



Nord-VET – The future of VET in the Nordic Countries

Institutional innovations in Norwegian VET – responses to key challenges

Ole Johnny Olsen • University of Bergen

Håkon Høst • NIFU

Svein Michelsen • University of Bergen

Anna Hagen Tønder • Fafo



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Department of Psychology & Educational Studies
Roskilde University, Postbox 260, DK-4000 Roskilde, Denmark

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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

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 increasingly 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 (*Praksisbrevordningen*) 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 1. Average number of member firms 1997/2013

	1997	2013
Average	36	77
Median	28	55
N	237	240

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

	1997	2013
Average	62	118
Median	45	82
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

	N	Average	Median	Min	Max
Number of employees	240	2.7	2	1	15
Number of person-years	236	2.4	2	0.2	15
Person-years, external	88	0.6	0.4	0	4

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.

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

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

Table 4. Apprentices in Norwegian VET, 2012

	Ordinary apprentices	YSK(TAF)	Certificate of Competence	Alternative tracks	TOTAL
Building and construction	6,546	40	325	1,433	8,344
Design, arts and crafts	1,695	0	48	554	2,297
Electricity and electronics	6,239	33	15	360	6,647
Healthcare, childhood and youth development	5,741	43	394	304	6,482
Media and communication	173	0	5	42	220
Agriculture, fishery and forestry	664	10	110	108	892
Restaurant and food processing	2,156	0	231	100	2,487
Services and transport	3,557	0	283	360	4,200
Technical and industrial production	7,824	163	309	505	8,801
	34,595	289	1,720	3,766	40,370

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,

¹ Some sites for information: <http://levanger.vgs.no/Utdanning/TAF/Sider/default.aspx> ; <http://www.yrkeslabyrinten.no/visartikkel.asp?art=77> ; <http://utdanning.no/utdanning/vgs/ELELE1P--->

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".² 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.³

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.

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 socialization⁴. 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 (Høst 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

4 NOU 1991:4: *Veien videre til studie- og yrkeskompetanse for alle*. [The way forward to study and occupational skills for all.]

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 illuminates 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 dropout 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 reaching⁵. 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 problem⁶. 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

6 Ministry of Education (2006): *Tiltak for bedre gjennomføring i videregående opplæring. Rapport fra en arbeidsgruppe nedsatt av Kunnskapsdepartementet*. [Measures for better implementation in further training: report of a working group appointed by the Ministry of Education.] Oslo: Kunnskapsdepartementet.

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:

	Upper secondary level 1 (Vg1)	Upper secondary level 2 (Vg2)
Common core subjects	336	252
Programme-specific subjects	477	477
In depth study project (PTF)	168	253
Total	981	982

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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