrated in higher education preparatory programs with small amount of vocational training. In order to increase the prestige of secondary education for industry work, the possibility to develop the Technology program to include several vocational trajectories for industry work is on the current political agenda. In GY-11, the apprenticeship track was expected to deal with problems partly created by an upper secondary school system dominated by programs with a strong orientation towards higher education. The apprenticeship program provided an opportunity for young people to get away from school on a road that ultimately could provide a faster route to a specialized occupation (SOU, 2010).

At present, however, several attempts have been made by the government to change the image
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of the apprenticeship as the track for “school-tired” and academically unmotivated youth. Public information about the programs accentuates that apprenticeship training is an integrated part of the gymnasium and by law it also prepares for higher education. The most common question schools receive from the public since the launch of GY-11 is pupils’ parents’ inquiries if apprenticeship will keep the doors open to higher education (Skolverket, 2013). When the apprenticeship track was introduced in 2011, the students had to make an active choice if they wanted to complement their education with courses that gave them basic eligibility for higher education. Gradually, educational providers at local level have started to integrate these courses in their programs so that students had to actively choose if they did not want to join them. Hence, the division between different educational tracks is partly downplayed in advertising the apprenticeship to students and their parents. Nowadays, educational providers and organizers of apprenticeship even advertise that they “guarantee” that students study for a basic eligibility for higher education, which students are entitled to according the Education Act (Skolverket, 2013).

Despite the formal eligibility to higher education, many difficulties remain when making the progression from apprenticeship to the tertiary level to work. The prerequisites for gaining eligibility for higher education are different in the apprenticeship track compared to the vocational programs. As the apprentices spend more time at work than in school than their peers in school-based vocational programs, they have less time to engage in the core-subjects and vocational courses in school. An additional challenge is to provide equal access to higher education to all students regardless of their social background. A well-known pattern regarding the academically oriented education is that different social groups have different perspectives on education and schooling. Among academically educated people, education is viewed as a goal in itself and as a norm. However, the upper secondary school system in Sweden is to some extent differentiated by social class as well as gender. The majority of students in the male-dominated technically oriented vocational programs prefer an early entrance into working life (Härdig, 1995; Högberg, 2009). Dissertations based on close-up descriptions of vocational students participation in the core subjects (Högberg, 2009; Kärnebro, 2014) illuminate how students recurrently resist subjects that they perceive as not immediately relevant for their future occupation. However, the dissertations also reveal that vocational students generally want to get good grades (to pass the courses) since they assume that poor grades will negatively affect their chances to get a job. While issues regarding social class and gender are central in current Swedish educational research (Nylund, 2012), the priority within VET-policy (in terms of social inclusive goals) is directed to meet educational needs of young people that otherwise tend to get caught in precarious positions and categories in the labour market: Youth lacking final grades from primary school and non-Scandinavian immigrants (Olofsson, 2006; Skolverket, 2013). We will get back to this issue in a subsequent section (6.2) when we discuss the function of apprenticeship as a social-political measure to fight against social marginalization and exclusion.
4. Bridging the gaps between apprenticeship and the world of work

4.1 Transition from apprenticeship to labour market

Previous comparative research reveals that longer periods of work-based training in vocational programs enhance the connections to the labour market and generally support fast transitions from school to work (e.g. Raffe, 2008). In a Nordic context, the upper secondary apprenticeship system in Denmark clearly differs from the Swedish trials with apprenticeship in the gymnasium, in terms of stronger institutional networks that support apprenticeship. For example, employers and unions have a larger role in the design, updating, delivery and assessment of vocational training (Helms Jørgensen. 2004; 2014). Hence, the working life value of apprenticeship is generally more strongly recognised in the Danish system compared to Swedish initial VET, historically marked by an “educational logic”. Recently, however, the “employment logic” (Iannelli & Raffe, 2007) has been stronger within Swedish VET. This seems particularly to be the case in Advanced vocational education (adult education) profiled by a large amount of workplace learning. National statistics (Myndigheten för Yrkeshögskolan, 2013) show that approximately 87% of the students had an employment one year after the completion of vocational program. These programs are generally characterised by strong links with the labour market and are also rather specialised and connected to certain occupations.

The same applies to the technically oriented vocational programs (e.g. construction, energy, electricity) in upper secondary school where students generally have the fastest access to the labour market (Statistics Sweden, 2002). These programs are characterised by a large amount of workplace-based training oriented to well-defined occupations and with established certification systems.

In the case of the regular upper secondary apprenticeship programs, transitions to working life are not well-documented. The first report based on national statistical data (Statistics Sweden) will be available 2007 three years after the first student cohort has graduated from the new regular apprenticeship programs (since GY-11). At present, however, information about transitions from the apprenticeship programs to working life cover only those well-established schools and programs that regularly conduct evaluations. Indeed, some schools are successful (Skolverket, 2013; School Inspectorate, 2013) in providing smooth transition to work for those young people that complete an apprenticeship program. However, many schools do not conduct such evaluations on a regular basis. At present, schools also report enrolment patterns to different national statistical registers; one based on students that receive state funding (in 2012 6 191 students) and one based on students who get aid from the CSN-organization (in 2012 5842 students). Public statistics are often based on the former register (Skolverket, 2013: 22). In consequence, it is not clear how many students are actually enrolled in an apprenticeship program during a certain semester. Lack of accurate statistical data makes it also difficult to track apprentices’ carrier development in a long-term perspective. Hence, it is too early to say whether the upper secondary apprenticeship programs will follow the same pattern as those European countries with a longer tradition of apprenticeship.
4.2 The new school companies: innovators and competitors in apprenticeship

In the pilot scheme with apprenticeship (2008-2011) that preceded GY-11, the launch of apprenticeship largely took the shape of start-ups. A handful of school companies soon took the lead in receiving state funding, offering apprenticeship as an alternative pathway for those youngsters that have had difficulties in graduating from the primary school.

Table 2. Apprentices within municipal respective independent upper secondary schools 2010/11 till 2012/13 (year 1, spring semester).

<table>
<thead>
<tr>
<th>Apprentices Numbers</th>
<th>Municipal</th>
<th>Total</th>
<th>Independent schools</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Praktiska</td>
<td>Yrkesgymnasiet</td>
</tr>
<tr>
<td>2010/11 (Trial)</td>
<td>1 109</td>
<td>2 575</td>
<td>2 197</td>
<td>191</td>
</tr>
<tr>
<td>2011/12 (GY-11)</td>
<td>902</td>
<td>1 351</td>
<td>754</td>
<td>419</td>
</tr>
<tr>
<td>2012/13 (GY-11)</td>
<td>728</td>
<td>1 145</td>
<td>552</td>
<td>462</td>
</tr>
</tbody>
</table>

Source: National Board of Education, 2013

The subsequent decline of students in the vocational programs has been most noticeable in school companies (in particular Praktiska) exclusively engaged in apprenticeship. These schools have not the same opportunity as the larger municipal schools to economically and practically compensate small numbers of vocational students with the greater numbers of applicants to the academic oriented programs. As equipment and tools for conducting vocational training are expensive for schools, training placements could not easily be replaced by school-based vocational training. In general, both municipal schools and independent schools with small apprenticeship tracks and small teaching groups also tend to have difficulties in establishing relations with the labour market partners and, consequently, to get access to qualified training placements.

This, in turn, contributes to high drop-out rates and decreasing esteem. Indeed, these schools are caught in a vicious circle that makes it difficult to survive in a decentralized educational market characterized by a strong competition among local schools for attracting students and employers. The situation is worsened because of the lack of legislation for regional coordination of apprenticeship and other forms of vocational education. Today, legislation requires that program committee is associated with a school. Regional program board and regional health and social care colleges and technical colleges have been encouraged by the government and various industries to create better conditions for co-operation between schools and to ensure the quality of different apprenticeship tracks. We will get back to this issue soon.
4.3. Different sectorial conditions for expanding apprenticeship

Since GY-11, the conditions for expanding apprenticeship differ to a large extent between national vocational programs and regions (Olofsson, 2014). Although the apprenticeship tracks remain small on national level, some local and regional innovations, such as Technology College and Health and Care-College, have contributed to develop the new organizational forms for strengthen cooperation between initial VET and different branches. Next, therefore, we will briefly analyse what jointly characterises cases where the conditions for expansion have been most favourable as well as point at some main difficulties. The main source of statistics is based on the latest evaluation made by National Agency of Education (2013).

The expansion of apprenticeship has been paramount within some of the largest national school-based programs; construction work, VVS, energy, transport and health and care. Looking at these cases from some distance, the recent development of apprenticeship seems to follow a path dependency in relation to the interplay between school-based VET and different labour market sectors (Dobbins & Busemeyer, 2014). Large firms in the above mentioned labour market sectors have adjusted their recruitment strategies to school-based VET over time, and are reluctant to initiate apprenticeship in partnership with new actors (e.g. school companies), sometimes viewed as competitors, in the educational market. Specifically, the conditions for apprenticeship have been most favourable in those regions in south Sweden (Skåne, Västergötland, Östergötland,) where companies for many years have cooperated with upper secondary schools (Skolverket, 2013).

In addition, workplace-based training has played an important role also in these school-based vocational programs. Hence, the institutional preparedness to implement apprenticeship programs (since GY-11) has been rather good, at least in some regions and municipalities. Yet, apprenticeship does only account for a smaller part of these broad vocational programs. In many cases, apprenticeship functions as a supplement in relation to smaller branches, occupations and companies that are not associated with regular apprenticeship system in the labour market (e.g. in the construction sector). Common to all these cases above is also a strong link between the vocational programs and occupational standards and certificates. In particular, this applies to the construction program characterized by rather detailed occupational standards concerning both workplace training and the vocational subjects (Berglund, 2011).

In the case of Health and care programs, the expansion of apprenticeship has been paramount in those municipalities where programs are engaged in organized partnerships between school and work (Healthcare Colleges) and have received certifications. These partnership-constellations also contribute to the increase of the professional esteem for certain occupations. However, as many occupations in health and care (such as assisting nurse) for a long period of time have recruited experienced unskilled workers (Ahlund & Johansson, 2011), it is too early to say if the new apprenticeship program will manage to gain a larger place in this sector. An alternative scenario is that these skilled trades will be sustained by adult recruitment and adult education combined with learning on the job.

A certain challenge concerns the introduction of apprenticeship in those labour market sectors that lack previous traditions for apprenticeship (Helms Jørgensen, 2014: 188). Similar to Norway (Olsen, Host & Hagen Tønder, 2014: 10), in the weakly regulated service sector, the skilled service worker does not present a powerful occupational category. In Sweden, young people and workers
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in general are commonly recruited as unskilled labour. At present, in partnership with upper secondary schools, the large branch-organization (Handel) in the service sector has initiated a trial with apprenticeship, “Apprentices in shops” (Swedish: “Lärling i butik”) in order to secure future skills provision and increase the interest in certain occupations (e.g. salesmen) within the sector.

In the context of the industry sector in Sweden, the labour market’s need for skills provision and the recruitment of young people for industry work is big, but the number of applicants to the vocational tracks remains low (Skolverket, 2013). In the 1980s, industrial jobs were still interesting to young people, and the industry program attracted large numbers of students, including those who were highly motivated and with good grades (Berner, 1989). Today, however, students are fewer and many of the young people enrolled in the industry program have lower grades and are generally tired of studying theory, mathematics and other school subjects (Berner, 2010). This might partly explain why school-based vocational training continues to dominate since it is easier for vocational teachers to combine the educational goals with inclusive working methods in a school setting, as compared to a workplace-setting.

At the same time, for large industry companies, a combination of general school-based VET with specific on-the job training may be more attractive than a separate apprenticeship track in school presented as below the academic. However, as industry work becomes more technologically advanced, the demands on stronger integration between different kinds of competencies and qualifications from school and work life increase. For example, learning CNC machining involves abstract calculations, three-dimensional thinking and programming, competences that require advanced theoretical knowledge and also specific industrial skills, “know-how”, achieved during on-the job training. As mentioned in the introductory section, in recent years, several joint industry/upper secondary schools have been established in Sweden. These partnerships-schools are expected to attract more and “better” students to fill vacant positions within industry (Berner, 2010). Evaluations based on surveys and interviews with labour market partners within industry and the construction sector show that many companies do not accept to recruit students who experience difficulties in school (Berglund et al, 2014).

4.4 Improving the cooperation between schools and workplaces

The introduction of a regular apprenticeship track was intended to increase the influence of the labour market partners on the curriculum and the educational content. Previous research has shown that one of the main obstacles with previous trials with upper secondary apprenticeship has been a lack of established frameworks for cooperation between schools and the labour market (Olofsson & Panican, 2008; OECD, 2008). Since the launch of GY-11, several measures have been taken to improve the opportunities for the labour market partners to exert influence via the national and local councils (Olofsson, 2014).

At the national level, vocational councils have to be organized via the National Agency of Education. The goal is that representatives of trade and industry gain increased influence over the programs via the national councils. At the local level, schools are obliged to set up local program councils for each vocational program. Councils have to include representatives of business and trade-union organizations.
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Recent evaluations of the apprenticeship track reveal gradual improvements concerning frameworks for co-operation between schools and working life compared to earlier trials with apprenticeship. However, despite the revitalization of the frameworks for school-enterprise co-operation and the establishment of apprentice councils (lärlingsråd), the new apprenticeship programs remain quite different from the Danish-style model of trade self-management. Instead, the apprenticeship programs, at least at present, are governed by the central government and individual schools. At present, there are no branch-specific agreements on skill formation. At the local level, a main challenge for the apprenticeship programs is the flexibility in the design of programs in meeting the local and regional needs in the labour market, while simultaneously operating in accordance to the requirements within the national framework of the upper secondary school, in particular, the school-based VET.

Still, the institutional preparedness of schools to conduct regular apprenticeship tracks has been very varied. The School Inspectorate shows in their latest evaluation (2013) that many schools still do not work systematically to improve the quality of workplace learning. The evaluation was conducted in 35 schools that included the largest apprenticeship programs (Construction, Health and Care, Business and Administration, Transport). The evaluation dealt with and assessed the implementation (or lack thereof) of the national educational goals for the apprenticeship programs. The evaluation shows that most schools have started to use teaching contracts on a regular basis as they are obliged to do, but they do it in a passive way. The schools formally decide about the training contracts, informing workplaces about the major educational goals, and then leave it to the tutors to deliver the training.

The report points at many innovative local and regional examples as well. Several schools with well-established vocational programs have maintained and developed intense co-operations with the labour market. In contrast to many other schools, different partners not only participate together in local councils but also take mutual responsibility for organizing workplace training and in monitoring and assessing apprentices. This also contributes to the transparency of the requirements of assessments and grades. The report concludes, however, that the quality of the workplace learning needs to be strengthened in many different dimensions in many schools.

In order to deal with recognized quality-problems as well as the decreasing number of applicants to the new apprenticeship track, several political measures have been taken. They include the development of a more favorable financing system in order to motivate firms to take apprentices. In order to encourage more employers to offer apprenticeship education, the government has also suggested an increase in the grants available for VET providers. At the same time, the government takes a stronger hold of the apprenticeship track. The political measures include the formation of new quality schemes and, at present, a new apprenticeship council under the aspices of the National Agency of Education. The main goal of the council is to support VET providers, employers and social partners in developing apprenticeship education and to improve the quality of apprenticeship education partly by training supervisors at workplaces.
5. The dilemma of managing social inclusion and improving the status of initial VET and apprenticeship

5.1 Innovations aimed at decreasing social exclusion and some of their unintended consequences

Apprenticeship is often presented in the Swedish policy debate as a suitable form of education for academically unmotivated and people at risk of social exclusion in society (Olofsson, 2014). Meanwhile, companies want vocational educational programs to attract ambitious and committed students. Since 1980s, five different attempts to introduce apprenticeship have been conducted in upper secondary school. Common to all these attempts is that they have been presented as innovations to handle youth unemployment and/or drop outs in school (Olofsson & Panican, 2008). In the pilot scheme that preceded GY-11, the recruitment-base for apprenticeship was rather similar for the new introduction program aimed for students that have not yet graduated from primary school. In many cases, pupils with low grades in primary school have also been advised by their study councilors to choose an apprenticeship track.

In 2002, before the pilot scheme, Praktiska was recognized by politicians, stakeholders and trade union representatives as an innovative example of apprenticeship and a model for integrating low school performers in secondary education and work. The National Board of Education also highlighted certain local schools (e.g. Praktiska in Gothenburg) as successful models for developing new forms of workplace learning for young people (Skolverket, 2013). As mentioned above, Praktiska, and a few other school companies, expanded rapidly and by numbers dominated the scene of upper secondary apprenticeship; for instance, in 2009 Praktiska run 49 local schools (Skolverket, 2013). Soon, however, the school companies received criticism by the National Board of Education, and other state bodies as well (e.g. the School Inspectorate, 2013) for the lack of quality. Criticism of the school companies was also voiced by several of the larger organizations within industry. Fueled by public controversies about the legitimacy of profit-making school companies in general, the criticism of apprenticeship in these companies recurrently gained public attention in national media. It is likely that the bad publicity to some extent affected the reputation of the apprenticeship track, and consequently, attracted decreasing numbers of young people.

Since the launch of GY-11 the issue of the intended target groups for the apprenticeship track has been a contested one both inside and outside the gymnasium. A recurrent opinion voiced by teachers, principals and study counselors in schools is that the apprenticeship programs should primarily recruit students who experience difficulties in completing regular schooling. At the workplaces, the apprentices are supposed to gain new positive role models and mature as individuals as they co-operate with adults in real work life settings (Skolverket, 2013). Still, the school setting functions as a “safety net” if difficulties at the workplaces occur. At the same time, teachers in schools have come to realize that the actual requirements in the apprenticeship programs
Recent reforms and innovations in Swedish VET are more demanding than in the school-based vocational programs. Apprentices have to be able to function independently in the workplace by managing tasks and take responsibilities for their learning but also to cope with the same theory-based courses in the gymnasium, as other vocational students.

5.2 Framing and handling the “drop-out-problem”

One of the main challenges for the apprenticeship track, so far, seems to be large numbers of apprentices that leave the program after their first year. A recent evaluation (Skolverket, 2013: 40-42) reveals that 25 per cent of the apprentices during the trial (1998-2011) drop out between year one and year two. Since the launch of GY-11, the drop-out rates have increased to 40 per cent (between year one and two). It is, however, rather few apprentices that leave the gymnasium (approximately 8 per cent). The majority of the students shift to a school-based vocational program. Within educational policy, patterns like these are recurrently framed and discussed as the “drop-out-problem”, i.e. as a deviation from an expected linear transition through the educational system. Drop-out is also recurrently viewed as an active choice made by the individual.

However, research from several countries (e.g. Helms Jørgensen, 2009; Bäckman et al, 2011; Walter, 2006) has shown that young people’s transitions from school to work have also become increasingly individualized, diversified and non-linear, marked by repeated movements back and forth between education, spells of work and unemployment. In the Swedish context, drop-out patterns have also been framed in relation to current tendencies toward increased marketization of upper secondary schools (Lundahl, 2011). Formally, students are expected to follow a linear path through an educational program as well as an individual study-plan (Swedish: “Individuell studieplan”), but in practice, it is rather easy for an individual student to shift an educational program.

Since the early 1990-reforms, particularly in larger cities, young people have an opportunity to sandwich between many local educational alternatives, while schools and programs compete to attract students (Lundahl & Olofsson, 2014). According to pure market logic, such competition could potentially be progressive in terms of enhancing the quality of education. If students and their parents are not satisfied, they might just turn to another educational provider. Such individualized trajectories within upper secondary education and from school to work and adult-life have sometimes been interpreted as young people’s expression of their individual choices and agency (for an overview; Lundahl, 2011).

However, for some young people such complex transitions could perhaps best be regarded as disadvantaged routes (Lundahl & Olofsson, 2014). From early age, already in primary school, children are continuously assessed regarding their school performance. They are categorized as, for example, “high” or “low” performers. Qualitative research on occupational socialization within school-based VET indicates that individual grading and assessments plays a significant role for the identity formation also among students in vocational training (Persson Thunqvist, 2006; Persson Thunqvist & Axelsson, 2012). If students over time learn that they are “low achievers”, external categorizations become internal categorizations (Mäkitalo et al, 2006), making it difficult to change from the stigmatizing school identities. However, there is also a strong trend among students in vocational programs to shift to higher education preparatory programs. As mentioned
earlier, among students in apprenticeship tracks there is a trend to shift to regular vocational programs (Skolverket, 2013). There might be many different reasons for this. The general academic drift might be an explanation. Student’s experiences of their first year at an apprenticeship program might also play a role. Moreover, if young people and their parents in general associate apprenticeship as a route for weak school performers, it will probably also affect the prestige and attractiveness of this track.
6. Experiences of workplace learning in the new apprenticeship programs

Yet, in a research perspective, workplace learning within upper secondary apprenticeship largely comprises a “black box”. Finally, drawing on existing qualitative research and evaluations, we will summarize the experiences of workplace-based training among those actors that have been involved in the new apprenticeship programs, i.e. teachers, companies, supervisors and students.

6.1 The new apprenticeship teachers

The politically driven demands for renewal and higher qualities of vocational education and training have resulted in the establishment of a new teacher-training program for vocational teachers. The program aims to create conditions for preparing better-qualified vocational teachers (Ministry of Education, 2010). This can also been seen as a measure to increase the status of vocational education in general. Despite a previous mandatory teacher qualification in the gymnasium, many vocational teachers have lacked the formal competence to teach. The initiation of regular upper secondary apprenticeship is also linked to the creation of a new category of vocational teachers: Apprenticeship program teachers (In Swedish: Läringslärare). The role of these teachers differs from vocational teachers involved in school-based vocational education only (e.g. Berner, 2010). Being an apprenticeship teacher requires a higher degree of adaptation to professional activities outside school. These teachers also have to spend a great deal of their working time at workplaces, and in traveling between workplaces.

In her dissertation about this group of vocational teachers, Lagström (2012) illuminates how a significant part of responsibility for the organization of apprenticeship programs is placed on the vocational teachers. In the end it is these teachers that have to deal with and make sense of the various goals stipulated by educational policy. The dissertation presents a close-up description of the multitude of roles and strategies the teachers use in order to function as the unifying link between school and working life. The apprenticeship program teacher’s arrange the students’ work placements, using their personal experience of both students and supervisors in order to assess where each students is to be placed, follow up and supervise students during their placements. In addition, they monitor psychosocial risks at workplaces and assess whether students with personal problems could be best served by remaining in school.

This multitude of tasks puts rather high demands on individual teachers. Lagström shows that teachers often work alone, and with weak support from the school management and organization. In their biographical study of vocational teachers, Fejes and Köpsén (2012) point at a gap between the political intentions and actual competence-related conditions in schools for developing the vocational teachers’ competencies. The study concludes that the school setting does not include a system for vocational teachers to retain their occupational knowledge and skills. As a consequence, some teachers might find it difficult to keep up to date with their occupations, as it takes too much effort on their part (Fejes & Köpsén, 2012: 280). Moreover, as many schools are not used to co-operate with commercial enterprises, informal supervisors at the workplaces take
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over the function of teacher and take on pedagogical responsibility even if the teacher still retains formal responsibility (Skolverket, 2013).

6.2 The views of the companies

One of the main difficulties for the apprenticeship programs since their start has been the lack of interest from commercial companies to actively recruit apprentices from the gymnasium. Educational research illuminates how schools, often teachers, have to struggle to get access to training placements and often meet resistance from some of the industry organizations. However, the picture is somewhat different when it comes to the views of the social partners and companies that have participated in upper secondary apprenticeship.

National surveys (National Apprenticeship Committee, 2010; Berglund et al., 2014) show that nine of ten companies that have recruited upper secondary apprentices are mainly positive. The evaluations also reveal that prioritized educational agenda questions concerning economical compensation (state funding) and training of supervisors at workplaces plays a minor role in firms’ decisions to participate in the new apprenticeship program, and does not affects so much everyday training. More decisive factors are the daily contact between the apprentices and supervisors. Research (Olofsson & Panican, 2010; Olofsson, 2014) on the views of the social partners involved in apprenticeship also seems to be positive in general especially when it comes to the capacity of apprenticeship to deliver skills provision.

Although empirical research on the role of the companies involved in upper secondary apprenticeship is rare, qualitative research has contributed to the knowledge about some of the companies that regularly receive apprentices from the gymnasium. Based on interviews with representatives from eleven (11) companies in different parts of Sweden, Höghielm (2014) reveals how apprenticeship training in the companies has over time became integrated with the daily work. This is different from companies that receive apprentices from upper secondary schools more sporadically. Although the study maps a mixture of many context-specific motives for the companies to engage in apprenticeship, some strategic motives are more recurrent than others.

The most important consequence of apprentice-ship training is that it helps the companies to secure the supply of skills within the companies and, to some extent, in the region. Another strategic motive to recruit young people instead of adults was related to socialization goals. Indeed, quotations from the interviews present a certain view on socialization where teenagers (16-years olds) are seen as not yet fully mature, but easier to “form” as individuals than young adults. By doing so, i.e. enculturating the apprentices in the corporate culture, there is an additional public relational motive: Young people, committed and loyal to the organizations, help to promote the business and provide the companies with good reputation in the region. The study also points at other unexpected or sometimes seen but unnoticed consequences. Making apprenticeship a regular feature of the daily work has in many cases contributed to continuous opportunities of learning also among the employees. Since most Eftersom de flesta anställda informellt fungerar som handledare på företagen tvingas de artikulera, förklara och motivera, sina yrkeskunskaper och färdigheter i samspelet med eleverna. employees now and
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then informally take the role as supervisors in the interaction with apprentices, they must articulate their professional knowledge, explain and sometimes justify work routines and procedures.

A recurrent theme in the studies above is that social partners and companies express dissatisfaction with the perception of apprenticeship in schools as a second form of education for those who are tired of schooling. It is emphasized that an apprenticeship places high demands. Eleven ska ha en hög arbetsmoral, vara motiverad och målmedveten samt visa ansvarsänsla och initiativförmåga. Students should be committed to the occupation, be motivated and demonstrate a sense of responsibility and initiative. Moreover, a common opinion is that apprentices should have the ability and interest to follow and live up to the demands both at school and at work. A certain challenge for company-based training is the extent to which training involves general skills, i.e. skills that are useful to any employer in an occupational sector, in contrast to specific skills that are useful only in the training company where they are acquired. Recurrently the studies above also present a rather firm-specific perspective on apprenticeship, where the need of the firms is most important for their recruitment strategies.

6.3 What about the experiences of the students?

Studies of the experiences of students have, however, been very limited. Most previous research has been based on students’ participation in school based vocational training (for an overview see Olofsson & Persson Thunqvist, 2014). However, previous surveys have shown that most students in the gymnasium perceive their workplace part of the training very positively (Arnell Gustavsson, 2007). The most recent evaluation of the new apprenticeship programs (School Inspection, 2013), includes interviews with 150 apprentices and it presents a similar picture. However, it should be underlined that the evaluation is based on interviews with apprentices during their third year of study in well-established vocational programs. The experiences of the students who have left the apprenticeship program earlier are excluded from the investigation.

The evaluation shows that many students have spent more time at workplaces than at school and generally feel stronger affinity with their workplace settings than with the school setting. A recurrent experience among the students is that the difference between being employed and being an apprentice is not so big in daily work with an exception that apprentices often receive more varied tasks so that they will have greater broadness in their (future) occupation. Moreover, a common experience among apprentices is that work at workplaces is more demanding and challenging than they initially had expected. According to the evaluation, the majority of the apprentices pointed out that the main merit of the work experience part was that they have started developing an occupational identity and also got the chance to get into a “practical reality” after many years of school with almost only theoretical subjects.

The evaluation points at risks that apprentices workplace learning might reinforce already existing negative attitudes toward schooling. However, interviews with supervisors at the workplaces also illustrate cases where “school-tired” students succeed in learning and managing new tasks at work, and become more motivated in school. In the Swedish context, these results point to the importance of more research in order to get a better understanding of how students’ participation and identity development evolves over time in relation to different conditions in the workplaces. While
the educational contexts surrounding the apprenticeship programs are well-documented, workplace learning and occupational socialization have not yet been researched on their own terms.
7. Discussion and conclusion

The aim of the current report has been to provide a ground for further comparisons between the Nordic countries by highlighting current reforms and innovations in Swedish initial VET. The new millennium in Sweden has seen a rather strong political movement for initiating institutional changes in the whole upper secondary school system. The latest 2011-reform of upper secondary school did not radically transform the school-based model of initial VET. Many features in the recent development of initial VET represent continuity with the previous educational reforms. Still, the regular vocational programs are integrated in the gymnasium aimed for youngsters (16-20 year-olds). The modularized vocational programs typically take three years and consist of a mix of general education, more specialized vocational subjects and 15 weeks of workplace-based training. As before, all programs formally qualify for higher education. Nevertheless, the report has pointed at some significant recent changes and innovations.

One of these innovations concerns the development of Technical College and Healthcare College. These cases represent innovative ways of organizing cooperation between three central parties in the field of initial VET: employers, unions and schools. So far, these three-party-constellations and non-profit organizations have played a vital role in improving the connectivity between school and work within certain branches and regions. Although the improvements in terms of attracting students and increasing the quality of vocational education and training have been most visible in certain local settings, one possible scenario for the future is that these organizational forms will expand and also cover more vocational areas and branches (Olofsson, 2014).

The most profound change of initial VET in Sweden since the mid of 1990s could perhaps be attributed to the increased decentralization and marketization of upper secondary education, reflecting a global tendency to subsume education under semi-market conditions as part of the knowledge-based economy (Olofsson & Persson Thunqvist, 2014). The new market situation in Sweden might explain some of the large local variations in the field of initial VET. For example, evaluations and research on the function of different vocational programs recurrently illuminate vast local differences regarding the quality of vocational programs and the conditions for cooperation between schools and working life (SOU, 2010; Olofsson & Panican, 2010). Swedish schools have acquired the greatest autonomy to decide their activities in the whole OECD area (Lundahl, 2011), and the freedom of parents and students to choose between schools has been particularly promoted. The lack of national and regional regulations and frameworks for connecting education and work has increased competition between local actors regarding access to qualified training placements.

As described in the present report, in many municipalities, school companies have dominated the scene of apprenticeship and have been recognized as innovative in creating new apprenticeship programs. Again, however, recently these tendencies have been counter-balanced by stronger centralization, that is, a higher degree of top-down state governance over the national education system. In the field of initial VET, while the government promotes stronger cooperation between schools and working life, the state takes a stronger hold on the vocational programs (e.g. through recurrent quality-assessments). The latest 2011-reform is of principal interest for initial VET as it represented a strong response to the widely recognized weak links between school-based VET...
Recent reforms and innovations in Swedish VET

and the labor market. As has been described in the report, several political measures have been taken to develop frameworks for improving the cooperation between schools and working life. Still, despite these innovations we can conclude that initial VET at present suffers from declining student enrolment and decline in esteem in terms of its attractiveness among young people.

The question regarding the attractiveness of initial VET is urgent for the future development of initial VET. The present report supports previous observations within the Nord-VET project regarding how the double challenge of initial VET of providing access for young people both to the labour market and HE is closely interconnected with the question of prestige (Helms Jørgensen, 2014; Olsen, Høst & Skagen, 2014). In Sweden, as in all Nordic countries, the academic drift has put initial VET under press in various aspects. As academic oriented studies generally have high prestige in society, a main challenge for initial VET is to maintain high esteem by attracting committed and high performing students as well as employers who provide training placements. The quick expansion of HE is related to high participation rates in upper secondary school. Nowadays, the gymnasium in Sweden represents not only a right but appears to be a norm or even as mandatory for young people in order to get any job at the labour market (Olofsson, 2006). This also means that young people in practice are forced to join the gymnasium even if they are not motivated to do so.

By creating a stronger division between higher education preparatory programs respective vocational programs, the latest 2011-reform aimed to counterbalance the academic drift. The quality of the general education programs was expected to increase as they become more exclusively associated with higher education. Indeed, this could also be seen as a political measure to recruit more academically oriented students to these tracks, while “cool out” (Goffman, 1962; Walther, 2006) the aspirations of the non-academic students for HE. These students were redirected to the new vocational programs and the new apprenticeship tracks.

As described in the introduction part, the latest GY-11 reform by some observers has been presented as a radical break in relation to the fundamental principles (equality, citizenship) of the Swedish upper secondary education model. This report has also pointed a tension or a gap between the political movements (driven by the former government) toward the world of work, and the institutional preparedness among school institutions to conduct some of the intended education changes to improve the school-working life ties. The weakened links between initial VET and HE have been met with strong reactions within the world of education. In consequence, the government has been forced to make several adjustments and compromises during the launch of GY-11 in relation to the basic principles associated with the school-based model of VET.

The report has also showed that the new apprenticeship tracks have not yet developed as they were expected by the inventors of the latest reform. Several reasons have been discussed in the report. Perhaps the main explanation is that it takes time to modify the image of apprenticeship as a social political measure to fight against social marginalization among young people. In practice, apprenticeship has also been presented in the educational debate as the track for non-academic students. It might have contributed to the negative image and low prestige. A related problem in the Swedish context is the fact that apprenticeship training too often has been perceived as considerably lower ranked than school-based education (Berner, 1989; Olofsson & Panican, 2012). These perceptions are partly based on false assumptions of the capacity of modernized forms of
apprenticeship to provide skills provision and skilled workers to advanced forms of jobs and occupations (e.g. Ryan, 2000; Billett, 2001). A prerequisite for a further development of apprenticeship in Sweden would probably imply a change of the general approach on apprenticeship training. Moreover, there is a need for more knowledge and research based on the actual experiences among young people in order to get a more complex and nuanced picture about the possibilities as well as pitfalls of apprenticeship. So far we have only taken a small step on this road.
Appendix

Table 3. Distribution of apprentices by different vocational areas and apprenticeship programs spring 2013 (compared to all vocational education autumn year two).

<table>
<thead>
<tr>
<th>Vocational areas and apprenticeship programs</th>
<th>Apprentices (Numbers)</th>
<th>Total numbers of students in the vocational programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology/Industry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building and Construction</td>
<td>538</td>
<td>5556</td>
</tr>
<tr>
<td><em>House-building</em></td>
<td>328</td>
<td>3413</td>
</tr>
<tr>
<td>Vehicle and Transport</td>
<td>223</td>
<td>3887</td>
</tr>
<tr>
<td><em>Vehicle (passenger car)</em></td>
<td>156</td>
<td>1344</td>
</tr>
<tr>
<td>VVS (including Plumbing, Heating, Ventilation)</td>
<td>212</td>
<td>1412</td>
</tr>
<tr>
<td>Electricity and energy</td>
<td>131</td>
<td>5193</td>
</tr>
<tr>
<td><em>Electricity</em></td>
<td>115</td>
<td>2551</td>
</tr>
<tr>
<td>Industry technology</td>
<td>91</td>
<td>1938</td>
</tr>
<tr>
<td><em>Welding</em></td>
<td>48</td>
<td>724</td>
</tr>
<tr>
<td><em>Process and mechanical engineering</em></td>
<td>31</td>
<td>772</td>
</tr>
<tr>
<td><strong>Service:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business and Administration</td>
<td>293</td>
<td>3236</td>
</tr>
<tr>
<td><em>Retail</em></td>
<td>286</td>
<td>2584</td>
</tr>
<tr>
<td>Restaurant and Food</td>
<td>121</td>
<td>2702</td>
</tr>
<tr>
<td><em>Restaurant</em></td>
<td>77</td>
<td>1971</td>
</tr>
<tr>
<td>Hotel and Tourism</td>
<td>48</td>
<td>1463</td>
</tr>
<tr>
<td><strong>Care:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Social Care (Assisting nurse)</td>
<td>154</td>
<td>3078</td>
</tr>
<tr>
<td>Children and Leisure</td>
<td>149</td>
<td>3456</td>
</tr>
<tr>
<td><em>Pedagogy</em></td>
<td>127</td>
<td>1781</td>
</tr>
<tr>
<td><strong>Handicraft:</strong></td>
<td>220</td>
<td>3479</td>
</tr>
<tr>
<td><em>Hair dressing</em></td>
<td>77</td>
<td>1328</td>
</tr>
<tr>
<td>Florist</td>
<td>54</td>
<td>252</td>
</tr>
<tr>
<td><em>Other</em></td>
<td>63</td>
<td>1332</td>
</tr>
</tbody>
</table>

Source: Skolverket, 2013: 35-38
Figure 1. Number of students (five cohorts) in apprenticeship (autumn)*

*students who receive state funding.
References


Recent reforms and innovations in Swedish VET


Myndigheten för Yrkeshögskolan. (2013). Årsrapport 2013: Statistik över yrkeshögskoleutbild-
Recent reforms and innovations in Swedish VET


Recent reforms and innovations in Swedish VET


Recent reforms and innovations in Norwegian Vocational Education and Training
Introduction

Over the last 2-3 decades, Norwegian VET has experienced significant institutional innovations which address all the key challenges discussed in this project. Some of these are the results of initiatives from below, from schools, workplaces or actors in the corporate architecture. Others were initiated on a central national level, in cooperation with political and administrative authorities and the social partners. Some were responses to the national reforms in this period; some were independent extensions of these reforms, while others were actually part of the reforms. In this report we offer brief sketches of the content of these innovations and discuss their relevance as responses to the key challenges.

As discussed in the previous reports (Michelsen, Olsen & Høst 2014; Olsen, Høst & Tønder 2014), one of the central ambitions of Reform 94 in the field of VET was to extend the apprenticeship system to all sectors of trade and industry, both public and private. This ambition was largely inspired by a revitalized and extended system of collective skill formation within craft and manufacturing industry during the 1980s. However, while this process had been driven step by step by local and central actors and the interests within specific branches, Reform 94’s plans were initiated from above and implemented on a national level by governmental decisions. By incorporating the apprenticeship system into an overall national educational policy, and at the same time making VET part of an overall national system for upper secondary education, regulated by a common law, and by establishing the model of two years in school and two years of apprenticeship as the main track for all VET students, the expectation for workplaces was not only to offer more apprenticeship places, but also to expand and renew their capacity as places for training. Thus expectations of apprenticeship training were heightened both in terms of form and of substance. This development was welcomed both by firms and by the social partners. It raised the general status and educational standards of the apprenticeship system. However, the paperwork load and the continuous need to meet or deal with schools, students, public and public authorities made its administrative coordination increasing demanding. This in turn, may be seen as an important explanatory factor for the quick expansion of the various Local Training Agencies (LTAs) which started to appear in the early 90ies. These offices, as they have grown in number and functions, have developed into an institutional creation whose innovative power is not yet easy to grasp. This will thus be the first innovation we shall discuss.

There were many arguments for strengthening the apprenticeship system and for its institutional integration into one national educational system via Reform 94. One goal was to increase the parity of esteem between general education and VET. The most direct action in this direction was to introduce the arrangements of supplementary courses in general education. VET students got the option to switch to general education during their VET education, typically after two years, or by taking an extra year after graduating with a Journeyman’s Certificate. This was introduced to signal, especially to strong learners who might also want to enter higher education, that VET is an open educational track and not a “dead end” system. As showed in our last report (Olsen et al. 2014, p. 27) this option is extensively used by students within the programs for the private and public service sector and for health and child care. About 45 % of the students in the programs for these sectors in 2010 switched to general education after their third year. The numbers are much
lower in technical and industrial production (9 %), but are significant in electricity and electronics, building and construction and restaurant and food processing (16-19%). In all these sectors the numbers have risen during the last years. We discuss this institutional innovation briefly, primarily as an introduction to two others, much smaller in scope, but very interesting in character.

The first of these is the special track in “technical general studies” (TAF), which integrates the full VET program with a full general education and is offered to strong learners with the goal of giving practical experience as the basis for higher education. This hybrid track was developed by a local initiative in cooperation between a VET school and surrounding manufacturing industry in the early 90s. It has been very successful for those involved, but its further spread has been quite modest. The second innovation has a related goal in respect of the basis for higher education. With the Journeyman’s Certificate students can apply for post-secondary vocational colleges (fagskoler), but not normally for colleges offering higher education at bachelor degree level, except for those colleges that have now opened special programs for the so called “occupational road” (y-veien). This is an innovation at the level of higher education, but of course it is very relevant for the further development of vocational education.

While the innovations mentioned in the paragraph above address the interests of strong learners and the challenges around the relations between VET and higher education, the next innovations to be considered relate partly to the vocational content of VET and the experience of regular VET students and partly to the conditions of inclusion. By structuring the VET courses in schools into broad programs preparing for apprenticeships in many different vocational trades and by expanding the hours of general subjects, vocational practice in workshops and the experience of vocational learning were thinned down after Reform 94. Many schools and teachers could still cope by drawing on good contacts with local firms, making it possible to offer the students the experience of some weeks’ “placement” for training. This tradition became a basic element in the institutionalization of the “in depth program” which was introduced as a school subject in 2006. If the idea was not itself an innovation, its institutionalization can be seen in this way.

The last innovations we will discuss relate directly to the question of inclusion. These are two special schemes alternative to the “main model” of 2 years in school and two years as apprentice. The first is the Certificate of Competence (Lærekandidat) offering individual plans for learning in workplaces for weak learners. The other is the Certificate of Practice Scheme (Praksisbrevordning) that was initiated as a trial project to give a qualification at a lower level after two years of experience in a workplace.
Innovations in institutional architecture: emergence of local training agencies

One of the most interesting structural innovations in Norwegian VET has been the emergence of local training agencies. New decentralized employer-led networks and governance structures have been created in order to create more adequate institutional conditions for skill formation. This section of the report addresses the significance of these developments and their implications for Norwegian apprentice training, based on in-depth studies of these agencies both in 1997 (Michelsen, Høst and Gitlesen 1998) and 2013 (Høst et al. 2014).

The creation of Local Training Agencies (LTAs) was launched as an important policy instrument for apprentice training reform, aiming at facilitating higher training quality and at increasing the number of apprenticeships by mobilizing employers and employer organizations. New financial incentives and subsidies were launched. The result was a staggering proliferation of training agencies and local networks all over the country. In 1998, the training agencies covered about 8,500 training firms throughout the country (Michelsen, Høst & Gitlesen 1998). Estimates of public expenditure in apprentice training indicate that the LTAs represented 67 per cent of the total number of apprentices in Norway in the year 2001 (Michelsen et al. 1998). In 2014 this number exceeds 80 per cent (Høst et al. 2014). In short, the training agencies organize a majority of training firms in the Norwegian apprenticeship system.

The role of training agencies

Underlying the definition of the LTAs as a policy instrument was a political desire to strengthen the employer communities and stimulate employer involvement in apprentice training. Unlike the German associational system, where the Kammern have played an important part as compulsory membership bodies with public law status, the Norwegian associational system contains neither any equivalent compulsory institution nor a remotely equivalent normative structure. In accordance with the tradition of voluntarism, the LTAs were formed as voluntary local organizations. Formally the agencies are “privately run” institutions owned by their member firms, and held accountable to a board. Executive representatives from member firms dominate the agency boards. Relations to the industrial relations system are loose (Høst et al. 2014) Trade union representation exists on agency boards, but on a very small scale. Even though the LTAs are placed well outside the formal boundaries of the public sector, they are almost totally dependent on state funding. Grants are paid on the basis of the number of apprentices solicited and completion of training and

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>36</td>
<td>77</td>
</tr>
<tr>
<td>Median</td>
<td>28</td>
<td>55</td>
</tr>
<tr>
<td>N</td>
<td>237</td>
<td>240</td>
</tr>
</tbody>
</table>

Michelsen et al. 1998, Høst et al. 2014
certification. In 1997 the average size of a local training agency measured by member firms was 36 firms. In 2013 the average had reached 77; see table 1.

The average number of apprenticeship contracts has also increased, from 62 in 1997 to 118 in 2013.

Table 2. Average number of apprentice contracts for each LTA

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>62</td>
<td>118</td>
</tr>
<tr>
<td>Median</td>
<td>45</td>
<td>82</td>
</tr>
</tbody>
</table>

N = 240,243

Michelsen et al. 1998, Høst et al. 2014

Different models of LTAs

Three different models of LTAs can be identified (Michelsen et al. 1998): the classical artisan model, the branch model and the multi-trade model. The classical artisan model is a closed training agency exclusively organized for guild members and guild purposes. Its crucial tasks are recruitment and training in the craft, along with mobilizing new resources and public support. The strategy of the artisan model is directed inwards, attempting to achieve a high density of local member firms within the trade. The branch model represents a more comprehensive form of organization and comprises a broader set of trades. The strategy of the branch family training agency is closely related to the different branches of industry, establishing the opportunity for vertical relations between the branch levels and specific training interests, attempting to achieve a high-density ratio of member firms affiliated to the branch. The most inclusive model is the multi-trade model, where training could be provided in any mix of trades whatsoever. The artisan model is primarily found in densely populated and industrialized parts of Norway. The branch model is the most prevalent generally. Most local training agencies are affiliated in some way or another to branch training policies and programs for skill formation. The multi-trade model has also seen considerable growth. In rural areas or in areas with low regional concentration of firms, this model may be the best solution to meet local demand for training agencies.

LTA relations to member firms

For a firm, joining an LTA implies that public funding for apprentices is allocated to the training agency, which then becomes formally responsible for the training of apprentices affiliated to the agency. In this way the weight of formal legal responsibility for apprentice training is taken away from the individual member firm, and the LTA handles all the formalities and paperwork around the administration of training as well as quality assurance and firm-specific training profiles under which the training takes place. For many companies, joining LTAs could be regarded as a kind of outsourcing of the legal and administrative responsibility for training. They were prepared to pay an appropriate price for such services, but wanted their “fair” share of state resources. Hence, a substantial proportion of state resources allocated to LTAs were often redistributed to member
firms. In a study carried out in 1998 we interpreted the growth of the LTAs as a thin administrative layer, with little capacity for quality work (Michelsen et al. 1998). At the time, representatives from the agencies did not believe that the most important argument for joining a training agency was a lack of training places in the firms. Rather, they held that the wish to get rid of paperwork and to take part in a common forum for apprenticeship issues were the most important motivations. Today, there is much to suggest that the LTAs have evolved more systematically and perform quality work. The average number of member firms has grown, as have manpower resources in the LTAs, producing more resources and more adequate conditions for quality assurance in skill formation. But there is much to suggest that their capacity has also been strengthened; see table 3.

Table 3. Number of LTA employees

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Average</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>240</td>
<td>2.7</td>
<td>2</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Number of person-years</td>
<td>236</td>
<td>2.4</td>
<td>2</td>
<td>0.2</td>
<td>15</td>
</tr>
<tr>
<td>Person-years, external</td>
<td>88</td>
<td>0.6</td>
<td>0.4</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Høst et al. 2014

On average, each LTA has three person-years at its disposal (Høst et al. 2014). This represents a doubling of capacity since 1997. It also represents a potential to focus on the quality of training, which is what the agencies themselves indicate as the task taking most time. Nearly all LTAs engage in course work and some form of training, mostly theoretical. A majority state that they use quite a lot of time and resources on such activities. Two out of three LTAs state that they spend more time and resources on the quality of training than five years ago (Høst et al. 2014).

LTA – local government relations

Although training agencies are private institutions with the principal task of serving their member firms in skill formation, their intermediary position between the regional VET administration and member firms may be described as somewhat ambivalent and ambiguous. On the one hand the agencies have to relate to public institutions and their demands, but on the other hand they have to be responsive to members’ interests. In principle, it is entirely up to the management of an agency and its members to decide on the appropriate domain. This also includes the option of establishing agencies competing for members in the same territorial and trade domains. However, the territorial domain and coverage of the agencies are in most cases coterminous with public administrative boundaries in local and county government. County municipal authorities represent an important environment for both training agencies and training firms.

There is also considerable overlap between the functions of the training firms, the LTAs and the regional VET administration. Skill formation no longer involves just firms and public authorities, but also includes employer networks and other agencies deployed in the production and delivery of skill formation services.

The training agencies provide a crucial link between local government and employers. They are subject to a legal framework that regulates training quality and public resource provision.
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Tasks and resources are transferred flexibly in networks between public agencies, LTAs and training firms. The flows between organized actors include knowledge and expertise, administrative resources and tasks like the organization of transfers between schools, pupils and local firms, in short the organization of mutual dependencies in local skill formation. There is much to suggest that the tasks of the LTAs have expanded from administration and paper work to quality work. But the position of the LTAs in the new institutional configuration of VET is fraught with ambiguities and ambivalence. The LTAs are constrained by the pattern of industrial localization and sectorial specialization on the one hand. Different regional industrial conditions have contributed to the production of complicated training agency structures with various degrees of member exclusiveness. But LTAs have expanded significantly, and they seem to retain considerable autonomy. Furthermore, the resources and expertise dedicated to apprentice training and administration has expanded considerably through the LTAs.
Innovations for open outcomes and access to higher education

Supplementary courses

It is of course impossible to say whether the many students who leave the vocational programs by switching to supplementary general courses would have stayed – or even started – in VET if the option of switching was not available. In the service and care programs many students switch to this general track after the second year. They don’t see the vocational occupations as meeting their expectations and interests, while they have also developed aspirations for higher education. Some even have such aspirations when starting in the VET programs, but they see the two first years of VET as an interesting alternative track for reaching their goal. The learning environment in the programs as a whole is strongly influenced by this idea, especially among stronger learners. At a minimum, this does not contribute to the esteem or prestige of vocational trades within these programs.

For the traditional vocational programs for industrial trades or building and construction, the picture is somewhat different. Interview-based research among students on supplementary general courses coming from such programs (Hernes 2014) shows that these students – as is typical for most VET students – were not very certain of their first choice of program. However, they did not want to apply for general education, with only “theory” and no “practical work”; they didn’t see this as a path for them.

The decision to apply for supplementary general course was a result of experience and personal development. Some came to the conclusion that the VET program was not their “thing”. The direction of their interests might remain very open and unclear, but the general track was seen as a framework for further searching. Others made self-experiences that changed their motivational orientations and identities, either within the VET courses (by coping with “theory” much better than in lower secondary education) or after the school years in VET (working, doing military service, or simply maturing in age terms), which opened their aspirations and interest in higher education. A third group still intended to apply for apprenticeship and take the Journeyman’s Certificate, but wanted to take the supplementary course first, “just in case” or “while they were in the mood for schooling” or “since the option was there” (not direct quotes, but typical thoughts expressed).

Overall, the option of a supplementary general course has certainly strengthened the connections between VET and higher education by offering flexible crossings between educational tracks. Whether this has strengthened recruitment to VET programs and general parity of esteem is a more open question.

Technical general studies (TAF)

If much smaller in scale, the effect of the TAF programs seems to be more goal efficient in respect of recruitment; the alternative for students that apply for these programs is predominantly general
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education. TAF seems not to be in competition with ordinary VET and the education of skilled workers, which was a concern for many at the start.

As mentioned in the introduction, the initiative for this kind of program came out of a local collaboration between a VET school and its neighboring industry. It was an answer to an old idea or preference, especially within the manufacturing and building industry, to recruit engineers with experience from practical work on the shop floor. Since engineering education itself, over the years, had also become more “theoretical” as part of the system for “higher education”, the need for at least some engineers with practical experience and shop floor knowledge was even stronger.

After some reluctance among educational authorities the program was approved, and slowly spread to some schools in some other regions. It started out, in 1992, as a program for what today is labelled technical and industrial production manufacturing. In 1996 a TAF program within electricity and electronics was introduced, and in 2000 a program for building and construction. These three traditional fields of VET, based on apprenticeship systems, have been the core of the TAF courses. Since 2007, however, a TAF course has also been offered within the program for healthcare, childhood and youth development, and even within agriculture, fishery and forestry. The official term has then also changed from TAF to YSK (yrkesfaglig studiekompetanse, vocational university and college admissions certification).

Not all schools offer TAF. Today there are 18 schools in total within an institutionalized network of schools offering these programs that gives information and disseminates their offerings through a separate homepage, http://taf.no/. Within this network there are 8 schools in the eastern and southern part of Norway, and 10 in the west and central regions. Some schools and counties also offer special sites for information on TAF in their homepages.

The total numbers of students are relatively small; less than 300 each year, about half of whom follow the course in technical and industrial production. The rest are evenly spread across the other courses. Compared with the total number of students across all programs – about 35,000 in recent years – the number of TAF students is small, and it is low compared to the numbers following the “training candidate” courses, about 1,700. Even so, over the years many schools have educated a good number of TAF candidates. The programs have become stable and well known options in the districts where the schools are situated.

How are these tracks organized? The main idea is that a comprehensive 4 year track ends with both a Journeyman’s Certificate and university and college admissions certification. That means that students must follow in depth courses in both mathematics and physics in the technical programs, and in depth courses in chemistry in health care programs, which in turn enable applications to technical university studies, specifically medicine. The students apply for the programs, as for all others, in 10th grade. The competition is fairly strong, so they need good results. In addition to good school results, applicants are selected on the basis of interviews by representatives from the school and the firms they will visit and later sign apprenticeship contracts with. Good motivation and general good attitudes are important criteria for admission.

The candidates have the status of school students for the two first years, and of apprentices in workplaces for the two last years. Their week is split in two, one part at school and one part in the workplace, across all four years. Compared with the regular VET tracks, the school part of TAF is much more “theoretical”, with mostly classroom-based teaching. All practical training and
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Experience takes place in the workplace. In the two first years, the student would have to carry out practical training in the firm during school holidays (except for 4 weeks) and other days off school, in order to complete the necessary hours of training. All workplace training hours during the two first years are paid with an apprenticeship salary. For the two last years, all school and work hours are paid as apprentices.¹

The firms cannot – and do not – claim any kind of loyalty from the apprentices after graduation. If they do not want to apply for higher education, they may apply for and get jobs on an equal basis with other apprentices. However, some firms report that the TAF candidates are not always or not necessarily better applicants for skilled worker positions, since regular apprentices have had more daily work in regular jobs during their apprenticeship time. Most TAF candidates, though, leave the firm and apply for higher education as originally intended. Teachers in the school that founded TAF presented some numbers in this context (Andersen 2014, p. 63). Of 185 graduated TAF students, 139 had applied for higher education (46 took jobs as skilled workers). Of this 139 most students (94) attended university colleges, while 19 applied for universities. The rest took other kinds of higher education. This presentation also shows the gender distribution: of the total 155 were boys, 30 girls.

Generally the firms hope that the student will return to them after graduating from higher education, and some say that they had hoped that more would have done so (ibid). Despite this,

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<th>Table 4. Apprentices in Norwegian VET, 2012</th>
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<tr>
<td>Building and construction</td>
</tr>
<tr>
<td>Ordinary apprentices</td>
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<tr>
<td>YSK(TAF)</td>
</tr>
<tr>
<td>Certificate of Competence</td>
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<tr>
<td>Alternative tracks</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
<tr>
<td>Design, arts and crafts</td>
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<tr>
<td>Electricity and electronics</td>
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<td>Healthcare, childhood and youth development</td>
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<td>Media and communication</td>
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<tr>
<td>Agriculture, fishery and forestry</td>
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<td>Restaurant and food processing</td>
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<td>Services and transport</td>
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<tr>
<td>Technical and industrial production</td>
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it seems that workplaces trust in the general value of this kind of hybrid skill formation for themselves and for their sector as a whole. There are no signs of a falling-off of interest. Some firms offer scholarships to their own apprentices for higher education, following which they may require a return to the firm after graduation.

These students see themselves as lucky and privileged to get the opportunity to achieve a double certification. They are proud of their achievements and very happy with having practical work experience as part of their education. They are aware of their status as good learners and specially chosen, but also unassuming in their relations with and judgment of fellow students in other programs (Andersen 2014).

The occupational track (y-veien)

Some university colleges offer special bachelor programs for students who have graduated from regular VET. Telemark University College has been a pioneer and institutional entrepreneur for this innovation. The program leader, Professor Svein Thore Hagen, sums up their experiences in an interview on the College’s home page: “We were surprised at the students’ level of knowledge and their enthusiasm”. The program coordinator confirms that the academic teachers were initially very skeptical and did not believe that the students would cope with the high theoretical demands. They misjudged them, and today they all want to teach these courses.

So far we have no clear evidence for the effect of “y-veien” on the general relationship between VET and higher education, but one might expect that this kind of option would strengthen young people’s confidence that VET programs are not a dead end, and that it can certainly meet the strong expectations or ambitions for further education that can be observed among young people after graduating from their apprenticeship years (see Andersen 2014, Hernes 2014, Olsen et al. 2014).

2  http://www.tu.no/nettarkiv/2008/05/07/y-vei-i-vellinga
3  Ibid.
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Innovations towards increased inclusion in VET

Extending the unitary school principle to include upper secondary level was one of the core elements of Reform 94. The aim was to include all youth aged 16-19 years in three years of upper secondary education, concluding either in a general exam giving access to higher education, or in a vocational certificate. As tighter linkages between school-based and firm-based VET were formed, the new vocational tracks combined school-based education and apprentice training in the firm, sequentially organised with two years as school students followed by two years as an apprentice, often called the 2+2 model. A central argument for making apprenticeship an integrated part of this model was that it seemed to increase motivation for learning, and contributed to effective learning and socialization. The two years of initial school education were, however, experienced by many as an extension of compulsory schooling. For those with little motivation for school education, the alternatives were meagre. The possibility of starting as an apprentice or unskilled worker at the age of 16 was made difficult both through regulations and norms. A 16 year old student would need a diagnosis from the Pedagogical Psychological Service (PPT) in order to leave school and enter an apprenticeship.

The social construction of the dropout category

The statutory right to three years of upper secondary education soon developed into a strong norm, almost a duty, and resulted in almost the whole cohort that finished lower secondary applying directly for upper secondary education (Sandberg & Vibe 1995). This strong norm also dominated public discourse on young people, education and work. This background is important to understand the construction of the dropout category as including all those who did not fulfill three years of upper secondary education. Before Reform 94, entering paid work, without completing upper secondary, used to be a quite common phenomenon (Michelsen & Høst 2012). After the reform this group was defined as dropouts. This had more than simply statistical consequences; belonging to the dropout category is also connected to strong social stigma.

The dropouts, or more exactly, those not completing upper secondary within five years, soon made up around one third of the youth cohort. Most of them quit school during the first two years. For others, bad marks or absence from school made it difficult to get an apprenticeship, even if they completed the two years of school education. Around two thirds of applicants succeed in entering an apprenticeship (Host et al. 2014), which can be explained both by a shortage of apprenticeship places in general or a shortage in particular trades or districts, and by workplaces distinguishing between acceptable and not acceptable candidates.

Before 1994, 16-19 year olds who were neither in education or work were mainly the responsibility of labor market authorities. The extension of the right to education made them the responsibility of educational authorities. This meant that educational authorities had to offer alternatives for those having problems completing upper secondary education. Those who did not succeed in...
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getting an apprenticeship did have the right to a third year at school, but this alternative enjoyed a low status both in the labor market and among students. Several attempts at establishing an alternative education for those not completing ordinary education or reaching a vocational certificate have failed.

The debate on alternatives for those not completing illumines the different positions among key actors in the Norwegian VET model, and perhaps also the mixed model of VET itself. For actors who see defending the unitary school as the most important issue, the solution to the drop-out problem is typically more schooling. This might include applying other pedagogical methods, or for some, simply lowering the demands, as long as young people are kept in school. However, sooner or later these students have to leave education and enter the labor market. The question arises of what skills they have, and what kind of transitional measures need to be arranged. Some actors consider that school categories can be translated directly into working life. For lower level student categories, corresponding lower level employee categories should be established. From a collective skills perspective, alternative routes through the training system have to fit into the standards of the skilled worker categories. If the school does not succeed in bringing the students through, alternative models for training should be found in cooperation with workplaces. From a liberal point of view, this is not really a public or a collective responsibility, but something to be resolved between the individuals who leave school early and individual workplaces. This is also what happens in practice for most early school leavers, and the strong demand for labor in Norway has made it possible for most of them to get a job (Høst & Michelsen 2012, Høst & Skålholt 2013).

Certificate of Competence

The first alternative scheme to be established was the Certificate of Competence, which was formally introduced in 2001. This is directed towards students who are categorized as having learning disabilities or as not having the capacity to fulfill upper secondary education. The scheme has no standard demands – not necessarily any demands at all – but is based on individual plans, adjusted to goals that experts believe the individual is capable of reaching. Learning may take place both in school and in the enterprise, or in combinations like the 2+2 model in the ordinary scheme. For many years this scheme covered less than one per cent of each cohort (Markussen et al. 2008). However, after the state raised the subsidies considerably, the scheme has grown to a significant size in some counties. It seems that counties with a low share of ordinary apprenticeships have more candidates for the Certificate of Competence than counties with a high share of apprenticeships. One hypothesis is that in counties where the collective skills system is relatively weak, more candidates are defined as belonging to the Certificate of Competence scheme than in other counties (Høst et al. 2014). A good supply of jobs makes it possible for most young people to get a job, including these candidates and dropouts. However, no systematic evaluation of the scheme, the candidates or the positions they obtain in the labor market has been carried out.

5 A certificate of competence can also be issued, if required, for all education and training, at whatever level, regardless of whether it was successfully completed or not. (From the homepage of the Directorate for Education and Training, http://www.udir.no/Stottemeny/English/Curriculum-in-English/About-certificates-and-grading-scales/).
Certificate of Practice Scheme

The challenges around dropout have constantly dominated Norwegian political debate around upper secondary education, and in particular around VET. In 2006 a working group advised the Ministry of Education on different measures to reduce the dropout problem. The most prominent was introduction of the Certificate of Practice Scheme, a measure directed towards students with a weak basis for school learning, whether this was due to learning disabilities or specifically to problems with school learning. The scheme included a two year program, where the candidates worked in a firm four days a week, while attending school one day a week to take the general subjects required. The certificate they could obtain represented skills corresponding to half of the curriculum necessary for a Journeyman’s Certificate, both in general subjects and the specific program subjects.

The proposal of a lower level Journeyman’s Certificate was, however, highly controversial (Høst 2011). While employer organizations were quite positive, and pointed to labor market needs, employee organizations were skeptical and feared that this could represent a threat to the skilled workers’ certificate. They also feared that it could represent an easy way through for young people who did not consider the long term consequences, and at the same time present a tempting low-wage alternative for employers. While some key actors underlined the importance of encouraging these candidates to fulfill a Craft and Journeyman’s Certificate as a next step, others claimed that this group of students were so weak that the question of establishing a new formal certification at a lower level had to overrule the interests of the social partners in the labor market and the institution of the Craft and Journeyman’s Certificate. The compromise accepted by all actors was a two year scheme with lower demands, but where the aim was to encourage the candidates to continue as ordinary apprentices after having passed the Certificate of Practice. However, the new scheme was launched with quite a bit of ambiguity around its actual aims (Høst 2011).

Through the scheme’s implementation for a trial period in selected counties, its aim shifted significantly. Half of the candidates taking part in the experiment had failed exams at the lower secondary level, and the ones who had passed had very low grades. In spite of this, the candidates themselves perceived the scheme more as a stepping stone on the way towards a full Craft and Journeyman’s Certificate than as a new lower level certificate. The evaluation of the experiments also showed that most of the candidates succeeded in passing the scheme, and that the majority also succeeded in entering an ordinary apprenticeship afterwards (Høst 2011). This included candidates who had been written off by experts as lacking the necessary abilities. Both the candidates themselves and those responsible for testing the scheme pointed to the possibility of working in a firm instead of being in school as the main explanation for this success.

However, the evaluation revealed large variations between counties. When the scheme was connected to established institutions and networks in apprenticeship system, and the possibilities of obtaining an apprenticeship contract were reasonably good, it offered a successful approach where so-called weak candidates could also achieve a skilled workers’ certificate. In counties and schools where these conditions have been more difficult to establish, school-based practical

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Recent reforms and innovations in Norwegian VET programs have been established, which also result in a lower rate of drop-out. Where linkages to the apprenticeship system are weaker, candidates tend to complete education with the Certificate of Practice Scheme.

The scheme has not yet been established as an ordinary part of upper secondary education, although the period of trial started back in 2008. LO, the central trade union confederation, is skeptical, and the new right-wing government has not yet decided on the profile of the scheme: whether it should be a lower level certificate, or a first step towards a full Journeyman’s Certificate, and whether it should be open for all students to apply to.

Summary: two innovations for inclusion

The large majority of 16 year olds in Norway enter upper secondary each year, but only about half of those entering the vocational tracks succeed in completing within five years. A continuous focus on the so-called dropout challenge has resulted in the establishment of two different schemes for low performing candidates, the Certificate of Competence and the Certificate of Practice Scheme. The Certificate of Competence is aimed at candidates believed to have learning disabilities, has individual plans, and gives no standardized certificate. Encouraged by substantial financial support from the state, the number of candidates has increased, in particular in counties with weak apprenticeship traditions. The Certificate of Practice Scheme has still not been made permanent, due to controversies between the social partners and also among politicians. This scheme is close to being an alternative to the Journeyman’s Certificate, or a light version of this. An evaluation showed that in counties where the collective skills system has strong traditions, the new scheme tends to become a stepping stone on the way towards a full Craft and Journeyman’s Certificate, while in counties where apprenticeship is weaker, candidates tend to end up as unskilled workers. The scheme is controversial in similar ways to those observed in other collective skills systems where shorter schemes are established (Siecke 2014).
Institutional innovations: in depth study project (PTF)

The in depth study project (*prosjekt til fordypning*, abbreviated PTF) was introduced as a new subject in all vocational programs as part of the education reform of 2006. The background was the structural changes in the reform. These followed the trend in Reform 94 with fewer but broader vocational programs in upper secondary education. In 2006, the number of vocational programs was reduced from 12 to 9, and the number of courses offered in the second year (Vg2) was almost halved. Critics warned against negative consequences in terms of more abstract and theoretical courses and less practical training. An increased distance between the subjects taught in school and the trades and occupations in the labor market might have negative effects on student motivation as well as on the development of vocational skills. An important aim of PTF is to introduce VET students to authentic work methods and tasks within relevant trades and occupations at an early stage in their training. As a reform element and policy measure, PTF can be interpreted as a compromise solution, aiming to counteract potential negative effects of the structural changes. Of the four challenges discussed in this project, PTF primarily addresses social inclusion and dropout and access from VET to work based learning and the labor market.

In the standard model for upper secondary VET in Norway, the students start with two years of school based education followed by a two-year period as apprentices in a company. The school subjects during the first two years are divided into common core subjects (*fellesfag*), common programme-specific subjects (*programfag*) and the in depth study project (*prosjekt til fordypning*, or PTF). As shown in table 4, PTF amounts to more than 20 per cent of the instruction hours in Vg1 and Vg2.

**Table 5. Instruction hours in VET programs, 1st and 2nd year:**

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<th>Upper secondary level 1 (Vg1)</th>
<th>Upper secondary level 2 (Vg2)</th>
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<tbody>
<tr>
<td>Common core subjects</td>
<td>336</td>
<td>252</td>
</tr>
<tr>
<td>Programme-specific subjects</td>
<td>477</td>
<td>477</td>
</tr>
<tr>
<td>In depth study project (PTF)</td>
<td>168</td>
<td>253</td>
</tr>
<tr>
<td>Total</td>
<td>981</td>
<td>982</td>
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PTF takes place during the school-based part of VET and is formally the responsibility of the county authorities and the schools. County authorities as “school owners” are responsible for the preparation of local curricula for PTF. The national curriculum provides a general framework with recommendations, but offers few specific guidelines. Schools are encouraged to obtain information from and seek cooperation with other schools, local enterprises and/or training agencies in their development of local curricula for PTF. Furthermore, the national curriculum states that students should have the opportunity to receive part of their initial training in a workplace or at another school.

The curriculum provides a space for cooperation between schools and enterprises. As mentioned in the introduction to this report, the use of training placements for VET students was more or less an established practice in many vocational programs before the reform of 2006. With the
reform, this practice was formalised, increased in volume and extended to all vocational programs.

School owners and schools are given considerable local autonomy in shaping the content and organisation of PTF. The national curriculum formulates multiple, partially inconsistent aims for the new subject. One important aim is to give the students an opportunity to gain experience in the work practices and tasks that characterise different occupations within the relevant vocational programme. Following this, students could take an early specialisation, making them better prepared for the apprenticeship period. However, it is also possible for students to specialise in common core subjects like English or mathematics within PTF. Via this option, students could aim towards an academic track instead of preparing for an apprenticeship. In other words, the aims and objectives are open and ambiguous. This is reflected in large variations in the local implementation of the subject (Dæhlen & Hagen 2010; Dæhlen, Hagen & Hertzberg 2008; Nyen & Tønder 2012). There are differences between education programmes and between the first and second years (Vg1 and Vg2), and there are differences between schools and even within schools. Some schools have chosen to introduce students to a wide range of different trades within a vocational programme. Others choose to concentrate on a few selected trades, with more room for vocational specialisation. The content of the training is to a large degree dependent on the professional background, skills and personal networks of the teachers who are assigned the responsibility for PTF within a vocational programme.

While there is much variation, some general patterns can be identified. In the first year, the emphasis is often on introducing the students to different occupations. Schools try to organise PTF so that students can learn more about relevant trades and occupations within the broader vocational programme and gain some experience with the content, tasks and work methods within these trades. School-based workshops are often used, but shorter training periods in companies are not uncommon. In the second year, PTF is usually organised with a stronger emphasis on vocational specialisation, often with longer training placements in workplaces. In other words, there is a shift of emphasis from vocational guidance in the first year towards more vocational specialisation in the second year. The stronger emphasis on vocational specialisation goes along with increased use of training placements in the second year of training (Vg2). We will now discuss findings from the evaluation that can be related to the key challenges discussed in the project.

Work-based learning in PTF increases student motivation

In general, findings from the evaluation show that PTF plays an important role in vocational training for most students. It is mainly through their experience in PTF that students come to know relevant trades and vocations in the first part of their training. Within PTF, students are given the opportunity to gradually develop a vocational identity. The evaluation shows that these experiences play a significant role for students’ motivation and for their understanding of the relationship between theory and practise. In a survey among apprentices in 2011 a large majority, 83 per cent, reported that PTF made them more motivated to complete upper secondary education. This positive result is found in all vocational programs. An equally high proportion of students also reported that PTF made it easier to understand the relationship between theory and practise.
Students who experienced training placements in workplaces are more motivated to complete upper secondary education than those who mainly experienced school-based PTF. Even within the latter group, a clear majority of students still reported that PTF increased their motivation (Nyen & Tønder 2012).

PTF is important in order to get access to apprenticeships

The main motivation for firms in providing training placements for vocational students in their first and second year of training is to make contact with potential apprentices. Surveys and qualitative interviews in training companies confirm that training placements are opportunities for young VET students to demonstrate their personal skills and motivation for learning. These opportunities could be of particular importance for students with poor school grades. For minority students and other students without strong networks or connections to local employers, training placements through PTF could increase the chances of obtaining an apprenticeship. In the 2011 survey, 63 per cent of apprentices agreed with the statement that PTF had made it easier for them to obtain an apprenticeship contract. Not surprisingly, the proportion was higher among students who reported that PTF was mainly organized as training placements in companies (76 per cent). From other research, we know that apprenticeships often provide access to regular employment. However, the transitions from apprenticeship training to full time work vary considerably between different vocational programs (Nyen, Skålholt & Tønder 2014).
Conclusion

As we have shown, there has been a range of different innovations within Norwegian VET over the past two decades. While different in character, these have one feature in common: they are all in one way or another initiatives around the relationship between school and working life. In particular, they seek to mobilise workplaces to enlarge their participation and obligations within these relationships. As we have also shown, these initiatives can be understood as responses to the different challenges discussed in this project. In depth study projects in workplaces directly relate to the issue of access to work based learning and strengthening the conditions for students’ access to apprenticeship. The strengthening of the practical relevance of school-based training increases students’ motivation and their basic skills for entering the apprenticeship training. The supplementary general courses primarily strengthen general access to higher education. Their original goal of securing the prestige of VET is less clear. Technical general studies (TAF), on the other hand, contribute both to the general prestige of vocational education and training and to the possibility of progressing to higher education from VET. While these first-mentioned innovations address the interest of the student group as a whole or especially that of strong learners, there have been other initiatives addressing weak learners and potential dropouts. Both the Certificate of Competence and the Certificate of Practice Scheme are innovations for ensuring the possibility of including these students in VET programs. There has also been a general normalisation of a varied offer of programs with “alternative tracks” (see table 4) offering apprenticeship contracts already the first or the second year of the VET program, which may reduce the danger of stigmatisation of those students who take tracks other than the main model of two years at school and two years of apprenticeship.
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Recent reforms and innovations in Finnish Vocational Education and Training
Introduction

The aim of this report is to discuss and analyse the way in which the Finnish system of initial vocational education and training (VET) has been developed to respond to the four challenges investigated in the project: the Future of Vocational Education – Learning from the Nordic Countries (Nord-VET). These four challenges are 1) access from VET to work-based learning and the labour market, 2) progression from VET to higher education, 3) to improve the standing of VET among young people and in the labour market and 4) how VET has improved social inclusion and combatted student drop-out. The emphasis of this report is on developments relating to these four challenges since the 1990s, but reference to earlier developments and longer time-spans is made when necessary.

The report – Recent Finnish VET Reforms and Innovations: Tackling the Current Challenges – is the third country report prepared as part of the Nord-VET project. The previous two country reports are available on the project’s web-page. The first explores the historical emergence of vocational education and training in each of the project’s partner countries (Denmark, Sweden, Finland and Norway) (Reports 1a). The second investigates the current state of challenges for VET in each country in the mid-2010s (Reports 1b). Both of these reports provide valuable background information for this third country report (Report 1c). Together, they enable further comparisons of the Nordic VET systems.

The focus of this third country report is on innovations developed within the national vocational education systems to meet the four challenges presented above. In what follows, the ability of the Finnish model of VET to meet these four challenges is discussed and analysed. The challenges are studied in the same order presented above. Developments relating to access to work-based learning and progression from VET to higher education are investigated in the same section because they have been constructed in the same or parallel reforms. The report explores the manner in which the four dilemmas have been managed through policy reforms and the kinds of institutional adjustments and innovations made since the mid-1990s (and even earlier). Furthermore, it will assess whether the reforms have produced unintended consequences while trying to address the challenges.

1 The website of the research project “Nord-VET” is available at http://nord-vet.dk/. The project Nord-VET is funded by NordForsk in 2013-16.
1. Innovations in Finnish VET: Improving access to work-based learning and the labour market and enhancing progression from VET to higher education

The origins of expanding the school-based VET in the reforms of the 1980s

In Finland, the dominant form of organising initial vocational education and training is the school-based vocational education and training. The enhancement of the school-based model of VET in Finland dates back to educational policy discussions in the 1960s. At the same time, apprenticeship training has been developed mainly as a form of adult education (see Stenström & Virolainen, 2014).

In 1963, the Finnish parliament suggested that the Finnish government begin preparations for organising a unified upper secondary education (Salminen, 1999). The reasons for reorganising upper secondary education were to improve the control of the number of study places and to provide a study place for every compulsory school leaver either in general upper secondary education or in vocational upper secondary education. In addition, the aim of the upper secondary school reform was to improve the organisation of education both structurally and content-wise (Salminen, 1999).

The Finnish government nominated several consecutive committees to prepare the reform, including ‘Koulutusrakennekomitea’ [Committee for the Structural Reform of Education] and ‘vuoden 1971 koulutuskomitea’ [the 1971 Committee for Education]. The direction for the upper secondary school reform was confirmed by the government in 1974, and it was decided that this reform would focus on reforming the curricula of vocational upper secondary education. Accordingly, general upper secondary education was to be developed separately (Salminen, 1999).

The compulsory school reform, which established a unified comprehensive education for the whole population, was implemented alongside the planning of the upper secondary reform which began in 1972 (Salminen, 1999).

The work of the ‘vuoden 1971 koulutuskomitea’ [the 1971 Committee for Education] was decisive in the sense that it had proposed that an entire generation complete 11 years of general education whereafter all students would start on the same level of education and continue towards occupation-specific programmes (Salminen, 1999). The compulsory school reform implemented in 1972–1977 defined that the common general education, which was aimed at the entire population, was to take place in the form of a nine-year-long comprehensive education (Rinne, 2013). The idea of a common, more general education component in the upper secondary education curricula, which was presented by the 1971 Committee for Education, was materialised in the reformed vocational education curriculum (Ekola, 1991). Finally, the law pertaining to the up-
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The general education component introduced in the vocational upper secondary and post-secondary education curriculum was meant to orient students towards trades and corresponding occupations (Ekola, 1991). The aim was that the general education component would develop general vocational abilities, technological competences, communication skills and environmental protection skills and would combine an all-round education with occupational skills for a more general vocational education. While this was seen as a good aim, its implementation was problematic. The curriculum was not built according to the initial aims of the reform and did not serve its original purpose. The problems in its implementation were seen to result from a lack of analysis regarding lines of trade and corresponding occupations (Ekola, 1991). The curriculum aims were commonly materialised by adding general education subjects to the curriculum. As a result, the implementation of the new curriculum did not succeed. The general subjects were not satisfactorily combined with vocational content, and students found the new curriculum demotivating (Ekola, 1991). Furthermore, the dominance of old forms of vocational education prevailed. Typically, task-specific education started from day one of the education curriculum (Ekola, 1991). Thus, dropping out during the general education component was soon found to be a problem.

When the reform of vocational upper secondary education started in the 1980s, it was estimated that there were more than 650 vocational education programmes (Väärälä, 1995; Salminen, 1999). In the reform, vocational curricula were unified into 25 basic programmes, followed by about 250 parallel upper secondary and post-secondary specialisation lines (Numminen, 2000). Thirty of them were left without a general education component (Väärälä, 1995). The upper secondary and post-secondary specialisation lines were organised hierarchically so that upper secondary programmes would lead to blue-collar tasks, and post-secondary programmes were expected to lead to white-collar, supervisory and planning tasks (Numminen, 2000). Both programmes started with the common general education component.

In addition to reforming the curriculum content of vocational education to include more general orientation and general subjects, the vocational upper secondary reform changed the role of vocational school-based education in the education system (Numminen, 2000). It initiated a route to higher education through the post-secondary vocational programmes. The expanded general education content in the curriculum created a basis for further, higher education. Moreover, quantitative planning of the number of study places was enhanced (Numminen, 2000). Notwithstanding, the first modern plans for the demand for labour and the related demand for education had been presented at the end of the 1960s (Ahola, Kivinen, & Rinne, 1991).

The vocational upper secondary education reform of 1982–1988 can be interpreted as having initiated a period of educational policy whereby the general education component of vocational education was enhanced in order to promote participation in higher and further education. In the 1980s, the initial vocational education programmes lasted 2–3 years. In the 1990s, the structure of vocational education was further reformed, and these reforms later created the basis for the trend whereby the enhancement of work-based learning would take place, in particular, since the 2000s.
The 1990s’ reforms enhanced work-based learning and access to higher education

The aims of the structural reform introduced in the vocational education system in the 1990s were:

- to raise the level of education by improving some contents and eliminating others and by creating a new higher education route (ammattikorkeakoulut, i.e. officially polytechnics, translated to universities of applied sciences [in short UAS], in the 2000s)
- to develop the structure of qualifications so that instead of earlier lines of education, there would be seven fields of education further divided into 77 upper secondary qualifications and 80 post-secondary education qualifications
- the establishment of a consecutive educational structure which allowed accreditation for prior learning and decreased overlapping education
- to broaden the educational content with the aim of a wide general vocational education and multi-vocational approach
- the modularisation of the curriculum, which enabled the introduction of compulsory and optional modules
- the enhancement of the number of free-choice courses in order to enhance individual choice
- the development of a multi-field approach which enables combinations of educational programmes and forms of education
- enhancement of the flexibility of the educational structure to support flexible progress, combination of studies and change
- promotion of the linkages between educational institutions and the world of work in order to develop internships, end-of programme practices and local innovative projects
- the renewal of teaching cultures to promote more varied teaching and learning methods
- the internationalisation of education in order to respond to change of culture and the labour market (Väärälä, 1995, pp. 129–130).

In this reform, the aim of promoting linkages between educational institutions and the world of work made explicit the demand to enhance forms of work-based learning in vocational education in a new way. It reflected the need to find new pedagogical approaches as the earlier curriculum reform had not been successful. Accordingly, work-based learning was developed together with end-of programme practices and local innovative study programmes (Leino-Kilpi & Räisänen, 1995).

The number of general upper secondary students who had taken matriculation examinations and were looking for higher and further education opportunities was defined as a problem in the late 1980s. The problem was discussed as ‘ylioppilassuma’ [the dilemma of matriculated students] (Jalkanen, 1997; Salminen, 1999; Numminen, 2000; Ahola, 2010). The lack of further and higher education opportunities created a dilemma whereby matriculated general upper secondary students spent years looking for satisfactory higher or further education opportunities. As a result, educational careers were prolonged, and the transition to the labour-market was postponed.

The preparation of the subsequent curriculum reform of upper secondary vocational education started in 1993, and according to the government’s decision, it had to be implemented in vocational upper secondary schools from 1995 and in post-secondary schools from 1996 (Väärälä, 1995; Stenström, 1997). As a result of the reform, the decision-making power regarding the contents
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of education was moved to educational providers. The length of time spent in education, the accreditation of prior learning, national aims as well as the core structure were to be decided at the national level, but the responsibility for planning curriculum contents became a matter for the local level and was placed in the hands of educational providers (Väärälä, 1995). The reform also meant a reduction in the centralised regulation of education in order to make room for modules that educational institutions could plan and implement to meet local needs (Stenström, 1997).

Changes to the eligibility to higher education, which were introduced in the curriculum reform of 1995, enhanced the further education opportunities for those who had chosen the vocational track. Those who had completed the two-year (80 study credits) qualification gained eligibility to studies in the same educational fields in the polytechnics (Stenström, 1997). In the same vein, those who had completed a three-year qualification (120 study credits) were awarded general eligibility to study in polytechnics in any field in which they could find a study place (Stenström, 1997).

Paralleling the VET curriculum reforms in the 1990s, the Finnish Ministry of Education ran a youth education experiment and a polytechnics experiment (Numminen, Lampinen, Mykkänen, & Blom, 1999). The former was established to experiment different ways of combining general and vocational upper secondary education to enhance higher education abilities and multi-vocational competences. It allowed education providers of general upper secondary education and vocational education to offer students the possibility of combining studies from both institutions in the 16 participating regions. The possibility of combining studies from several upper secondary institutions was based on the modularisation of the curriculum. It allowed the coordination of the curriculum and timetables between institutions and gave students a chance to alternate between the institutions. Young people used the 30–40% flexibility given to them in terms of the ordinary curriculum in order to make individual choices. Typically, these choices were made in order to gain eligibility to higher education, or to add some studies which were not provided by their own institutions, or students wanted to broaden their professional competences with studies from other vocational programmes or to pursue hobby-related studies (Virolainen & Valkonen, 1999). The last age cohort, which entered upper secondary education under the youth education experiment in the respective regions, started in 2001 (Laki nuorisoasteen koulutuksen ja ammattikorkeakoulujen kokeilusta annetun lain kumoamisesta annetun lain 3 §:n muuttamisesta 519/2000).

On the context of the youth education experiment, professional higher education was developed through the polytechnics experiment (Numminen et al., 1999). The former vocational education colleges which provided post-secondary VET qualifications developed their higher level curriculum, their staff were further educated and their internationalisation was enhanced. Polytechnics were established as a permanent form of higher professional education by 2000, and some of them started to use the English translation universities of applied sciences (UAS) soon thereafter even though the rectors of traditional science universities resisted this as late as 2006.

The curricula of initial school-based VET were further reformed in 1998–2001, and the post-secondary level VET was gradually abolished and displaced by polytechnics (Numminen, 2000; Stenström & Virolainen, 2014). Furthermore, the qualification structure of VET qualifications was developed. The number of VET qualifications was decreased to around 70, and basic education programmes were extended to three years. Still, even though the number of specific qualifications was decreased, each qualification could have several specifications. For example,
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a qualification in vehicle technology had specifications such as: vehicle mechanic, vehicle body repairer, vehicle painter, car salesperson and parts salesperson (National Board of Education, 2000). Likewise, within the textiles and clothing qualification, it was possible to specialise in dress-making, fur-dressing, tailoring or millinery. This curriculum reform also included the strong enhancement of work-based learning in the VET curriculum because all programmes incorporated an on-the-job training period (Virtanen, 2013). It was expected to last at least six months (equal to at least 20 study credits). In addition, skills demonstrations were adopted as a new form of assessment (Numminen, 2000; Stenström, Laine, & Kurvonen, 2006; Stenström, 2009). Since 2005, the number of vocational qualifications was further reduced to 52. Still, each qualification has had a varying number of specifications, reflecting the occupational structures of the line of trade (National Board of Education, 2015a).

In the context of the reforms of the initial VET and the youth and polytechnic experiments, a new system of competence-based qualifications was designed for adults in the 1990s (National Board of Education, 2004). The competence-based qualifications system was established in 1994 and allowed the demonstration of vocational qualifications, further vocational qualifications and specialist vocational qualifications. Participants of competence tests were not required to participate in formal education before taking the test. The idea was (then and still is) that you can have your skills qualified regardless of where you have learnt them. In practice, most qualifications were taken after participation in training, and competence tests were arranged in connection with this training (National Board of Education, 2004).

The initial vocational curricula were further renewed in the late 2000s. These reforms were more content-oriented since the reforms in the beginning of the 2000s had already introduced three-year vocational qualifications, which included work-based learning periods and skills demonstrations in all fields of production. These renewed VET qualifications also allowed access to the labour market and higher education (to traditional science universities as well as universities of applied sciences).

The latest curriculum reform is slated for implementation in August 2015. It further redfines the initial VET curriculum towards the competence-based approach. In connection with the curriculum reform of 2015, it has been claimed that the working life orientation and competence-based approach has been the starting point of the Finnish VET since the 1990s and that the later developments have only been fine-tuning and developing this approach (Kärki, 2014). The curriculum reform of 1994–1996 had already begun the modularisation of curriculum. The aim then was already to constitute modules from units of action typical to each trade. It was expected that a modular curriculum would help cross the boundaries of individual subjects while factual material would be used and components of studies would be organised as projects (Leino-Kilpi & Räisänen, 1995; Väärälä, 1995).

In comparison with the initial vocational education reforms in the 1990s and 2000s, the curriculum reform of 2015 continues to enhance the work-based learning approach in particular. The enhancement of general subjects and students’ abilities in them in order to promote progress towards higher education are not exactly agenda items. As indicated above, the new curriculum, which shall be implemented on 01 August 2015, aims to enhance the competence-based approach. In the new VET curricula, the earlier 120 study credits (opintoviikot, in Finnish) of
a three-year qualification have been transformed to 180 competence points (osaamispisteet, in Finnish). Otherwise the qualifications structure remains, in principle, mostly the same, with its 52 vocational qualifications. The broadest change in the 2015 curriculum reform has to do with the more competence-based definition of curriculum which dissolves direct linkages between progress in studies and time spent on studies (National Board of Education, 2015b). Since progress of studies is not followed according to study weeks, but according to competence points, it is claimed that the new curriculum will increase individuality and flexibility even though the comparison of the old and new curriculum contents (study credits vs. competence points) seems to suggest that flexibility has been reduced (cf. Stenström & Virolainen, 2014).

The Finnish path of VET: Enhancing competence-based qualifications

The curriculum reform of 2015 reflects the need to harmonise the Finnish VET with the European Qualification Framework. By defining the initial VET curricula in terms of the competence-based approach and competence points, the national qualification framework seems to continue to follow the prevailing national model. The dominant VET model is school-based even though the curriculum is equivalent to competence-based qualifications targeting adults and is thus somewhat closer to the outcomes-based approach. The competence points can be completed through skills demonstrations. As such, the national curriculum framework is still committed to equal opportunities and providing eligibility to higher education.

The Finnish model of school-based VET thus differs from more outcomes-based approaches in Europe, for example, that in the United Kingdom. The role of outcomes-based approaches has been enhanced in European discussions ever since the European Commission’s 2009 recommendation to its partner countries to organise a transport system for study credits (Bjørnåvold & Pevec Grm, 2013; Kärki, 2014). The European Credit System for Vocational Education and Training (ECVET) is expected to facilitate the recognition of prior learning and existing competences. However, discussions about the outcomes-based approach begun in the past decades (European Centre for the Development of Vocational Training [CEDEFOP], 2008). Dating back to the 1980s, the demands for the transparency of qualifications and the validation of non-formal and informal learning emerged together with greater internationalisation and expected mobility of the labour force. The outcomes-based approach was also expected to improve the employability of the young and unemployed (CEDEFOP, 2008).

The definition of qualifications in terms of outcomes has been seen as a shift of power away from education providers towards wider groups of interest, such as government, employers and learners (Young & Allais, 2009). The effect that the adoption of an outcomes-based approach has is bound to vary and depends on former VET traditions. In countries where longevity of curriculum traditions exists and where VET already has established institutions and related communities of practice (such as VET teachers, vocational and professional associations and field-specific education and training committees) defining curriculum aims, the effect of an outcomes-based definition of curriculum aims can be moderated. These groups and networks of expertise have engaged in previous analysis of the knowledge base demanded for successful action in trades.

Weak and non-existent VET institutions and systems have been seen as more vulnerable to
dis-connections between learning outcomes and learning programmes (Young & Allais, 2009). Accordingly, in extreme cases, weak or emergent VET institutions would limit their activities to certifying learning outcomes instead of participating in analyses of competence needs in the labour market, curriculum construction and pedagogical designs for the adoption of curriculum contents. In practice, in countries where communities of practice, such as qualified VET teachers, or educated government administrations do not exist (e.g. countries, where accredited VET provision does not exist), there is no group of professionals who would be particularly competent in curriculum planning and pedagogical design (see Evans, Guile, Harris, & Allan, 2010; Evans, Guile, & Harris, 2011). In such cases, defining an outcomes-based curriculum is a starting point for the analysis of the skills needed in the trades. In countries where vocational education traditions exist, the adoption of an outcomes-based curriculum is bound to bear greater relation to enhancing linkages between working life and education providers as well as the updating of curriculum aims.

Despite the existence of earlier curriculum traditions in many European countries, the adoption of outcomes-based curricula has been suspected of resulting in the dis-embedding of the vocational curriculum from vocational content (Young & Allais, 2009). On one hand, this could take place by displacing the specialised knowledge content and requirements related to specific knowledge fields with generic criteria (in terms of competence or capability). On the other hand, if there is too much emphasis on specificity, the demanded outcomes could be narrowed and procedures for their assessment trivialised to ticking boxes in lists of criteria. In sum, the concept of ‘learning outcome’ has been found too general for defining what the curriculum is about. In practice, it has been interpreted and used in many different ways in European countries. It has also been used only as a feature in the design of qualifications frameworks and not as its driving mechanism (Young & Allais, 2009). For instance, in the British context, competency-oriented VET and the allied learning outcomes approach have been critiqued for instrumentalism, lack of flexibility and anti-educationalism (e.g. Avis, 2012; Clegg & Ashworth, 2004; Raggatt & Williams, 1999; Wolf, 1995, 2011).

**Summary**

In Finland, the development of the school-based form of VET as the dominant form of initial vocational education training dates back to the decisions made in educational policy in the 1980s. During those times, the need to expand the delivery of upper secondary and post-secondary education became apparent, and later, successive reforms gave a basis to VET’s current, improved status. Two long-term developments have been of utmost importance in this respect. First, the development of the general education component within VET, including the continuous development of its pedagogy, has created the basis for participation in higher and further education as well as for life-long learning. Second, the development of higher and further education opportunities resulting from VET and the removal of dead-ends in the educational system have increased VET’s reputation. In Finland, participation in the initial VET has been on the increase since the beginning of the 2000s (see also Stenström & Virolainen, 2014, p. 48; Virolainen & Stenström, 2014). In 2012, 42% of compulsory school leavers chose VET. Twenty years earlier, only 32%
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of compulsory school leavers continued immediately to the initial VET (Statistics Finland, 1994, taken from Lasonen & Stenström, 1995).

The reforms of the 1970s–2010s are described decade by decade in Table 1 and focus particularly on the changes in the qualification structure, curriculum contents and eligibility to higher education. The chain of successive reforms shows how the Finnish initial VET has been developed in relation to compulsory education and higher education since the 1970s. In particular, the role of the general education component and the kind of general education delivered at the upper secondary level, and demanded as a basis for higher and further education, have been changing. In the reforms of the 1980s and 1990s, the general education component of the initial VET curriculum was first enhanced, and it later enabled eligibility to progress to higher education when applied science universities were established. Since the mid-1990s, the initial VET curriculum has been extended to a three-year-long qualification, and work-based learning contents as well as skills demonstrations have been developed as part of it (Stenström, Laine, & Kurvonen, 2006; Virtanen, 2013). The latest curriculum reform, which adopts a more competence-based approach, continues to enhance the linkages with the world of work.

The strength and success of school-based vocational education in comparison to general upper secondary education have been dependent on its higher and further education opportunities. The wide range of opportunities to continue studies after the initial VET differentiates the Finnish VET from that of many of its European counterparts (see e.g. Spöttl, 2013). While the Swedish VET is organised in a unified model, which includes general upper secondary studies, and allows progress to higher education, the situation is more complicated for apprentices in Denmark and Norway (see Jørgensen, 2014; Olsen, Høst, & Hagen Tønder, 2014). In Finland, applied science universities have provided a route to higher professional education at the bachelor’s level since the 1990s. Together with this track, there have also been other further and higher education opportunities. Those with three years’ work experience after the bachelor’s degree from a UAS can continue to the master’s level in a UAS (ylemmät ammattikorkeakoulut). Moreover, the route to traditional science universities has been made accessible to VET (depending on the numerus clausus). The share of those with vocational upper secondary certificates looking for a study place in a UAS was 27% among all UAS applicants in 2008–2009 (Kumpulainen, 2012). In 2004–2005, there were 21,966 applicants with a VET background. Among them, 44.5% received a study place, and 41.3% eventually started their UAS studies (Kumpulainen, 2008). In 2010–2011, there were 32,963 VET applicants. Among them, 35% received a study place, and 33% started their UAS studies (Kumpulainen, 2012). In traditional science universities, the participation of students with a VET background is remarkably lower. In 2004–2005, about two percent of students in traditional science universities had VET as their only former education (Kumpulainen, 2008).

In the context of higher education opportunities, further and specialist vocational education has been available as competence-based qualifications since the 1990s. Apprenticeship training has remained mainly as a route for adult vocational education (Stenström & Virolainen, 2014).

In the 1990s, the expanded provision of education lead to concerns about an ‘academic drift’ taking place in vocational education at the European level (Green, Wolf, & Leney, 1999). The concerns were heightened because the contents of vocational upper secondary education were generalised to enable the skills and competences needed for successful progress to higher educa-
tion. As we can see from the reforms described above, in Finland, the ‘academic drift’ has been counterbalanced by enhancing work-based learning in order to increase employability.

In Finland, the latest VET curriculum reform in 2015 and the reorganisation of vocational and general components in the curriculum on the basis of the principles of the competence-based approach raises concerns about the development of VET students’ academic skills and preparedness to continue to higher education. Accordingly, the outcome of the competence-based curriculum reform of 2015 and its long-term effects remain to be seen. Naturally, they are dependent on higher education opportunities and corresponding entrance requirements. While the Finnish network of upper secondary education providers is also undergoing a restructuring, the outcomes of these changes (see Stenström & Virolainen, 2014) will demand a holistic system-level evaluation within five years. Not only are the content and aims of initial vocational education in flux, so too is the provision of upper secondary education, albeit more generally.
Table 1. The Development of the Finnish School-based Initial VET Curricula (for 16–19 Year Olds) in Relation to Higher Education Since the 1970s

<table>
<thead>
<tr>
<th>Qualification structure: number of specifications</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
<th>2010s</th>
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<tbody>
<tr>
<td>650 qualifications; 25 basic programmes</td>
<td>250 qualifications; 25 basic programmes</td>
<td>-beginning of 1990s: 170 upper secondary and 80 post-secondary VET qualifications</td>
<td>52 qualifications with over 110 specifications</td>
<td>52 qualifications + reformed specifications</td>
<td></td>
</tr>
</tbody>
</table>

| Vocational further and higher education opportunities after VET and qualification structure | In principle, no access to higher education since higher education in traditional science universities and vocational colleges was limited to general upper secondary school graduates | Parallel structure of 2-year upper secondary VET qualifications and 3-year post-secondary VET qualifications | Consecutive structure of 2-year upper secondary qualifications and 3-year post-secondary qualifications created; 3-year post-secondary qualifications offered by vocational colleges were replaced by universities of applied sciences | Universities of applied sciences established as permanent HE sector; experiment of second-cycle polytechnic degrees started (polytechnic master’s degrees) | In addition to universities of applied sciences bachelor’s degrees, polytechnic master’s degrees provide an option for professional HE (eligibility for these is given by a relevant first-cycle degree with at least 3 years of relevant work or artistic experience) |

| Eligibility to higher education | No eligibility | Eligibility through post-secondary education | Expansion of eligibility to higher education through development of VET curriculum – all VET qualifications were extended to three-year qualifications | Three-year VET gives eligibility to UAS and traditional universities (based on numerus clausus) | Formal eligibility to all higher education with VET certificates (based on numerus clausus) |

| Major changes in curriculum | Training for occupational tasks from the very beginning of VET | Common general subject component introduced in upper secondary and post-secondary VET programmes | Modularisation of curriculum; flexibility and individual choice; development of internships in post-secondary VET. Polytechnics replace post-secondary VET and their curriculum is developed to a higher level | All qualifications extended to last three years (120 study credits) and on-the-job learning and skills demonstrations adopted in curriculum | Competence-based approach adopted as a principle of the curriculum. A shift from study credits to competence points |
2. Innovations in Finnish VET: Improving the prestige of VET among young people and in the labour market

In Finland, the systemic changes introduced in the school-based VET during the last few decades have improved its status. Participation in VET and employment with VET qualifications have increased (see Figures 1 and 2). These systemic changes which have improved the initial VET’s status are, in particular, reforms of curriculum and qualification structure as well as those relating to eligibility to higher education (discussed in detail in the previous section). When the year 1992 is taken as a starting point for comparison, the change in participation in VET is even more dramatic than is pictured in Figure 1 on the years 2000–2012. During those year, 32% of compulsory school leavers continued immediately to VET whereas the transition to VET increased to 41.5% by 2012 (Statistics Finland, 1994, cited by Lasonen & Stenström, 1995; Statistics Finland, 2014a).

In addition to these systemic changes, there are also other meaningful factors which have contributed to increased participation in VET in comparison to general upper secondary education. These additional factors, which have also positively affected the prestige of the Finnish VET, include skills competitions (Ruohotie, Nokelainen, & Korpelainen, 2008) and the internationalisation of VET (Korkala, 2012). National skills competitions have often been used for guidance counselling because they offer a glimpse into what is going on in VET studies. They show, in a down-to-earth manner, that the question in VET is about learning, training and winning. Likewise, internationalisation has not only improved the image of VET, it also enables opportunities to learn how people with similar educational backgrounds and vocational interests work in other countries: what kind of education they have, and what kind of career opportunities are available abroad. In 2010, the number of students who had participated in an international exchange for at least two weeks was about six percent of the number of VET entrants (Korkala, 2012).

The increased participation in the Finnish VET reflects the changed transition patterns within the education system and the wider opportunities for post-compulsory education. VET students’ employability and transition to the labour market give yet another perspective about the expansion of education. Figure 2 shows how the employability of VET students has developed since 2005. Further statistics by Statistics Finland (2014c) show that VET graduates employment improved since 1998 until 2007, when the latest recession started. In addition, the Figure 2 shows how the expansion of higher education, typical to all Western European countries, has sustained the gap between the employability of VET students and higher education graduates. In Finland, finding employment with a vocational education background is significantly more difficult than finding employment with higher education certificates (Figure 2). Also, in Finland, the situation of those with an initial VET education background was slightly worse than in Denmark, Norway and Sweden in 2010 (Education, Audiovisual and Culture Executive Agency [EACEA P9], 2012, p. 178; Virolainen & Stenström 2014). The differences in employment reflect the intensive expansion of higher education in Finland compared to other Nordic countries. In Finland, 19% of 20–39-year olds attended higher education institutions in 2012 while the rate was 15–17% in other Nordic countries. While the difference between Finland and other Nordic countries in HE at-
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tendance has been decreasing, there has been a long-term difference since the 1990s (Haagensen, 2014, p. 73). At the same time, since the beginning of the 1990s, the level of unemployment has been relatively high in Finland compared to other Nordic countries. It only decreased to the same level of Sweden’s around 2008 (Haagensen, 2014, p. 84). In the Finnish education system, some tensions between employability with VET certificates and HE certificates have been solved by offering higher and further education opportunities and promoting life-long learning. Accordingly,

Figure 1. Direct transition to upper secondary education by completers of the 9th grade of comprehensive school in 2000–2012 in Finland (Statistics Finland, 2009, 2014a).

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the Finnish education policy has been actively adjusting its strategy towards a service-oriented, knowledge-intensive economy. In Finnish society, the expanded provision of higher education and the related increase of research inputs have been seen as a vehicle towards the knowledge society in the 2000s (Schienstock & Hämäläinen, 2001). People have used these opportunities in various individual ways (see Stenström, Virolainen, Vuorinen-Lampila, & Valkonen, 2012). At the same time, the polarisation of skills needs as well as the changes in field-specific labour demands has created uneven skills shortages and an over-supply of qualifications in some fields (see Zukersteinova & Wilson, 2009). In order to respond to these mismatches, there is a need for adult education. In Finland, the level of participation in adult education has been relatively high, however, parts of the adult population suffer from shortages in basic skills (Malin, Sulkunen, & Laine, 2013). In relation to high levels of participation in higher and further education, there has been some public discussion on the inflation of qualifications; however, from an individual perspective, participation in education serves as a means to a better and more secure career and wider employment opportunities. One crucial question with respect to developing VET seems to be how to support participation in further education for those adults whose basic skills are weak and earlier education level low.
3. VET Innovations: Improving social inclusion and combating student drop-out

In principle, Finland shares the same welfare regime – the universalistic regime – as other Nordic countries, but there are also national differences in transition systems. The universalistic welfare regime is an outcome of Nordic nation states’ construction of the welfare state. It is characteristic to the universalistic regime that education and training pathways are planned in an inclusive manner and that they are flexible to individual choices. Under this regime transition policies focus on the activation and education of the youth (Walther, 2009). The emphasis on individual choice in the transition policies of universalistic regimes differs from other regimes, which underline employment or have lower standards of training (Walther, 2009). While the Nordic countries share a universalistic regime as the robust framework for their transition policies, their transition systems also have differing characteristics. These differences include the tools by which the young are guided or obliged into education. Since 1996, in Finland, these tools include that youth under 24 years are obliged to participate in education or an apprenticeship training programme. They were not to receive unemployment benefits if they did not have vocational qualifications (Aho & Vehviläinen, 1997). Furthermore, since 2013, the Finnish Youth Guarantee has been offering everyone under the age of 25, as well as those who have recently graduated and are under 30 years, a job, on-the-job training, a study place or rehabilitation (Ministry of Education and Culture, 2013; Ministry of Employment and the Economy, 2012).

These policies have been seen as contributing to increases in the cancellation of studies, but follow-up research has not presented unambiguous support for such claims. There has been no significant difference in comparisons between cancellations by youth under the inclusive norms and those by voluntary entrants to education (Aho, Pitkänen, & Vanttaja, 2012). Half of the surveyed youth who participated in VET as a result of the normative, obligatory application system were also positive about the norm (Aho et al., 2012). Unfortunately, the number of respondents in this survey was quite low (n=92). Furthermore, the norm was seen as negative by young people who were very unclear about their study plans and by those who were determined to go to some specific place. These young people considered a gap year as a better option. Thus, the inflexibility and lack of individual adjustments was criticised by the youth in question. Some young people who were obliged to study in a field which did not interest them found it demotivating. They considered their own reasons for participation purely instrumental. They only participated for the sake of the economic benefits and criticised especially the guidance counselling offered to them in the last years of compulsory education (Aho et al., 2012). Also, in efforts to develop the youth guarantee, guidance has been found crucial (Mäkelä & Haukioja, 2014). On the whole, a paradox created by the increased freedom of choice and options has been the increased demand for guidance counselling.

Typically, the level of study cancellations has been somewhat higher in VET than in other sectors of education. In 2002–2003, around 11% of VET students cancelled their studies, and by 2011–2012, the level had decreased to nine percent (Statistics Finland, 2014b). The drop-out rate was lower in other sectors of education, and particularly in general upper secondary schools where less than four percent of students cancelled their studies (Statistics Finland, 2014b). The re-
duction in the drop-out rate, including in VET, is the result of several factors: more active policies of inclusion, the recession and the development of education. Also, the pedagogic leadership of vocational institutions has been developed by investigating and sharing good practices (Jäppinen, 2007; Jäppinen & Maunonen-Eskelinen, 2012). Moreover, vocational special education has been developed (Rinne & Järvinen, 2011; Vanttaja & Rinne, 2008). These efforts reflect the objective to develop educational processes and the quality of VET in general.
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Recent reforms and innovations in Danish Vocational Education and Training
1. Innovations to improve the access to higher education and raise the esteem of VET

The eux programme: an innovation in VET

The most important innovation in the Danish VET-system during the last decade is the introduction of the eux-programme that cuts across the divide between general and vocational tracks in upper secondary education. For the last three decades all reforms of vocational education have included aims and measures to build stronger linkages from the VET system to higher education. The latest initiative that has gradually been introduced since 2010, the new eux-programme, does represent a real innovation in the Danish VET-system. The eux-programme integrates eligibility for higher education (‘studiekompetence’) with a certificate for employment as a skilled worker (skilled worker’s certificate). The programme aims at two of the key challenges for the VET-system: by providing better access to higher education it seeks to improve the esteem of vocational education. In the comprehensive reform of the Danish VET-system that is being implemented from 2015, the eux is assigned an import role. In the words of the political agreement on the reform: “This initiative [eux] is considered a strategic measure to attract more resourceful young people to vocational education and will be extended” (Undervisningsministeriet 2014:61). To understand how this initiative came about and its innovative nature in a Danish context, we have to take a look at the specific challenges of the Danish VET-system. In addition we have to look back at previous attempt of innovation with the same general intentions as the eux-programme.

Background for the new eux programme

The reason, why policymakers persistently have pursued the aim of strengthening the connection between the VET-system and the tertiary level, is that this connection is quite weak in Denmark (Jørgensen 2013; 2014). The Danish VET-system is organised according to an ‘employment logic’ (Ianelli & Raffe 2007) and its main purpose is to provide qualifications that are recognised in the labour market and to give access to skilled employment.

The backbone of Danish VET-system is constituted by work based learning of vocational skills in a training placement in a private company or a public institution. School based learning has over the decades been added on to the apprenticeship model, but work based training still makes up around two thirds of the duration of the vocational programmes. And the workplace is by most apprentices and by the labour market organisations considered the most important learning venue. A major strength of this system is that it quite effectively supports the transition of the apprentices...
from the educational system into the labour market. Almost half of all apprentices continue as regular employees in the training companies after completion of an apprenticeship, and from the beginning their earnings are close to earnings of experienced colleagues. Their transition to ordinary employment already is achieved successfully, when they complete their apprenticeship in the dual system. This quality of the dual system of VET has been demonstrated by extensive international research (Dieckhoff 2008; Gangl & Müller 2003; Andersen & Werfhorst 2010; Wolbers 2007).

This strength of the Danish VET-system has increasingly also shown to imply some weaknesses. As the VET-system is based on strong occupational profiles and long periods of training placement, it is difficult to achieve entrance qualifications for higher education in the VET programmes. And this weakness has moved higher up on the agenda of the stakeholders of the VET-system as the enrolment in the vocational programmes from compulsory school have decreased strongly.

Enrolment in the Gymnasiums in Denmark has doubled more than five times since the early 1960es. Already in the middle of the 1970s the number of young people entering the Gymnasium exceeded the number of new apprentices. A growing share of every youth group have voted with their feet and chosen the Gymnasium after completing compulsory school. Participation in higher education had grown concurrently with the growth in students in the Gymnasiums, but enrolment in vocational education has stagnated and during the last decade it has even decreased.

The explanation for this decline, from the perspective of policymakers, is that vocational education appears as a ‘blind alley’ in the educational system. It gives favourable opportunities for employment and good earnings, but gives access only to a specific occupation. So when young people have to choose between the two tracks at the age of 17, many chose the Gymnasium to keep open their opportunities for higher education - or just to postpone their specific choice of career and employment (ref). This tends to reduce the status of the dual system among young people. In addition, the choice of educational pathway is strongly dependent on social background. Three times as many students in the Gymnasiums have parents with completed higher education compared with the students in vocational education.

At the political level this is increasingly considered a serious problem, because forecasts for the labour market predict a significant shortage of skilled labour. In addition it is considered a problem that one in seven of the young people who complete general upper secondary education (Gymnasium) do not progress in the education system. With only general upper secondary qualifications they often have a weak position in the labour market. So from 2013 the Government has demanded that more young people should chose vocational education and less should go to the Gymnasiums. To achieve this, the challenge of low esteem and ‘blind alley’ of the VET-system had to be addressed. As an innovative answer to this challenge, the eux-programme was launched in 2010 and gradually implemented in most vocational programmes. To understand why this particular initiative came about, we have to look back at earlier attempts to innovate VET that were introduced earlier, but without success: introducing additional qualifications and vocational Gymnasiums.

Unsuccessful attempts to innovate

Since the defeat of the strategy for uniting the two tracks of upper secondary education in the Par-
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In the late 1970s, policymakers have sought for other ways of improving the connections between general and vocational education. A first measure to achieve this was to offer students additional general subjects in the vocational programmes. In connection with major reforms of the dual system in 1991, 1995, 2000 (Betænkning 1112 and 1283) and 2006 (Undervisningsministeriet 2006) it was emphasised in the white papers preparing the reforms and explicitly written into the legislation that the students should be given opportunities to attain higher education entrance qualifications in the ordinary dual system. The students should be given choices to improve their academic level by taking supplementary general subjects or to take them at a higher level. One of the reasons for emphasising this was that this initiative was considered as a mean to increase the esteem of VET and attract also high performing students to vocational education, and to avoid ‘dead ends’ in the educational system. Even though the VET-system continued as a separate track, permeability should be secured and opportunities made available for progression to further studies from all vocational programmes.

In spite of these often repeated political aims, the actual development of the VET-system shows that these intentions have not been fulfilled. The last two decades have seen a decrease in students’ progression to the tertiary level of education after completing a vocational programme (Frederiksen et.al. 2012). And a decreasing share of young people achieves double qualifications that combine vocational qualifications and entrance qualifications for the tertiary level education. This incongruity between the persistent political aim of increasing permeability and the actual widening of the gap between VET and higher education can be explained by a combination of different causes.

Explaining policy failures

A first explanation for the failure of policy to increase progression to higher education is that the political reforms of the period mentioned had multiple aims. The reforms not only had the aim of increasing the permeability to higher education, but other competing aims. From the early 1990es social inclusion in VET came high on the political agenda, supported by an ambitious goal of making 95 % of all young people complete an upper secondary programme. This diverted the attention from the academically ambitious students to students at risk of dropping out. The measures to include and retain the low performing students counteracted the aims of connecting VET to higher education.

In addition, the labour market organisations are strongly involved in the governance of vocational educational in Denmark, in the so called ‘occupational self-governance’ (Juul & Jørgensen 2011). This is generally considered an advantage, because it is a warrant for the value in the labour market of the qualifications acquired in vocational education. The involvement of the labour market organisations gives the programmes a strong focus on specific vocational qualifications. Many of the programmes, especially the traditional craft and technical programmes, match closely specific occupations in the labour market. This is a quality of the Danish VET-system where the articulation between education and work is based on the occupational principle in contrast to school based VET-systems based on the meritocratic or organisational principles (Deissinger 1998; Marsden 1999; Verdier 2013). This close linkage results in at smooth transition from edu-
cation to work and low youth unemployment. In times of increasing difficulties for non-academic young people trying to enter the labour market, this quality is highly valued by policy makers.

This is one of the explanations why numerous political initiatives to strengthen the links from vocational education to higher education have failed during the last decades as shown in the earlier Nord-VET report (Jørgensen 2014). All the major stakeholders have given highest priority to the achievement of vocational qualifications and to the employability of the apprentices. The tradition position of the employers organisations is to emphasise the importance of maintaining the practical use value of vocational education and have opposed the expansion of general subjects in the programmes at the expense of the vocational skills. As the identity of the Danish craft type of unions is strongly occupational, they have been in line with the employers on the primacy of vocational skills. Due to the craft and occupational basis of these organisations they have taken little interests in providing access to higher education for the apprentices, as this would make them lose potential members. To give an example: When the new Initial Vocational Education (EFG) was introduced the labour market organisations in the metal industries succeeded in getting the general subjects reduced to only to 25 % instead of 40 % that was required in the reform (Christensen 1978).

In addition, there has been no significant demand for additional general subjects from the vocational students/apprentices. The social background of a majority of the vocational students does not lead them in the direction of higher academic studies. Many vocational students have chosen a vocational programme because they were tired of ‘bookish’ and school based learning. This is especially the case for young people who start in a vocational programme forced by the activation policies that makes it an obligation to be in education, training or employment.

Lastly, the organisation of the vocational programmes does not support individual choice of additional qualifications. The vocational programmes have not been modularised or individualised to any great extent. The curriculum is standardised on the national level and most students follow the same type of courses. This is the case even after a reform in 2007 that introduced streaming and grouping of students according to their prior learning and attainment. The students were separated into different courses, but the courses mainly differed regarding their duration. Low performing students were given more time to achieve the same level as the high performing students. This means that there is only a weak tradition of individual choice of subjects and modules in the vocational schools. Furthermore, it is not economically attractive for the colleges to offer these subjects, since it is difficult to gather a sufficient number of students in each subject to organise a whole class. Another reason is that these qualifications are offered not in an integrated curriculum, but as individual courses taught separate from the vocational teaching that often takes place in workshops in the colleges. The majority of students in the vocational colleges are oriented towards vocational skills and occupational employment. Choosing additional general qualifications would separate them from their class mates and prolong their course, and this doesn’t appear encouraging to many of them. So in spite of continuous political intentions to build bridges to higher education by offering additional general qualifications, this did not happen. The vocational schools failed to attract more academically oriented young people and the Gymnasiums contained to expand. As a consequence, the growth of higher education went around the VET-system, not through the VET-system that increasingly appears as a ‘blind alley’.
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(Juul 2006; Jørgensen 2014). This was to some degree the result of another innovation in VET, the introduction of the Vocational Gymnasiums.

The Vocational Gymnasiums were promoted as another innovation in the 1980es to reduce social inequality and increase permeability on the road to higher education. As examined in Jørgensen (2014) they also succeeded recruiting from wider social groups that are not familiar with academic education. But the Vocational Gymnasiums haven’t succeeded in offering double or hybrid qualifications that give access to higher education as well as to skilled employment. The Vocational Gymnasiums are full time school based that are mainly preparing for studies in higher education, and they include no or very little work based learning. They do not offer the skilled workers certificate, which in Denmark is required to enter the skilled labour market. They have succeeded to grow and now recruit 16% of a youth group. They partly recruit among youth that would otherwise have enrolled in a vocational programme. They draw some of the most academically strong students out of the VET-system and reduce the progression rate from VET to higher education. Consequently, this innovation succeeded in widening the recruitment to higher education, but failed to widen the recruitment from VET.

This analysis of earlier attempts to innovate the VET-system in order to create links and pathways between vocational and general education and between VET and higher education has revealed some of the dynamics of the system. This knowledge can be valuable to understand the potentials of the new hybrid eux-programme that offer ‘double access’.

The new eux-programme

A five year developmental programme was launched in 2005 to test a programme that offered double qualifications. This so called ‘EUD-HTX program made it possible to achieve a skilled workers certificate for carpenter, automation-technician or industrial technician and at the same time complete an examination corresponding to the Higher Preparatory Examination (HF) that give access to higher education. The first students from the pilot programme completed in the summer of 2010. The evaluation of the pilot programme found that the programme’s duration of five years was too long to attract any wider number of students. The benefit of taking the hybrid programme was not obvious for the students compared to taking two consecutive educations. The students would only save ½ - 1 year study time when choosing the developmental programme compared to completing the one programme after the other.

A revised initiative was enacted in 2010 by with the act on the eux-programme. The eux represent a programme for integrated delivery of the general and vocational qualifications as hybrid qualifications, which means that the two types of qualifications are transmitted in a single program. The eux programme started in a limited number of occupational areas in the building trades such as carpenters and bricklayers, and is expanding in new areas, so that it covers 24 occupations by the beginning of 2015. The official evaluation of the programme will not appear before 2016 when a substantial number of students have completed it. The following analysis of the programme is based on a study made in 2011 with key stakeholders at all levels from the ministry of education over the vocational schools to the students (Jørgensen 2011; 2013) with supplementary interviews made in 2014.
The eux programme is positioned in between the two existing educational pathways: the dual system and the vocational gymnasium. As mentioned before, the normal VET-programmes do not give access to higher education. And the Vocational Gymnasium does not give access to the occupational labour markets for skilled workers. The innovative ambition of the new eux programme is to do both by integrating academic subjects into the vocational programmes. In the initial period of implementing the eux 2010 – 2015 the organisation of the programmes has differed between occupational areas regarding lengths of work based training periods and school based courses (figure 1). With a reform in 2015 all periods will be standardised six month in order to solve some of the challenges that the eux has raised for training companies and schools.

The innovative character of the programme can be understood by comparing it to similar programmes that combine general and vocational qualifications. The vocational Gymnasiums in Denmark and the vocational programmes in the Swedish ‘Gymnasiskola’ are school based programmes that do not give direct access to skilled employment (Hallqvist & Persson Thunqvist 2014). The experience from the Danish and Swedish full time school based vocational programmes (‘Skolepraktik’ and ‘Gymnasiestudens yrkesprogram’) show that the access to skilled employment is more difficult for students from these programmes than from programmes based on apprenticeship (Jørgensen & Juul 2010; Olofsson & Wadensjö 2006). Employers in Denmark, like employers in Germany, have been very reluctant to recognize the value of qualifications acquired in full time school based VET. The successful Swiss hybrid programme, the ‘Berufsmatura’, offers (in one version, BM2) eligibility for higher education by taking an additional year after completion of the vocational programme (Smid & Gonon 2011; Nikolai & Ebner 2011). This version has become the most popular over the last years. In contrast to the Danish eux the Berufsmatura in this form does not offer integrated teaching of the two types of qualifications. And this indeed is one of the challenges for succeeding with a hybrid programme that involves two separate learning venues, school and workplace. The experience from the developmental programme (‘EUD-HTX’) demonstrated that in order to succeed the programme had to cope with some serious challenges. Most of these challenges relate to the strong institutional separation of

![Figure 1: The new hybrid program eux in comparison with existing programmes](image)

From August 2015 the periods of school based and work based training in eux will be 6 months duration.
the two types of qualifications that has traditionally characterised Danish upper secondary education.

Challenges for the eux programme

The eux is basically a combination of two programmes: a three year Gymnasium and a four years apprenticeship. The length of the eux differs a bit between the programmes, but is normally four years and one or two month - and not seven years as the total length of the two programmes that it combines. This is one of the major challenges that had to be addressed in the development process until 2015. The eux is an apprenticeship programme onto which has been added a general upper secondary education. This means that the students receive a wage during the entire programme except for the first 6 months in the school based basic course. The eux programmes are covered by the occupational self-governance of the VET-system where the labour market organisations have a decisive voice.

Challenge of integration of two systems

Planning the hybrid programme has called for new forms of cooperation between stakeholders from vocational and general education at all levels. According to the law the eux is defined as a vocational programme in the dual system that has included the academic subjects that give eligibility for higher education. It is not a general programme form the vocational Gymnasium that has added work based training to get a skilled workers certificate. This organisation has been necessary to gain the support for the programme of the labour market partners, who would not cede control of the vocational part of the programme. Accordingly, the eux is not categorised as a third option between the general and the vocational track by the Ministry of Education, but as dual programme with enlarged competence. As a consequence, the Ministry of Education has left much of the planning of the courses to the training committees for each occupation, but it has nonetheless from the outset set up a narrow framework for designing the new programmes. In addition there has been some uncertainty among the many actors as to how free they are to change the academic level of the subjects, the course-work and the course duration. This has sometimes made the planning process lengthy and arduous.

The labour market partners have welcomed the new hybrid programme, though there has been some disagreements concerning the level and structure of the programme. Earlier the employers’ confederation and the skilled workers unions have opposed the integration of the two tracks, because they feared to lose influence in a unified model of upper secondary education. Introducing hybrid qualifications cuts across some of the established divisions on the labour market and thus poses a challenge to the organised interests. Occupational forms of qualifications and craft types of unions dominate in the Danish labour market. The skilled workers’ unions have until now pursued a strategy of introducing high quality and high level programmes inside the dual system, some lasting 5½ year, in order to attract and keep the more ambitious students. Yet, these unions have taken a positive stand to the EUX, mainly because they see this as a way to improve the esteem of vocational education. The employers’ organisations generally approve of the hybrid programme, but in some industries they have been divided between smaller and larger companies. The larger
companies more often require new kind of hybrid qualifications to work on the boundaries between the development and production departments. Hybrid qualifications are expected to link the communities of the skilled workers with employees in development, planning, sales and marketing departments. Accordingly, the entrance of students from the eux might promote innovation in the workplaces by connecting professions and occupations that have earlier worked separately.

**Hybridity of subjects**

A contested area in the planning of the new eux was the importance and the length of the various subjects. The reduction of the duration of the programme from 5 year in the pilot scheme to 4 years and one month has made this difficult to solve. What content could be left out or reduced in order to achieve the required reduction in the duration of the length of the programme? According to the Ministry teaching in the eux must create synergies between the two dimensions of the programme by connecting the teaching in the academic subjects to the vocational content of the specific occupation (Undervisningsministeriet 2015). This has required an accreditation of some general qualifications that are acquired in the vocational subjects and a shortening of the length of some of the vocational subjects.

One way to achieve a reduction of the duration of the programme was to give credit for the general qualifications acquired in the vocational subjects. When electricians learn the technical subjects, they also learn some math. It has been a difficult question to settle, how much credit should be given for this learning. A solution to this question was to introduce new interdisciplinary or hybrid subjects, like ‘technology’, which involves multiple subjects such as social science, physics, math and language skills. In these subjects the students can at the same time learn general and technical subjects and thus save some teaching time.

Another way to save time by integrating the two types of subjects is through project-based teaching, where content from different subjects are integrated by having the students to work in groups on a common project. For example a vocational college made project-based teaching on ‘Bridges in Europe’ that integrated chemistry, physics, math and technical knowledge and skills. An issue of tension was the role of the various subjects involved in the integrated or hybrid subjects: Teachers in some subjects have feared that they become reduced to a minor, supporting role for other subjects that are assigned a more central role. This issue can be aggravated when the pressure on the time is strong, since time spent on a common project work can reduce the time assigned to the individual subjects.

In the new reform of VET that is implemented in 2015 the integration of the vocational and general subject is emphasised (Undervisningsministeriet 2014:13). It is argued that this integration will make it possible to acquire the qualifications faster and better combine theory and practice in the programme. But at the same time the Ministry recommend that the vocational schools teach the general subjects in classes for students from different vocational programmes to make them financial sustainable. But obvious this will make it difficult to integrate the general subject with one specific vocational subject.

**Challenge of duration of the hybrid programme.**

A key question was how to organise in a four year programme the content that it otherwise takes
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seven years to learn in the two separate programmes? The organisation of the programme had to balance different interests. On the one hand the length of the hybrid eux-programme should be long enough to attain the level of qualifications required for eligibility for higher education, and on the other hand it should be short enough to make a difference in comparison with taking the two educational programmes consecutively. The length should not be much longer than the ordinary dual programmes in order to attract students, but that the length should be sufficiently long to avoid a compressed programme that only elite students can complete. And it should be long enough to make employers provide training placements, which implies another challenge.

If the hybrid programme is too long it will be difficult to attract students, as five years proved to be too long in the pilot project. If the programme is made shorter, reductions would have to be made in work based periods. Reducing the time spent in a training placement can jeopardize the commitment of the smaller companies to provide placements. Reducing the school based part can jeopardize the direct progression to higher education, and only access to specific polytechnic programmes will be attained. Aiming at high levels of general qualifications in a short programme can provide more universal access to higher education, but will make the hybrid programme manageable only for a small elite. The attractiveness of the hybrid eux-programme to the students depends on the programme’s qualities in comparison with on the one hand the vocational Gymnasium and on the other hand taking double education consecutively, which for some students appear more manageable: one programme at a time. As the first students only complete in 2015 it is not possible now to determine if the current organisation has proved successful.

**Challenge of training placements**

Another challenge to be taken care of in relation to the length of the programme is training placements. The Danish dual system is organised with block release, typically ten weeks away from the training company in a school based course each year. Employers are used to the students leaving for school based courses, but they mostly consider them a bother. There is a risk that employers will stop offering training placements if the school based courses are extended and the training periods in the company are shortened. The largest reductions of time has been made in the work based training periods, which in an ordinary vocational programme make up two thirds of the total duration of the programme. This significant reduction has not passed without debate. The concern has been that too great a reduction of length of the training periods would threaten the recognition of the programme on the labour market, since the value of the dual system relies on the specific qualifications and the socialisation that is acquired during the training placements.

In addition, for the employers the length of the programme has implications for the financial costs of apprentice training. The value of the labour afforded by the apprentice goes into financing the training costs of the company. Apprentices are employed and paid by the training companies, and shorter training periods means lower revenue. The length of the placement is to some extent determined by financial considerations in addition to the educational considerations. The hybrid programme is based on the dual system in order to obtain support from the employers’ organisations. But employers are no uniform group. Smaller and larger companies often have different approaches to apprentices and training placements. Larger companies often take on apprentices with a long-term perspective of investment and recruitment. The small and medium sized companies
provide the majority of training placements and often rely on the labour power of the apprentices to maintain day-to-day production.

Historically the length of apprenticeship and the training periods in the companies has been decided on the basis of an assessment of the financial costs and benefits of the companies (Christensen 1978). Companies normally invest in the beginning of the training period and benefit the last year or two of an apprenticeship contract. Cutting too much down on the work based training periods could cause the companies to reduce the supply of training placements for the new hybrid programme. In smaller firms apprentices often count as part of the necessary workforce to maintain the running of daily business. During the prolonged school based off-the-job periods the smaller companies might miss the apprentices to maintain the production. During the first period of implementation of the eux in 2010 – 15 the lengths of the school based courses were in some programmes up to one year and this was considered to be a problem for some companies that might chose not to take on apprentices. The question of training placements is considered a serious challenge to the success of the programme. In the period of introduction of the hybrid programme there is a serious shortage of placements for students, who have finished their basic course and need a placement to continue their programme. The challenge facing the hybrid programme is that if it cuts too much down on the length of the training placements the lack of placements could be aggravated. At the same time longer periods of work based training can make it very hard to attain a high level of general qualifications – or the length of the total programme will be too long to attract students. Accordingly, the present length of just over four year is a compromise between different interests.

Integration of different learning cultures

Experiences from the pilot programme show that it is a big challenge to integrate the learning cultures and tradition of the two different tracks. It was also a challenge to make the two departments in the Ministry of Education to cooperate on the new programme. Some in the upper secondary school department believe that placing the programme under the auspices of the Gymnasiums would have been beneficial, partly because this would make it easier to attract young people to the hybrid program.

On the whole, the eux has been welcomed by the labour market partners and teachers’ organisations, but in practice many difficult question arose. In particular, the designing of the courses and the planning in the training committees took time. If was difficult to decide how the practical part and the school-based parts should fit together in such a way that the programme offers a viable alternative to existing education paths.

The different institutions of education also have to cooperate with regard to timetables, teaching staff planning and syllabuses. The vocational schools had to draw in teachers from the vocational Gymnasiums to teach in some of the general subjects. Not just the teaching staffs, but also the students in the two tracks, have to be socially and culturally integrated. The two areas of education have different ways of organising and structuring the teaching. It has also been a challenge for the vocational schools to take the training committees’ instructions into consideration while also following the framework established by the Ministry of Education.

The schools have been quite positive about the hybrid programme. But they also point to the
risk that the programme will recruit the strong students from the ordinary dual programmes and thus their esteem even further. There is thus a risk that the effect of the hybrid programme will be the opposite of the intended, to increase the esteem of vocational education.

A last challenge concerns the level to be acquired in the academic subjects – and what type of hybrid qualifications should be offered. Should it be high enough to gain access to all institutions of higher education (full hybrid qualifications) or just to the lower levels, the Bachelor degrees at the University Colleges and short cycle programmes at the Vocational Academies? On the one hand the Ministry of Education has paid attention not to set the level too high and not make the programme too elitist and exclusive. On the other hand some training committees have argued that the level should be high enough to meet the entrance requirements of the most likely programmes in higher education, e.g. the Diploma in Engineering for electricians.

The training committee argues that the advantages of going through a hybrid programme would disappear, if the students only gain access to short cycle programmes of the vocational academies. If the students have to take supplementary courses in order to gain access to their favourite higher education programme after completing the hybrid programme, the idea of the hybrid programme will be lost. The Ministry of Education has decided that the level corresponds to the higher preparatory exam (hf) which is not enough to get admission to some of the more popular and demanding programmes in higher education.

Conclusion: eux as innovation in VET

The eux is innovative because it sets out to create a truly hybrid programme by combining two types of education that in Denmark has been strongly separated until now. This is no small endeavour as the gymnasiums and the vocational schools have different origin and tradition, recruit from different social strata and have different forms of governance and learning culture. What is unique about eux in a Nordic context is that it goes beyond the school based Swedish and Finnish upper secondary vocational programmes that combine vocational qualifications with eligibility for higher education. The Danish eux is different by building on the apprenticeship model that gives the students direct access to skilled employment (a skilled workers certificate). This raises some new challenges that the VET-system at all levels have tried to handle as has been analysed here. In relation to the length, academic level, weight of subjects, training placement, etc. some difficult trade-offs had to be balanced. One of the innovative dimensions of the eux is that it to some degree integrates vocational and general subjects in new combined subject and in problem-based work, where new forms of genuine hybridity are developed (Dibbern & Østergaard 2013).

No students have before summer 2015 completed the new eux programme, and it has only been introduced gradually in new vocational areas in addition to the two programmes in the pilot project. Consequently, no conclusive assessment of the success of the eux is available at the present time. Concurrently, it is not possible to determine whether the eux has mainly attracted young people who would otherwise have chosen the vocational Gymnasium, or if eux has attracted the most ambitious students from the ordinary VET programmes. This question is important to decide if the programme has succeeded in attracting more academically strong students and in raising the
esteem of the vocational schools. The eux programme has been strongly marketized and no doubt this has contributed to make it clear that a VET programme now can give admission to higher education.

It is clear that the new eux programme is considerably more demanding than the ordinary VET programmes, which implies the risk that it will become a kind of elite education for a very small group of students. Enrolment in eux has exceeded the expectations, but still comprises only 2% in 2013-14 of all students in VET (Undervisningsministeriet 2014). It is likely that the introduction of the eux contributes to the existing hierarchisation of upper secondary education where the technical vocational programmes rank lowest. But it might at the same time raise the esteem of the VET-system by demonstrating that it is not necessarily a ‘dead end’.
2. Innovations to improve linkages with the labour market and social inclusion in VET

Even though the Danish VET-system provides a quite seamless transition to the labour market for students who complete an apprenticeship, the system is burdened by two serious weaknesses that seem to be inherent to dual systems (Ryan 2012). The first problem is the recurrent – and almost permanent - shortage of training placements, which is caused among other things by the fluctuating supply of placements depending on the economic conditions in the labour market. The second problem is the weak connections between the two learning environments, vocational school and training company, in a learning perspective. The world of work and the world of education appear very often to be very weakly connected in the perspective of the learners (apprentices).

Both of these weaknesses have for decades been recognised by the stakeholders of the VET-system, not only as weaknesses of the quality of training, but also as problems of inclusion. Both weaknesses are known to increase the propensity of students to dropout of education because they cannot find a training placement or they cannot find meaning in the training. Over the years a range of measures have been taken to solve the problems, but the problems seem to persist.

The deficit of training placements has increased during all downturns in the economic cycle since the 1970es and has recently grown strongly in the years following the financial crisis in 2008. This problem has been addressed in all the reforms of VET for the last two decades (see report 1b: Jørgensen 2014) first of all by expanding the opportunities for school based training to compensate for the lack of training placements in companies. Although this has to some degree alleviated the problematic situation for students looking for training placements, it is not by the majority of the students seen as a valuable alternative to work based training. Consequently, by a reform an innovative new institution was introduced in 2013 to meet the challenge: the training centres. This innovation is not only meant to handle the challenge of shortage of training placements, but also to increase inclusion in VET, as one the main reasons for students’ dropout from the vocational programmes is that they cannot get access to a training placement.

As to the weak connections between the two learning environments this problem is recognised in the latest reform, which is implemented from August 2015 (Undervisningsministeriet 2014). In
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This reform three measures are introduced to improve the linkages between school and workplace for the students. These measures might be helpful to increase the linkages between the two learning environments, but they can hardly be described as innovative. They include the opportunity for vocational school teachers to do short internships in training companies. This opportunity has existed for decades, but now some financial support is allotted for this. The other initiatives include relating teaching more to work practice and defining learning goals for using theory during the training placement and more systematic recapitulation in school of learning during training placements. A more innovative measure is not included in the reform, but taken up by a few trade committees. This innovation is called a Practicum and involves defining a common project work that connects school and workplace. It commits school teachers, workplace trainers and the apprentice to work together to define and solve a work related problem (Koch & Lundsgaard 2000).

2.1. Innovation: the new training centres

From school based training to the new training centres

In other countries with dual systems of VET, like Germany and Switzerland, students must have a training placement in order to get access to a vocational programme. In Denmark the majority of young people, who start in the basic course of a VET programme, do not have a training contract beforehand. During the full-time school based basic course (6-12 months) they have to find a training placement to be able to continue in the main course of typically 3 years duration. But the supply of training placements in companies depends on the situation in the labour market and in times of economic downturn a large group of students who have completed the basic course cannot get access to a training placement.

The gap between demand and supply on the training market has been an almost permanent malfunction of the dual system, since the reform in 1976 that allowed students to start in the first school based part of a vocational programme without having a training contract with a company in advance. In 2014 one third of the students who completed their basic course, were registered as seeking an apprenticeship contract in vain. This shortage of placements contributes to two serious problems. One is the exclusion and dropout of students from the VET programmes. The other is a predicted shortage of skilled labour.

As to the first problem of inclusion, the students are competing in the training market for placements and this leads to a process of selection and disengagement of some students in the basic courses. This affects especially ethnic minorities who do not have access to social networks that can help them to acquire a training place. This is generally recognised as a major cause for the high drop-out rates in the VET-system, where only half of the students who start a programme, actually completes the programme. Dropout is oftentimes not in itself problematic, as many of the students, who drop out, shift to another basic course, in some instances after they have spent some time in the labour market. Almost every fourth student who starts basic course has previously attended another course and this has helped some of them to become more determined on their choice of program. But others drop out several times, and analysis of register data has shown
that shifts by themselves do increase the risk of never completing any post-16 programme (Jensen & Larsen 2010). For this reason, a variety of measures have been taken over the last decades to compensate for the lack of ordinary training placements.

The other problem is a predicted future shortage of skilled labour, which according to forecasts will take on a serious magnitude. For example in the mechanic and metal occupations 4,500 skilled workers will retire yearly from the labour market during the next six years, but only 2,400 apprentices will complete a programme in these occupations (AE 2013). Such forecasts have made policymakers to shift from promoting a further expansion of higher education to supporting expansion of enrolment in upper secondary VET. But the lack of training placements is a critical constraining factor for achieving this goal.

As work based learning in training placements is by all the stakeholders considered to be a core quality of the Danish dual VET-system, none of the stakeholders have been in favour of replacing this system with a full-time school based system, like the Swedish Gymnasiums. Voices in the Social Democratic Party has from time to time advocated in favour of an integrated school based upper secondary school for all, with the argument that this could contribute to increased parity of esteem between the academic and the vocational educational programmes. But this has not been the position of any parties since the 1970es. Even though there has been little support for a permanent full-time school-based vocational programme, the growth of the number of young people not in education, employment or training (the NEET group) has required some kind of an answer. This took the form of the ‘School-based Training’ (in Danish ‘skolepraktik’ or ‘SKP’) that was introduced in 1990 as a response to the critical lack of training placements in the 1980es. It was only meant as a compensatory measure that would not alter the ordinary dual system of VET.

The existence of the SKP, the school-based training scheme, illustrates a dilemma inherent in the dual system (Juul & Jørgensen 2011). The dual system is vulnerable to cyclical economic fluctuations that strongly influence the supply of training places. This results in recurrent mismatches between the social demand for training placements and the placements offered by companies. The intention of the Ministry is to provide an alternative for young people who are not opting for the academic pathway, and who are unable to obtain a apprenticeship contract with a company. The full time school based training scheme, the SKP, is meant to ensure that young people, who choose a vocational programme, have the same opportunity to complete their education as young people who choose an academic programme. The SKP is assigned a key role to promote inclusion of ethnic and gender minorities and to promote parity of esteem between vocational and general upper secondary education. But at the same time On the other hand there is a strong reluctance on the part of the Ministry of Education and the employers, to promote the SKP scheme, because it is expensive for the state, and because there is fear that it could undermine the dual system and reduce the influence of the employers.

As a result, the SKP scheme on the one hand is meant to offer a safety net for students without a training contract, but on the other hand it is not meant to be a competitor to placements in the dual system. Policymakers do not want the SKP to become an alternative of equal value to the ordinary placements in a company. The SKP is defined as a provisional scheme that is reduced or closed down as an option as soon as the situation on the training market is improving. As a result the SKP scheme has been given priority by the vocational schools and is considered as a scheme
of less value than ordinary placements. The SKP also has a bad reputation among most of the vocational students, and it is seen as an unattractive alternative. Around half of the students, who qualify for enrolment in the SKP, do not accept this option. Accordingly the SKP did not fulfil the intended function as a measure to improve retention and raise the share of students who completes the programme they enrol on. This challenge has to be addressed with the sharp drop in the supply of training placements in 2008.

**Introducing the training centres**

Following the sharp increase in the shortage of training placement after the financial crisis in 2008, the SKP was gradually expanded, but did not solve the problem due to the tarnished image of the SKP. With a reform in 2013 the SKP was changed into a new and permanent institution, the *training centre* (Danish: ’*praktikcentre’*), that offer work based training and take responsibility for realising the *educational guarantee* declared by the Ministry of Education. This guarantee implies that students, who start in a basic course in a vocational school, are guaranteed the right to complete a programme in the VET-system, though not necessarily the specific programme they want.

The training centres have basically the same responsibilities as the SKP, but they also have an extended mission. The training centres are not only meant to compensate for the shortage of placement resulting from fluctuations in the business cycles. They are also meant to meet a range of structural changes in the role of training placement and work based learning in VET. One of these changes is that the production process is becoming increasingly *specialized*, which means that the individual company can offer only a part of the broad collection of vocational qualifications required to learn an occupation.

Another limitation of training placements results from technological, economic and organizational changes. Many companies have introduced new organizational principles with short delivery times (Just-in-Time production), quality assurance and ‘zero-error production’, which means there are fewer opportunities for young people to directly engage in production and learn by experimenting, testing their skills and learning from their mistakes. Yet another structural change is a shift from a ‘stakeholder’ to a ‘shareholder’ economy (Green 2006). The companies are increasingly forced to adopt a short-term, “bottom-line” approach because they are assessed on the basis of their financial returns for investors, rather than their long-term contribution to society. This means that the companies have less ability to make long-term investments to secure a skilled workforce for the future by training apprentices. In addition the opportunities for long term planning for especially smaller firms are reduced due to more volatile markets.

All these changes indicate that the role of companies in the dual system is changing. This implies a reduction in the capacity of the individual company to offer the whole set of vocational qualification requires and to offer a three year contract. These changes can be addressed by the new training centres. The purpose of the training centres is not just to offer students a temporary training until they can obtain a permanent training placement in a company. The purpose is also to coordinate the students’ multiple, shorter placements in different companies and to supplement this with school based training to ensure that the students acquire all the qualifications required to complete the programme.
The position of the fifty Danish training centres in the institutional architecture resembles that of the Norwegian local training agencies (in Norwegian: ‘opplæringskontorer’ Olsen & Hagen & Host 2015). A significant difference, though, is that the Danish training centres are established at the initiative of the state and under the auspices of the vocational schools, in contrast to the situation on Norway, where the employers took the initiative and owns the local training agencies.

The Danish training centres is an innovation that also has parallels to the Swiss training networks that consist of training companies that collaborate to offer training placement. The apprentices typically rotate between the training companies with a period of one year in each company. This initiative increases the supply of training placements and gives apprentices access to the diverse learning environments in multiple firms (Imdorf & Leemann 2011). When the individual training firms become more specialised, the networks of training firms can offer the broader range of skills required to be trained in an occupation.

As the training centres were introduced in September 2013 they are still in a process of implementation, and it is too early to assess definitely the merits of this innovation on the Danish VET system. Basically the training centres are built as a renewal of the SKP and thus have to cope with the weaknesses that gave the SKP a bad reputation (Jørgensen & Juul 2010). These weaknesses are, first, that the SKP are not allowed to engage in real production of goods and services for customers or citizens, and thus lack the authenticity of the ordinary workplace. Secondly, the SKP was run as part of a vocational school and the students retained the identity of being students, not apprentices or craftsmen/-women ‘in the becoming’. Thirdly, not all the vocational schools gave priority to the quality of teaching, facilities and equipment in the SKP and this gave the scheme a low esteem among the students.

A preliminary assessment of the centres has indicated some results (EVA 2014). The training centres have similarities to the earlier SKP, but are seen as solving their tasks in a more systematic and well-structured way with a higher standard (EVA 2014). They vary significantly in size as some have only 10 students in one programme and others up to 500 students in 18 different programmes. Around 20% of the students in the training centres obtained an ordinary training placement with the assistance of the training centres during the first six months and that the centres use a broad range of placements. The assessment recommends that the contacts of the centres to companies should be organised more systematically. The centres are working to find niches to organise production that can be sold to customer in order to give the students the experience that their work has value for other. The assessment recommends that the collaboration with the stakeholders in the local labour market should be improved to find more opportunities to organise production without competing with local firms. Statistical figures one year after the start of the training centres show that half of the students eligible for the training centres do not accept this option (DA 2014). One reason is that the students’ grant while in the training centres is significantly lower than the apprentices wages.

The training centres no doubt have to struggle hard to overcome the negative image of the SKP, the centres have the opportunity to develop a new kind of ‘third learning space’ that combines the qualities of the world of work and the world of education. If they succeed, will be clear during the next years when they become established as distinct institutions independent of the vocational schools.
2.2. The Practicum – an innovation to connect work and education

The concept of Practicum is based on Donald Schōns studies of professionals learning in practice across different learning environments (Schōn 1983). In the Danish VET-system the concepts was used to describe a model development project that was designed to develop new types for partnerships between schools and companies (Koch & Lundsgaard 2000). The aim of the model project was to improve the connection between students’ learning processes in the two learning environments of schools and training companies. The Practicum is a kind of ‘third learning environment’ situated between the vocational school and the training company (Goetze et al. 2002). For the students it has the qualities of the workplace learning by working on authentic production tasks to be used by colleagues, customers or others, “it is real”. For the companies it has the quality of contributing to the improvement of the production by solving a special work task, by developing a new tool, a new product variety or an innovation of the production process. This task is defined in collaboration between the apprentice, the training company and the vocational school teacher in a way that applies and develops some of the qualifications required of the apprentice.

The need for the innovation of the Practicum was based on recognition of the key problem that students in VET often experience a lack of interaction between schools and training company (Jørgensen 2004; Tanggaard 2007; Nielsen 2009). The teachers find that students have difficulty seeing the purpose of parts of the school education, if it is not linked to what the student is involved with in their apprenticeship. The students feel that in the vocational school the teachers often speak a different language than they are used to from their workplace, and they encounter theoretical subjects that they had not anticipated and cannot link to practice in the workplace.

The first model project to demonstrate the usefulness of the Practicum was developed in Copenhagen technical School in the late 1990es on the initiative of two teachers (Koch & Lundsgaard 2004). This innovation was slow to spread even though it was supported by the Ministry. The reason is most likely that it is quite demanding for the schools as well as for the companies. One of the main reasons for the lack of communication and cooperation between schools and companies is lack of time and resources (Nielsen 2009). The teachers don’t have time to visit all the different training companies in a class of 20-25 apprentices. And workplace trainers don’t have time to visit the vocational school to become acquainted with the apprentices’ learning in school. The evaluation of a later developmental project on Practicum shows that lack of resources remains a barrier to the implementation of the idea of a Practicum (Jørgensen 2010). From this evaluation experiences from the gradual implementation of the Practicum in two vocational programmes, painters and industrial operators, will be described shortly in the following.

Practicum in the painter education

The partnership project had most success in the building painter occupation, because in 2008 the trade committee introduced the concept of ‘Practicum’ in the education by incorporating it into the education’s training ordinance. The idea behind the Practicum model is that the student, the company and the school jointly define a developmental project or a work task which involves
both the company and the school. The Practicum thereby functions as a specific form of partnership that binds the vocational school and the company together through the student’s learning by working with a task that is solved through involvement of the two learning environments.

For the painters, the Practicum involves the inclusion of two project assignments in their education. Here, a project assignment is defined in collaboration between the school, the company and the student, which the student then works with during their training placement and subsequently develops and presents at the school accompanied by a representative from the training company.

To give an example, a Practicum project was developed with a smaller painting company in Thy, which was already active in creating a good working relationship with the school. A Practicum project was agreed upon, and a project was planned during the placement period. The apprentice brought the project back to the school while on block release of ten weeks from the training company. The project was a decorating job at a public school, where many of the things to be learned during the education could be integrated. The student brought the task into the school and planned it and after the school period the student took it to the training company and implemented it.

The decoration project in question represented quite a demanding student project. There are also opportunities to carry out Practicum projects in the more routine work. These could be more ordinary outdoor tasks, where the Practicum project consists of documenting the profession’s workflow, for example using a digital camera. Practicums can thus be a manageable undertaking for some of the smaller companies who are unsure of what it entails. The aim of the project is to link the work based learning with the school based school learning, and to provide the students with a greater understanding of the relevance of the theoretical part of their training, such as the theory of colour and the working environment. Positive feedback has been provided by companies, who experience it as an advantage that the student, through the project work, becomes more independent and takes more responsibility.

The positive experience gained from project work in the painting occupation has led to the trade committee incorporating the Practicum into the curriculum. The trade committee has also prepared information material to inform the companies about the Practicum scheme. A major effort is also required from the schools to inform the companies of this new element in the education. This requires that schools prioritize their outreach work, where teachers have the opportunity to seek out companies and advise them about the new initiative.

Practicums in the industrial operator education

There are large differences between the conditions prevailing at the various industries that have participated in the partnership project, in particular between painters and industrial operators. For industrial operators, the Practicum has been included as part of their education for several years. At the end of each school period, the teacher gives the students an assignment to bring with them to the company and which they will work on until the next school term. Practicum projects can vary from very large projects dealing with the reorganization of the entire production process, to small methodology improvements for a single task. The school places great importance on
the teacher visiting the company to explain exactly what takes place in the school, and what is expected of the company. When a new company takes on an apprentice, it is vital to make clear that the company is also required to contribute to the student’s education, including in relation to the student’s work assignments during school periods. The industrial operator education is also special in the sense that many of the students are adults and are already employed by the company. This has a very positive impact on the companies’ commitment.

Each time the student is in their training placement, they receive a visit from a teacher. This usually occurs in the middle of the placement period to provide guidance for the student and for the company about the task that the student must solve. Generally, the Practicum project is designed in collaboration between the company and the student. The student documents the completion of the project in the form of a report, which they bring with them to the school. The teacher then evaluates and comments on the project, with special emphasis on ensuring that the student receives detailed feedback on their project. The projects are not graded, partly because the teachers do not always have an insight into the specific issue that the student has worked with at the company. It can therefore be almost impossible for the teacher to assess whether the student has done good work. The teachers also try to incorporate the Practicum projects into the teaching at the school. However, this can be difficult, since both the companies and the tasks can vary greatly, and it can therefore be difficult for the other students to understand the context. The school also invites the training companies to the school at the end of each training period, and about four out of five companies attend.

The relation between the vocational school and the training companies is often very dependent on the personal networks developed by the teachers over many years. The industrial operator education is organized with an adult version, which has no basic course, where the school automatically gets to know the students. Therefore, the school is proactive in relation to the companies in order to get contracts for students for each cohort. At the industrial operator education, the teachers have also started to visit the students at the companies during the students’ placements. This takes place in connection with the students working on their Practicum project during their placement. Furthermore, the school has started to follow up on the projects as part of the subsequent school period, so that the students can feel that they are performing relevant tasks that others find interesting. The teachers have discovered that it is very important to cultivate the collaboration and to ‘network’ widely when they visit a company.

Partnerships pose new challenges for teachers

Practicums requires that teachers engage more with the companies and, for example, that they follow-up on the Practicum projects that the students perform at the company. This closer contact can be established in a variety of ways. One obvious way is to exploit the fact that the students are good at using mobile phones to take pictures and upload them to the internet. Another Danish innovative development project have very positive experience with this, where the electrician apprentices used their mobile phones to communicate with their teachers at the vocational school by sending videos and pictures of their work during their training placement (Gleerup et al. 2014).

Partnerships in form of Practicums means that both the schools and the companies undertake
to cooperate with respect to the students’ project work. This presents new challenges for both parties. In the painting trade, a local interview survey was conducted with a number of companies about their perception of the Practicum scheme. Generally the response was positive, and only one company had a negative impression. It is also a challenge for teachers to manage Practicums during the school period. The teaching must now be organized based on the tasks that the students bring with them into the school, and these can vary enormously. This can make it difficult to incorporate the Practicum process into a common period of, for example, two weeks. An alternative is to arrange the Practicum as a flexible activity alongside other teaching, so that each student can use the time they need. There is a risk that this will be an additional burden on teachers, when they have to deal with the many different projects that the students are working with. It can also be more difficult for students to learn from each other by working in groups, because it can be impractical for the students to work together if their tasks are very different.

Practicums require that the schools must be responsive to the specific circumstances and needs of the individual companies. Teachers need to be better at handling the wide range of project tasks that students engaged in Practicums bring with them from the different companies. This means that the teaching during the school periods cannot simply follow a predetermined curriculum for the entire cohort, but must be open to accommodating the students’ various projects. The teaching must be adapted to the various companies that the students come from, because the companies are specialized in different areas. However, the schools must also ensure the technical range of the teaching, so that the breadth of the education is maintained. The teaching should not be so specialized that the students cannot use what they have learned in other companies. There is thus a need to make the standard curriculums more flexible and to develop new pedagogical approaches and administrative systems for communication between vocational schools and companies. Practicums can provide new opportunities, because cooperation can be based on a specific project assignment that is tailored to the individual student and the needs of the individual company.

Experiences from the Practicum project

Practicum – a good basis for partnerships

The central issue raised by the project on partnerships is how companies can be encouraged to participate in improved cooperation with the schools. The most successful part of the project was the Practicum, which has been shown to engage the companies. Practicums show how tangible cooperation can be established between schools and companies with regard to projects and assignment which the companies perceive as useful. One reason for this is that the Practicum process is based on the companies’ own production and work, which are the company’s principal interests. Practicums promote interaction and collaboration between the teachers and masters in connection with defining, implementing and evaluating the assignments. It provides both parties with a greater understanding of each other’s world. The Practicum can establish a new ‘third learning space’ in between the world of work and the work of education. It can combine the authenticity and relevance of the workplace with the room reflection and for linking practical problem-solving with theoretical knowledge offered by the school.
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**Binding frameworks promote partnerships**

An important experience gained from the project is that it is crucial that the Ministry of Education and the trade committees establish a binding framework and rules governing the Practicum process. The provision in the training schemes regarding Practicums has had a major impact on encouraging companies to welcome the idea. A binding regulation can help to solve a classic problem in vocational training, namely the ‘free rider’ problem. This problem occurs because some companies can recruit the professional skills that they require, without having to train the apprentices themselves. One company manager explained that some companies are unwilling to take on apprentices, because they have experienced that the neighbouring company hires them as soon as they are qualified. In order to incentivise the companies to invest resources on good training, there must be some level of assurance that other companies will do the same. After all, it is the same local labour force that all the companies depend on. There is therefore a need for a common, binding regulation that can ensure that all companies maintain the same standard of training with regard to establishing a good level of coherence in the students’ education process through collaboration between the school and the company.

The active outreach approach should be prioritized.

One of the most important results of the project is that it has encouraged the schools to focus on the proactive, outreach approach to companies throughout the students’ education. The project has shown that Practicums require a systematic outreach effort by the schools in order to ensure that the interaction succeeds. The schools cannot expect the companies to take the initiative. A good example from the project is that one school, in connection with the Practicum process, has engaged a master from a company as a consultant in the teaching. This has functioned very well, especially in terms of disseminating information about the Practicum to the masters. During a Practicum, the parties can collaborate to design a project assignment to be carried out in the workplace and from which the company can benefit. This requires that the teachers shall visit the companies and act as consultants to support the work of formulating such project assignments.

Qualification of the teacher as a consultant.

The project has demonstrated a need to qualify the teachers in the role of professional consultant in relation to the companies. In vocational educations, it is often the teachers who are in charge of the task of developing networks and contacts with the companies. It is an advantage to maintain continuity with respect to the contact with the companies, and that it is the same person from the school that they meet over a longer period. Teachers need to be made more aware of when they are stepping out of the role of teacher and into the role of consultant and they need training in how to carry out their consultancy tasks.

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Nord-VET Reports and Publications

Nord-VET Reports on the evolution of the Nordic VET-systems


Nord-VET Reports on the current challenges for the Nordic VET-systems


Nord-VET Reports on reforms and innovations in Nordic VET (included in this publication)


The main results of the project are published in two research monographs:


List of scientific publications from Nord-VET


Nyen, T., Skålholt, A. & Tønder, A. H. (2015). Vocational Education and School to Work Tran-

