



Avoiding tracking? Vocational students who take the supplementary programme for university admission

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Abstract

In Norway, upper secondary education was fundamentally transformed with the reform of 1994, with a division into three-year academic programmes and vocational programmes (VET) consisting of two years at school followed by two years of apprenticeship. Moreover, an opportunity for VET students to change from vocational to academic after two years was introduced, called the supplementary programme for university admission. This article discusses the policy arguments used for implementing this programme, and how these arguments developed over time. In addition, the article uses statistics for the period 1994–2019 to display how the programme is used, and by whom. Thus, the article combines a document analysis with statistical analyses. We used a theoretical framework building on institutional change as our frame of reference for interpreting potential policy changes over time. The supplementary programme serves several functions, and these functions have evolved over time. The proportion using the programme grew during the first decade but has been stable at about one in five students since 2008. The policy arguments have primarily been individual, and institutional drift can be observed, as the programme took on purposes other than those originally intended. The programme also contributes to giving students from less-advantaged socio-economic background access to higher education.

Keywords: tracking, upper secondary education, higher education access, institutional change, policy analysis



Introduction

Whether the education system promotes educational mobility across generations, or rather perpetuates inequalities, is a classic research question within sociology as well as economics (Boudon, 1974; Haveman & Wolfe, 1995; Hernes & Knudsen, 1976). The age at which students are sorted into different tracks is a feature of the education system with high impact on educational and social mobility, at both individual and societal levels. In systems in which students are sorted into different tracks at an early age, parental educational background plays a larger role for educational achievement and who starts higher education than in more uniform systems (Ammermueller, 2013; Traini, 2022).

In Norway, upper secondary education was fundamentally transformed with the reform of 1994 (Reform94). The reform standardised vocational upper secondary education and training (VET), in which most VET programmes would consist of two years at school followed by two (or more) years of apprenticeship. Tracking starts late in the Norwegian education system, compared to countries like Germany. It takes place at age 16 when students leave compulsory school and choose a vocational or an academic programme in upper secondary school. Hence, from this stage in the educational system, Norwegian upper secondary education is nominally organised in two separate columns and only the academic track gives direct access to higher education. The vocational track, on the other hand, provides occupational competence in the form of *fag-/svennebreve*, or a trade certificate. This is different from some other Nordic countries, such as Finland and Sweden, where both the vocational and academic track have provided access to higher academic education. Compared to these countries, Norwegian upper secondary education appears to be far more stratified. However, with Reform94, a supplementary one-year programme for university admission was introduced as an option for vocational students who want to cross from the vocational to the academic track and gain general entry qualifications for higher education, see Figure 1.

The introduction of this programme, known formally as ‘Supplementary programme for general university admissions certification’, allows students to postpone their real decision about the vocational vs. academic track by almost two years, but its effects depend on students’ usage of this option. If used by a small minority of students, it has little impact system-wide. If used by many students across programmes, the Norwegian upper secondary education system would have very late tracking, although end qualifications (vocational vs. general) would still be distinctly different. A substantial number of late cross-overs from the vocational to the academic track would also be expected to reduce intergenerational inequality in who starts higher education.

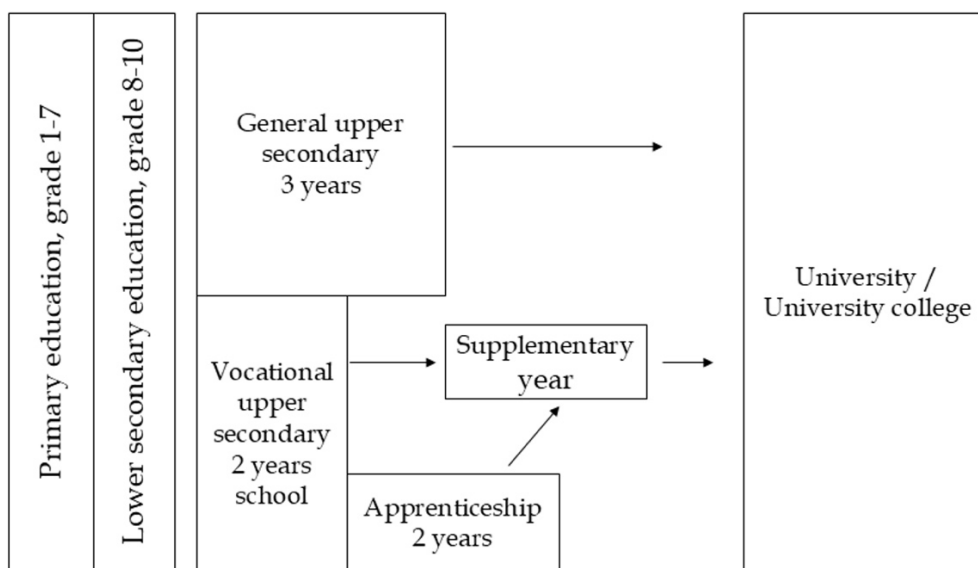


Figure 1. Norwegian educational system with the main routes to higher education.

The aim of this paper is two-fold: Firstly, it is to analyse the arguments which were used for the supplementary programme for university admission when it came about, and to see if these arguments have developed over time. Secondly, we also wished to describe how the programme is used today and by whom, and if this has changed over time. What were the policy rationales behind the programme when it was introduced? Have those arguments remained constant over time or shifted? What do the patterns of use across vocational programmes and over time tell us about the purposes served by the supplementary programme? Is there a discrepancy between the policy rationales and actual practices? Ultimately, we raise whether the supplementary programme for university admission diverts students from a vocational certificate or if it constitutes an option for reorientation for students who made a wrong choice of programme.

Earlier research on the supplementary programme for university admissions

There has been some research on students in the supplementary year, and how they perceive the programme. As part of the evaluation of the Knowledge Promotion Reform, implemented in 2006, an investigation of how the reform affected students' transitioning to the supplementary year was done. The report indicates that the reform as such did not have much impact on proportions of students choosing to take the supplementary programme to gain access to higher

education. It was about one in four students in the last cohort before the reform as well as in the first cohort after the reform (cohorts starting upper secondary in 2005 and 2006 respectively) taking the programme (Frøseth et al., 2010, p. 55). But the report showed large differences in rates of transfer to the supplementary year by programme. The proportion is highest in the following programmes: Health and Social Services, and Service and Logistics. In programmes with long traditions in apprenticeship, such as Building and Construction, Electrical Engineering, and Technology and Manufacturing on the other hand, there are significantly lower proportions taking the supplementary year as their third year of upper secondary education (Frøseth et al., 2010).

In a survey of students in the Health and Social Services programme, Høst et al. (2012) found that this group of students is not necessarily oriented towards the apprenticeship route that the programme leads to, but rather generally to work in the sector targeted by the programme, that is, in the health sector. Even during their first year in the vocational programme, these students are aiming for a wide variety of professions, of which many require students to undertake higher education (nursing, social work, midwifery etc.). A similar report, focusing on students in Service and Logistics, Building and Construction, and Restaurant and Food, shows that students who belong to programmes which have a solid skilled worker tradition, such as the last two programmes, seem to benefit from the vocational training structures both in the work force and at school. Students in these programmes develop a 'subject identity' from their first year, and most of them want to become an apprentice and gain the formal trade certificate. Service and Logistics represents the opposite case, this being a programme in which the vocational training tradition is weak, and it is unclear to students what labour market position an apprenticeship would lead to (Høst et al., 2013; Reegård, 2015).

A survey of students taking the supplementary year in five regions of Norway in 2010–2011 concluded that most students who apply for the supplementary year after two years of vocational training at school do so by choice, and not because they did not get an apprenticeship. Only about 6% of the surveyed students had apprenticeship as their first choice (Markussen & Gloppen, 2012, p. 20). Further, the report divides students in the supplementary programme into three categories. The first group comprises students who never imagined getting a trade certificate, but who instead chose two years in a vocational programme in addition to the supplementary programme as their path for gaining admission to higher education. Hence, this is a planned route. The second group are students who stated that they took the supplementary programme because they had realised either that they did not want to do an apprenticeship, or that they had started the wrong vocational programme and were bored with the practical teaching. For this group of students, the supplementary programme for univer-

sity admission appears to function as a safety valve, which saves them time in their path to find out what profession they would like to specialise in (Markussen & Gloppen, 2012). Generally, students who have made the wrong choice of programme can go back and start again in a different programme. A trajectory of this kind is slightly more common in some vocational programmes, such as Technology and Manufacturing, Restaurant and Food, Design and Crafts, and Service and Logistics, in which about one in seven students do this. It is less common in Building and Construction, in which only one in twenty students change programme and have to start again (Frøseth et al., 2010, p. 25). The third group identified by Markussen and Gloppen (2012) consists of students who took the supplementary year because they did not get an apprenticeship. This applies to about one in ten students attending the supplementary year, and for these students, the supplementary year functions as an emergency reaction to enable them to get an upper secondary qualification, just not the one they had first imagined.

Theoretical framework: Institutional change

Over time, the Norwegian political system has shown a capacity for reform (Engelstad & Hagelund, 2016). This also applies to the education policy field (Nyen & Tønder, 2020). However, institutions do not only change through reform, but through more gradual processes of institutional change. The supplementary one-year programme can be conceived as an institution within the larger institution that is the education system. The supplementary programme balances different interests. On the one hand, it allows the vocational tracks to maintain an occupational principle in which education matches an occupation or a specific work field. At the same time, this does not create a highly tracked system, as vocational students are not bound to their track, but may change without prohibitive costs in terms of lost time. Furthermore, it allows the higher education system to uphold entry level requirements. However, an institution like the supplementary programme will also offer opportunities for actors and students to make use of it in ways that were not intended by the 'initial' policy makers.

Path dependence is a key concept behind much recent analysis of institutional change. In its more precise political science formulation, it refers to feedback processes in which previous decisions and events lower the costs of choosing options along the same 'path' and raises the costs of switching to some previously plausible alternative (Pierson, 2000, p. 252).

In a well-known book on institutional change, Mahoney and Thelen (2010) have described how institutions may gradually evolve into something different, even without reforms. Path dependence implies that change processes will often

be gradual, as the costs of major reform will often be high. How such processes unfold will be contingent on the characteristics of existing institutions. Mahoney and Thelen (2010) analysed how the processes can take different forms depending on the level of discretion/flexibility in the interpretation of the institution, and the extent to which actors are able to exert veto powers. This framework can be utilised for the analysis of policy documents as well as for interpreting how the supplementary programme works in practice. Mahoney and Thelen (2010) describe four types of institutional change:

- 1) Displacement; new rules replace the old,
- 2) Layering; new rules come on top of the old, and change how the old rules affect the field,
- 3) Drift; rules are not changed, but the underlying conditions change, and change how the rules affect the field,
- 4) Conversion; the rules remain unchanged but are re-interpreted to serve different aims or work differently.

The concept of displacement refers to a situation in which one rule is replaced by another, for instance, if a new rule is introduced which curtails the opportunity to enter the supplementary programme by requiring students to meet certain criteria. In the context of the supplementary programme, drift could mean that the supplementary programme is used in practice by both students and by county administrations in ways not conceived by policy makers. Drift often indicates a kind of institutional neglect, or at least a passive acceptance that an institution takes on new forms. Conversion implies a more active and explicit re-interpretation of existing rules. In the case of the supplementary programme, conversion would imply that national level policy makers or county administrations use the supplementary programme to serve new purposes. The distinction between drift and conversion is not sharp; in both cases, a high degree of discretion is a prerequisite, while the distinction lies in the extent to which the institution is actively re-interpreted. For our analysis, the key research questions are whether the stated policy aims have shifted and whether they match actual practice. Or in other words, if there is a change over time, is it through explicit re-orientation (at some level), or through more passively drifting there by adapting to student choices? Finally, the concept of layering may be useful in an analysis of the supplementary programme to the extent that new rules are introduced that influence the programme. A case in point may be the introduction of the new statutory right in 2014 to embark on the supplementary programme after having completed apprenticeship and obtained a formal vocational qualification.

Data and methods

This article builds on a combination of analysis of two types of policy documents, an interview with a key actor when the reform was introduced, and quantitative data concerning students who take the supplementary programme for university admission, to provide a context for the use of the supplementary programme.

Document analysis

We reviewed the key policy documents from 1988 until 2024 on upper secondary education, on entry to higher education, and on vocational education and training. We identified the passages within these documents in which the supplementary programme is described, and if the document mentioned the aims of the programme, we categorised those aims. The search for relevant documents was restricted to reports from government appointed committees (NOU) and government white papers (Stortingsmeldinger).

Interview

As a supplementary source of data on the introduction of the programme, we interviewed the incumbent minister of education when Reform94 was planned and implemented. The intention of this one interview was to hear some of the underlying arguments for the reform, to contrast these with the arguments coming out of the policy documents.

Administrative data

We used a rich registry database covering educational outcomes in the period from implementation of Reform94, and up until 2021. The data are mainly based on Statistics Norway's register on education (NUDB) (Vangen, 2007), which covers all transitions in the educational system. Hence, we have information on the transition from lower secondary education into upper secondary education, including choice of programme/track, if students have progressed in their chosen programme or made a new choice of programme (which often entails going back and re-starting upper secondary education), if students in the vocational track chose to start an apprenticeship or instead to take the supplementary year for university admission, and finally if they completed the supplementary year and were able to access higher education. This register also includes central background information that we made use of in this analysis, such as grades from lower secondary education and parents' educational level when students were aged 16. In addition to data from the database on education, we also had data on applications to upper secondary education. This information is held by Statistics Norway and is based on students' applications in March each

year, for the following school year. We have access to data on applications from 2002 to 2018.

In our data, we defined annual cohorts, consisting of students starting upper secondary the same year as they successfully completed lower secondary education. To avoid those taking upper secondary as adults, we only included those who moved from lower secondary when they were 15–17 years old. In the data, we followed these cohorts for six years after starting upper secondary. The last cohort for which data for six consecutive years was available is the 2016 cohort. In the period from 1994 to 2016, there was a major reform to the upper secondary education system, the Knowledge Promotion Reform of 2006. This reform changed the structure, however modestly, of vocational education, by reducing the number of programmes, but did not affect access to the supplementary programme. Additionally, there have been some minor changes to the structure of programmes during the period we observed. In our analysis, we used the study programmes as they existed until 2020 and employed a cross walk based on trades to maintain a stable set of vocational programmes throughout the period. This cross walk has previously been used in the evaluation of the Knowledge Promotion Reform and in official documents following the reform (Vibe et al., 2012).

To investigate differences in student composition between those who are accessing higher education through the supplementary programme and through the regular academic programme, we used grades from lower secondary and mothers' and fathers' education level when the students were 16 years (when students start upper secondary). Both variables were divided into categories, to facilitate comparison. Parents' educational level was divided into categories, including those with no registered education. Grade from lower secondary is measured as a mean of all grades on their school-leaving certificate. The scale ranges from 1 (lowest) to 6 (highest), which we divided into four categories: those with a mean of 1 or 2 were grouped together, as were those with a mean of 5 or 6. Data on grades from lower secondary education has only been available for cohorts since 2002, and analyses including this variable thus start from that cohort. We measured education activity as of October each year.

Policy background for implementation of the academic supplementary programme

Reform94 was the formal start of the implementation of the supplementary programme for general university admissions. This one-year programme that students take after completing their first two years of schooling in a vocational programme is commonly called 'the make-up year', as it has all the academic subjects a student needs to meet the minimum requirements for the Higher

Education Entrance Qualification (HEEQ). By completing this year and taking the stated number of hours in each required subject, students originating in the vocational track can 'make up' for the difference in academic subjects between the vocational and academic programmes, and thus complete the requirements for the HEEQ.

Prior to the implementation of Reform94, access to higher education through the HEEQ was linked to a programme, rather than to a specified set of subjects. All students in the general academic programme and in the commercial programme (which formally was a vocational programme) qualified for the HEEQ by completing upper secondary education, while it was possible for students in the Health and Social Services programme (also a vocational programme) to add a few subjects, thereby meeting the HEEQ requirements (NOU 1991:4). However, adding subjects was not possible in all vocational programmes, as there was not enough room in the schedule to fit all subjects needed in the system prior to 1994. Thus, the Reform94 marked an equalisation of upper secondary education in Norway, as all students in vocational programmes had the opportunity to follow the track towards an academic qualification rather than a vocational one.

Additionally, when Reform94 was implemented, a common core curriculum was set for all vocational programmes, containing the same six subjects (Norwegian, English, History, Social Science, Mathematics, and Science). The implementation of a core curriculum in vocational programmes made it possible to design a one-year programme during which students took the other necessary subjects requested for the HEEQ (St.meld. nr. 33 (1991-92), p. 43). Hence, the right to the supplementary year rests on a common agreement of what constitutes the minimum requirements for higher education access, today defined as the HEEQ. The rules for what constitute the minimum requirements is stated in the University and University Colleges Act (2005).

However, the motivation behind giving students in the vocational programme an opportunity to complete their programme with an academic qualification was not an idea of equal opportunity for students from academic and vocational programmes. Rather, the idea to make it possible for students in the vocational track to get access to higher education was initially spurred on by a need to increase and thus broaden recruitment to higher education. According to NOU 1988:28, an official Norwegian report discussing higher education in a broader sense, there was a predicted demographic reduction in youth cohorts in the 1990s, and this combined with the Norwegian labour market needing more highly educated individuals (NOU 1988:28, p. 30) called for broader recruitment into higher education. The point made in the report was that to secure enough highly qualified personnel in the future, it was also important to seek able students from the vocational track to enter higher education. However, this

should not compromise the minimum requirements for the HEEQ, implying that students from vocational tracks also must complete the subjects linked to the HEEQ. The report states that this could be done through an additional year of schooling, though it is not fleshed out how such a year should be organised in practice (NOU 1988:28, p. 35). The intention of this year was to give vocational students the opportunity to take subjects required to prepare for and complete higher education.

Yet, in the documents leading up to the implementation of the supplementary year, another argument for opening up the HEEQ route to vocational students was presented. It was no longer just about a larger pool of people to be recruited for higher education, but also to lessen the burden of youth 'making the wrong choice' (NOU 1991:4, p. 89; St.meld. nr. 33 (1991-92)). Hence, the argument for implementing the supplementary programme was turned from a societal argument to an individual argument, to make it easier for students to change their minds. As several of the vocational programmes prior to Reform94 could be 'dead ends', as they very rarely led to an apprenticeship and thus to the vocational qualification, it was an important policy goal to limit these kinds of options in the upper secondary system. In the interview with the former minister of education, he also mentions that it generally was seen as too early for youth aged 15-16 years to make their final choice of career. Thus, giving students in the vocational programmes, who had made much more of a career choice than students in academic programmes, the option to reevaluate and possibly change their choice by taking the supplementary programme, was seen as a way to handle the dilemma of having to choose a career too early.

The goal of upper secondary education would be to qualify students for the labour market, higher education, or both. That policy objective was primarily reached through the new programme structure, with ten broad vocational programmes, most of them leading to an opportunity for apprenticeship. However, as students change their minds along the way in their upper secondary education, the supplementary programme also fulfilled an important role to limit the risk of students dropping out due to a wrong choice of programme. Another important feature of the new system was the implementation of a definition of what was required for the HEEQ, as a common minimum requirement in terms of a given set of subjects students should have covered in upper secondary education in order to qualify to enter higher education (St.meld. nr. 33 (1991-92)). The aim of letting access to higher education be contingent on completing a certain number of hours in the six subjects mentioned above created a common denominator or definition of what constituted an adequately prepared student, regardless of whether the student had started in a vocational or an academic programme. If students had successfully completed the set number of hours in

these subjects, and had passed all other subjects in the programme, they were considered fit to start higher education.

As stated, the initial statutory right to upper secondary education was limited to three years, which created problems if students did change their mind about the programme and went back to start another programme. As a reaction to this, it was proposed in the white paper (St.meld. nr. 32 (1998–99)) that the statutory right should be extended, making it possible for students to first complete the apprenticeship and gain the trade certificate, and thereafter take the supplementary one-year programme to gain access to higher education. Students who chose to do this would thus have a double qualification, as they had both a trade certificate and the HEEQ. However, this right was not implemented until 2014. Furthermore, the ministry and the counties responsible for vocational education, and stakeholders from unions and trade associations, all had a positive attitude about the supplementary programme as a route for students who had started in the vocational track, as it created flexibility in the system. Again, the argument for the supplementary programme is linked to the option for individuals to change their mind about the choice of field/occupation. However, a new worry which was articulated in the white paper (St.meld. nr. 32 (1998–99)) was linked to relatively high numbers of students failing one or more subjects in the supplementary year, and thus not gaining the HEEQ due to non-completion.

Generally, there has been little discussion about the supplementary programme among politicians and social partners (employer and employee organisations). In the next white paper on education (St.meld. nr. 30 (2003–2004)) the programme was only briefly mentioned. One change proposed in this white paper was to increase the requirements slightly in the number of hours of mathematics to gain the HEEQ, and this change affected teaching in the supplementary programme as well as in the academic programmes. Hence, it was not a change directed only at the supplementary programme as such, but a general change of requirements for the HEEQ, to ensure that students are prepared well enough for higher education. This white paper (St.meld. nr. 30 (2003–2004)) led to the implementation of the Knowledge Promotion Reform in 2006, which was primarily a structural reform and thus not affecting the supplementary year. The positive tone towards the supplementary programme continued in another white paper (St.meld. nr. 44 (2008–2009)). In this round, the primary focus of the white paper was on the programme providing alternative access routes to higher education, as well as giving students in academic and vocational programmes the same common core subjects.

In 2017, a publicly appointed committee (the Lied Committee) was the first to be set up to discuss the whole structure of upper secondary education, including the content of subjects since the implementation of the reform in 1994. The

committee delivered two official reports (NOU 2018:15; NOU 2019:25). The function of the first report was as a knowledge base for the final recommendations in the second report, and we concentrated on the statements in the second report, NOU 2019:25. One of the aims of the committee was to discuss students' preparedness for higher education, as in how well different routes to gaining the HEEQ make them prepared, in terms of both general knowledge and specific subject knowledge. In this regard, the committee mainly focused on the common core subjects, in addition to languages in general. Additionally, one aim of the committee was to cultivate the two tracks, leading to distinct and unique qualifications. Consequently, the final report (NOU 2019:25) has a rather negative view of the supplementary year, indicating that it was not sufficient for access to higher education. Firstly, it focused on the supplementary programme diverting students in the Health and Social Services programme from taking up apprenticeships, as a large proportion of students in this programme prefer to take the supplementary year (NOU 2018:15). Secondly, studies indicate that students coming into higher education from the supplementary programme have weaker grades and perceive themselves as less well academically prepared compared to students coming from an academic programme. Based on this, the committee concluded that the supplementary programme should be restructured. The programme should no longer necessarily be just one year, but rather extended to 18 months or two years, depending on how much time a student from the vocational track needed to take the core subjects students in academic programmes take to get the HEEQ. Additionally, the new programme should have stronger requirements, for example in terms of more English and a requirement to have a second foreign language. On top of that, the committee proposed that students who had started in the vocational track should no longer be able to switch to the academic track after the first two years of schooling; they should only be allowed to take the supplementary programme after completing their trade certificate (NOU 2018:15, p. 122).

This latter suggestion, although arguably radical, received support from central actors. The most notable of these were the Teacher's Union (Utdanningsforbundet) and the Norwegian Association of Local and Regional Authorities (KS), the latter of which represents counties responsible for upper secondary education. Both employer and employee organisations (NHO and LO respectively) were sympathetic to the intentions of the proposal but wanted further evaluation of the potential consequences of such changes. However, when proposing the Completion Reform (Meld. St. 21 (2020–21)), the proposal to eliminate the option to enter the supplementary programme after two years in the vocational track, was explicitly rejected. The white paper states '[students] will still be allowed to try out, fail and choose again in upper secondary education. The extended right to complete and the right to vocational re-

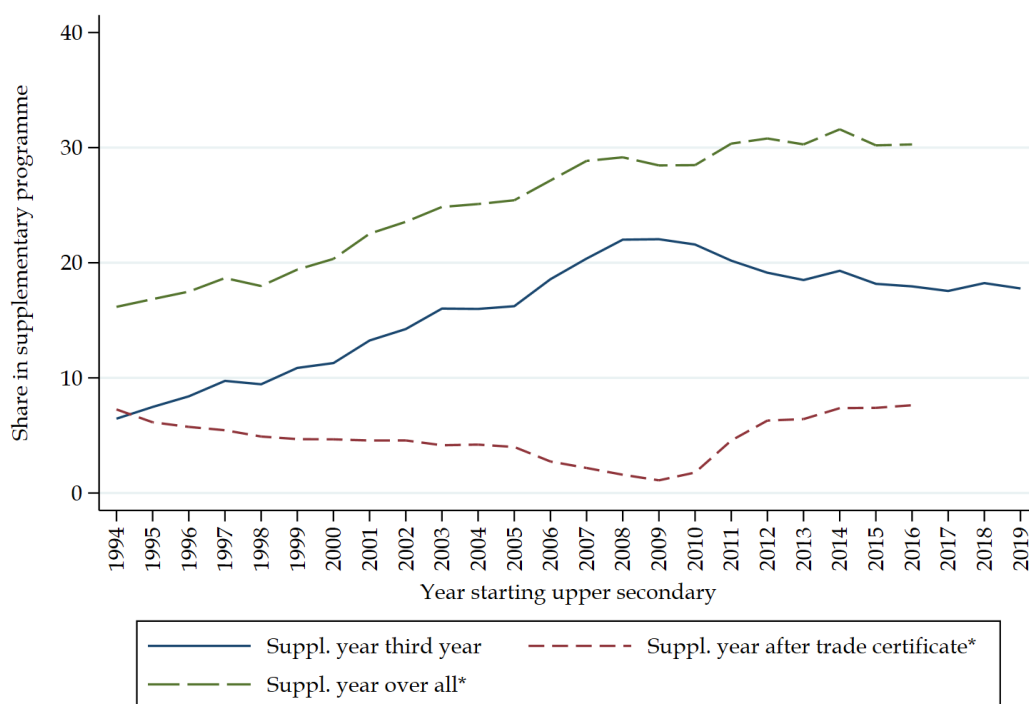
qualification contribute to this. It should still be possible both to re-select, and to take the supplementary programme after the second year in a vocational programme' (Meld. St. 21 (2020–2021), p. 10). The government also referred to statistics showing that students who started higher education after going through the supplementary programme do not have significantly lower completion rates than others (indicating that they had acquired the required competence for studying at this level). Thus, instead of restricting access to the supplementary programme the Completion Reform gave students unlimited time to complete upper secondary education with either a trade certificate or the HEEQ.

From 1994 and up to 2018, we cannot find in publicly available documents that any political-bureaucratic actors proposed abolishing or seriously curtailing the programme at the national level. Seen as an institution, it offers a high level of discretion in how it is interpreted. Its functions change both through passively adapting to student preferences (drift), and through allowing county administrations room for interpreting the institution according to their preferences (conversion). Some county administrations offer a three-year Health and Social Services programme in which the elements of the supplementary programme are integrated, and which lead to higher education entry qualifications. Other administrations have limited the number of supplementary programme classes, to increase the number of students ending up with a vocational qualification. We have seen political discussion on how to respond to the large transition to the supplementary programme for students in the Health and Social Services programme, including measures to influence educational choices to increase the supply of skilled workers in these fields (see for instance NOU 2023:4). But there was no serious political discussion on the existence of the supplementary programme as such, until the issue was put on the agenda with the Lied Committee's proposals in 2018 and 2019. In this process, an explicit discussion about the programme appeared, where the actors expressed their opinions, but they didn't pursue them strongly, and the process ended with a political decision on continuing with the programme as it was.

The use of the supplementary programme: Statistics

We used descriptive statistics to study how the supplementary programme for general university admissions certification is used today and by whom. As these data cover the entire period since the supplementary programme was introduced in 1994, we can also study changes over time in usage of the programme.

Figure 2 shows change in the share going into supplementary programme in three different ways. The solid line shows the share of students starting in the supplementary programme at the start of their third year in upper secondary education. Since the 1994 cohort, the proportion of students in the supplementary programme during their third year has increased from 6% to 17%.



*Taking supplementary year within six year of starting upper secondary

Figure 2. Share taking supplementary programme among those who started a vocational programme in upper secondary education.

However, during the period around 2008–2010, it was even higher, reaching close to 20%. The blue line, represented by longer dashes, illustrates the share of students who began the supplementary programme at some point within the first six years after starting upper secondary education, and thus it also encompasses those who take the programme at a later stage. This line stops in 2016, as this was the last cohort we could track for six years (until 2021). This line shows a more consistent growth throughout the period, starting at 16% for the 1994 cohort, and gradually rising to approximately 30% for cohorts from 2011 onward. Lastly, the orange shorter dashed line in Figure 2, shows the share of those starting vocational education who were first awarded a trade certificate (vocational diploma) and then continued onto the supplementary programme. This is also measured within six years after starting vocational education. This was 7% for the 1994 cohort, and it sank to close to 1% in the 2009 cohort, before it increased again to about 7.5% for the 2016 cohort. The increase in later years can be linked to a general implementation of a right to take a supplementary year after completing a trade certificate, as an extension of the statutory right (NOU 2018:15, p. 138).

However, there are large differences in share taking the supplementary year between different vocational programmes. In figure 3 we provide a closer examination of four specific vocational programmes: Building and Construction, Health and Social Services, Service and Logistics, and Technology and Manufacturing. Health and Social Services stands out, with close to 40% of students in this programme entering the supplementary programme during their third year. In contrast, only about a third of those starting in Health and Social Services are in an apprenticeship in the third year. Additionally, an extra 15% takes the academic year after completing their apprenticeship, an alternative route towards academic certification, bringing the total share of students aiming for academic credentials to over 50%. Since 1994, the share of students starting the Health and Social Services programme pursuing the academic credential route has more than doubled, establishing it as the most common path within this vocational programme.

In Building and Construction, and Technology and Manufacturing, the share in the supplementary programme year 3 is 8% and 5%, respectively. In both these programmes, about 85% of students are in an apprenticeship in the third year. Service and Logistics had a high proportion in the supplementary year when this programme was introduced, but the proportion has declined over time. For recent cohorts, this programme has about 20% in the supplementary year.

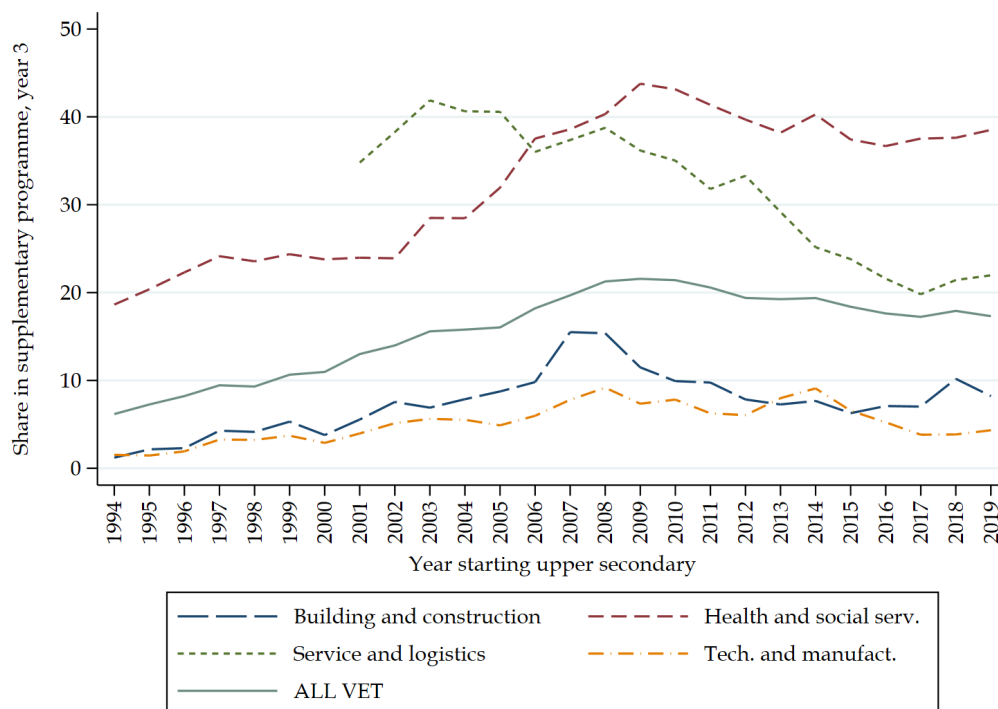


Figure 3. Share taking supplementary programme in the third year after starting upper secondary. Starting cohorts 1994–2019.

Variation in social recruitment

The academic programme and the supplementary programme both lead to general access to higher education by providing the HEEQ. However, the socio-economic recruitment into vocational programmes is different from the recruitment into the academic programmes. For example, the average grades from lower secondary are lower for those starting vocational education compared to those in academic programmes (Aakernes et al., 2022). To illustrate this, we compared third year academic programme students with those in the supplementary programme, and the difference persists. Over the whole period, the average grades for those in the academic programme was 4.56, compared to 3.86 for those in the supplementary programme (Table 1). The Norwegian grading scale at school runs from 1 (with 2 as lowest passing grade) to 6 (highest grade), and the grade point average gained in upper secondary education is the basis for admission to higher education. The relative difference was quite stable throughout the period. Also, there is a clear difference in the distribution of grades. Among the students in the academic programme, 84% had an average of 4 or higher – in comparison, only 43% of students in the supplementary programme had grades at this level.

Table 1. Differences in grades from lower secondary. Students in supplementary programme and academic programme, in year 3, for cohorts leaving lower secondary in 2002–2019.

Mean grades	Academic programme	Supplementary programme
1 or 2	1 %	7 %
3	16 %	51 %
4	58 %	40 %
5 or 6	26 %	3 %
Mean	4.56	3.86
SD	0.59	0.60
N	410 804	93 206

The difference was also evident when we compared parents' education for those in the academic programme and those in the supplementary programme (both measured at year 3). Figure 4 shows that more than 70% of those in the supplementary programme had mothers with no higher education, compared to 51% for those in the academic programme. More than 80% of the students in the supplementary programme had fathers with no higher education, compared to 56% among those in the academic programme.

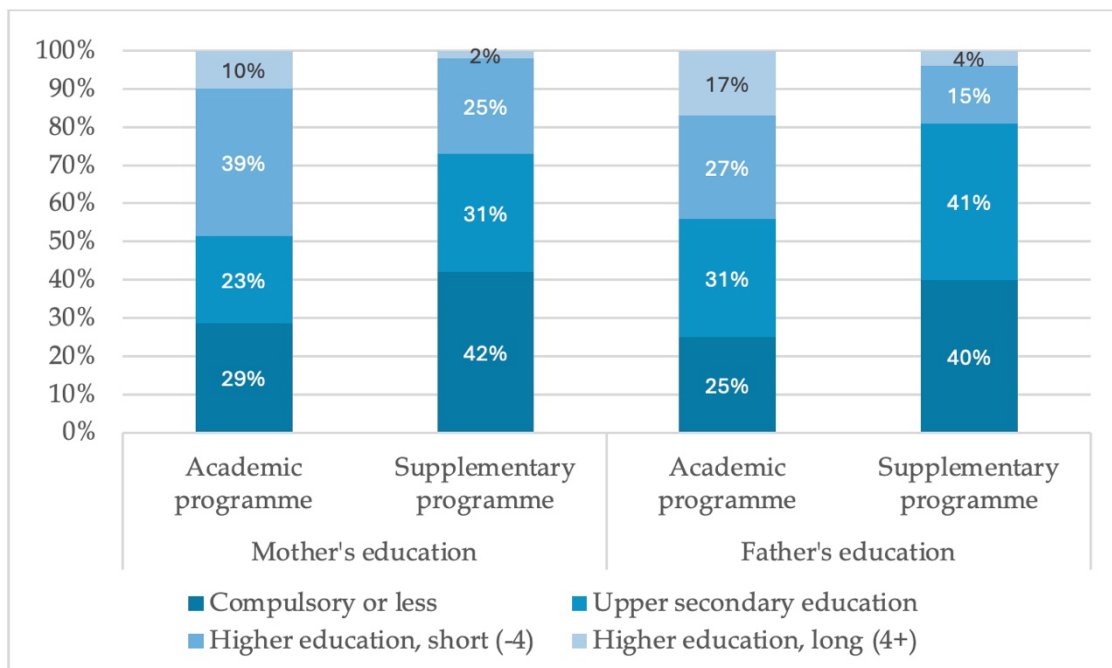


Figure 4. Mothers' and fathers' educational level. Students in supplementary programme and academic programme, in year 3, for cohorts leaving lower secondary in 1994–2019.

The supplementary programme as a route or an emergency solution?

Markussen and Gloppen (2012) found that most students see the supplementary programme as a route or a safety valve, while a minority see it as an emergency solution when they do not get an apprenticeship. We used data on applications to describe the intentions of the students taking the supplementary programme. We used application data with ranked wishes. This means that we can estimate precisely the proportion who planned to go into the supplementary programme, in contrast to those who planned to go on to an apprenticeship but ended up in the supplementary programme. We investigated this for all students who completed and passed the second year of their vocational education programme, as these are eligible to enter the third year.¹

Overall, 87% of those in the supplementary programme in autumn of year 3 had the supplementary year as their preferred plan in the March of the same year. Only 8.5% of those in the supplementary programme originally applied for an apprenticeship. The rest, 6.5%, either applied for other upper secondary programmes or were not registered with an application. This indicates that the supplementary programme seems to be the planned destination for the large majority taking the programme. This confirms earlier research, based on survey data, which shows that the supplementary year is dominantly a planned choice

(Markussen & Gloppen, 2012), and that these choices are a result of experiences from upper secondary (Høst et al., 2012).

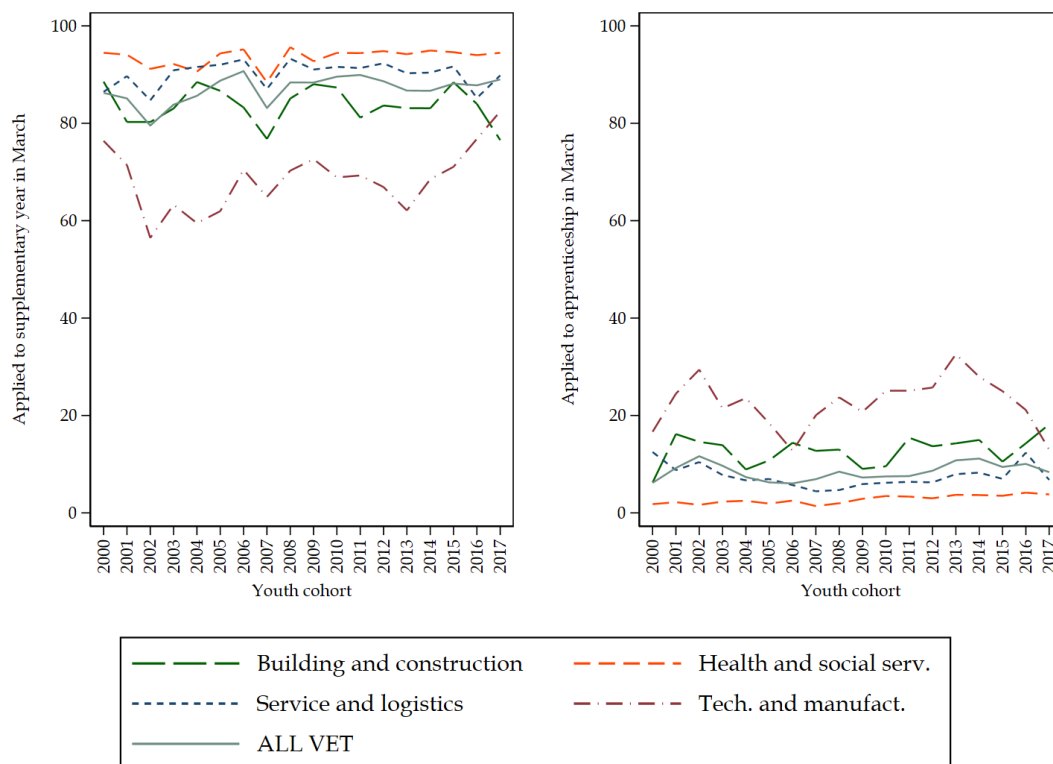


Figure 5. Share of those in supplementary programme third year who applied for supplementary programme (left figure) and apprenticeship (right figure), for cohorts leaving lower secondary in 2000–2017.

In terms of application data, we see that quite few of those attending the supplementary programme applied for an apprenticeship. However, there were large differences between the vocational programmes students enrolled in. Especially in Technology and Manufacturing, a relatively high share had an apprenticeship as their preferred choice but ended up in the supplementary programme. Over the whole period, 24% of the students taking the supplementary programme from Technology and Manufacturing originally applied for an apprenticeship. But in some years, this was as high as 30%, and in some years it was as low as 10% – this difference was probably driven by business cycles – as access to apprenticeships is contingent on business cycles in parts of the apprenticeship system (Michelsen & Høst, 2012; Muehlemann et al., 2020). However, the changes due to business cycles account only for a few of those in

the supplementary programme, as the supplementary year is much less used within the vocational fields affected by business cycles.

Discussion and policy implications

The findings in this paper indicate that the supplementary programme for university admission serves several functions, and also that its function has evolved over time since its implementation in the current form in 1994. The use of the supplementary programme has increased over time, from less than one in ten vocational students transitioning to the programme at the start of the period, to about one in five students from 2008 onwards. However, there are great variations between vocational programmes in the proportion of students using the route to get the HEEQ rather than taking on an apprenticeship. One minor criticism of the programme has been linked to this. In some policy documents it has been seen as a problem that students from the Health and Social Service programme in large numbers transition to the supplementary programme, and thus complete an academic qualification instead of a vocational one (NOU 2018:15, p. 15).

In general, the arguments for the supplementary programme in the policy documents have primarily been individual, to allow students to re-think their educational choices without having to start anew from year one. As such, the supplementary programme has also provided some flexibility to the education system and reduced costs, as students do not have to re-sit years and stay longer in the educational system. Initially, before Reform94, an argument for the programme was to increase the number of students into higher education, and increase intergenerational education mobility, but this argument has not been present in more recent policy documents. However, when looking at patterns of student participation in the programme, there are clear signs of what Mahoney and Thelen (2010) would label as institutional *drift*, that the supplementary programme takes on purposes other than what were originally intended. For most students in the supplementary programme, taking this year is a conscious choice, as they never envisioned becoming apprentices. Choosing a vocational path to reach general entry qualifications for higher education is a way to use the supplementary programme which was not described as a purpose of the programme in any of the policy documents during the period. Rather, although legitimate, it is seen as being somewhat undesirable. This pattern is not new, as shown in earlier research (Skålholt et al., 2013). In the terminology of Mahoney and Thelen (2010), this seems more like drift than conversion, as the upper secondary education system adapts to student choices rather than actively re-interpreting the purpose of the supplementary programme. However, we do also see elements of conversion at the regional level, where some county

administrations offer more radical re-interpretations of the programme than just passively adapting to student choices.

The review of policy documents shows that the purpose of the supplementary programme was barely discussed for 20 years from 1998 until brought up by the Lied Committee (NOU 2019:25) whose proposal to abolish the supplementary programme (as a third-year option) was rejected in the ensuing government white paper (Meld. St. 21 (2020–2021)). The changes in regulations of the supplementary programme in the period have also been marginal and have primarily consisted of extending the right to take the supplementary year. The few critical points made about the programme is 1) related to the supplementary year being difficult and quite a few students struggle to complete with a passing grade (NOU 2018:15; NOU 2019:25; St.meld. nr. 32 (1998–99)), and 2) that too few students in the Health and Social Service programme end up with a vocational qualification (NOU 2018:15). The latter criticism about the programme indicates that national level policy makers view the transition patterns to the supplementary programme in this vocational field as a kind of anomaly. The introduction in 2014 of a statutory right to enter the supplementary programme *after* having completed apprenticeships was explicitly presented as a means of re-directing student flows towards apprenticeships after two years at school (Prop. 68 L (2013–2014)). Using the concepts introduced by Mahoney and Thelen (2010), this statutory right represents an element of *layering*, whereby policy makers intentionally try to alter the effects of the original institution (the supplementary programme). Although it is difficult to ascribe causality, we noted a small shift towards lower direct transition rates after two years into the supplementary programme when the new statutory right was introduced. This suggests that the new right did indeed change the role played by the supplementary programme, but only marginally.

An interesting finding, in an inequality perspective, is that most students in the supplementary programme had lower grades from lower secondary education compared to students in the ordinary academic programme and come from a less advantaged socio-economic background (as measured by their parents' education level). As such, the supplementary programme may offer an opportunity for students with a less-advantaged socio-economic background to obtain entry qualifications to higher education.

Endnote

¹We excluded Nature and Fishery, and Media and Communications, as these are eligible to apply for another option for getting higher education certification.

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References

- Aakernes, N., Andresen, S., Bergene, A. C., Dahlback, J., Høst, H., Johannesen, H. S., Skålholt, A., Tønder, A. H., & Vagle, I. (2022). *Evaluering av fagfornyelsen yrkesfag, delrapport 1: Bakgrunn, prosess og implementering på vg1* [Curriculum renewal in vocational education, first interim report] (Rapport 2022:8). NIFU. <https://hdl.handle.net/11250/2990375>
- Ammermueller, A. (2013). Institutional features of schooling systems and educational inequality: Cross-country evidence from PIRLS and PISA. *German Economic Review*, 14(2), 190–213. <https://doi.org/10.1111/j.1468-0475.2012.00565.x>
- Boudon, R. (1974). *Education, opportunity, and social inequality: Changing prospects in western society*. Wiley.
- Engelstad, F., & Hagelund, A. (Eds.). (2016). *Cooperation and conflict the Nordic way: Work, welfare, and institutional change in Scandinavia*. Walter de Gruyter.
- Frøseth, M. W., Hovdhaugen, E., Høst, H., & Vibe, N. (2010). *En, to...tre? Den vanskelige overgangen – Evaluering av Kunnskapsløftet: Fra andre til tredje år i videregående opplæring* [One, two...three? The difficult transition in upper secondary] (Rapport 21/2010). NIFU. <http://hdl.handle.net/11250/279203>
- Haveman, R., & Wolfe, B. (1995). The determinants of children's attainments: A review of methods and findings. *Journal of economic literature*, 33(4), 1829–1878.
- Hernes, G., & Knudsen, K. (1976). *Utdanning og ulikhet: Delutredning i en undersøkelse satt i gang ved kongelig resolusjon av 3. mars 1972* [Education and inequality]. Universitetsforlaget.
- Høst, H., Karlsen, H., Skålholt, A., & Hovdhaugen, E. (2012). *Yrkesfagutdanning eller allmennutdanning for sektoren?* [Vocational education or general education for the sector?] (NIFU-rapport 30/2012). NIFU. <http://hdl.handle.net/11250/280905>
- Høst, H., Seland, I., & Skålholt, A. (2013). *Yrkesfagelevers ulike tilpasninger til fagopplæring. En undersøkelse av elever i tre yrkesfaglige utdanningsprogram i videregående skole* [Vocational students' different adaptations to vocational training] (NIFU-rapport 16/2013). NIFU. <http://hdl.handle.net/11250/280421>
- Mahoney, J. T., & Thelen, K. (Eds.). (2010). *Explaining institutional change: Economic ideas and institutional change in the twentieth century*. Cambridge University Press.
- Markussen, E., & Gloppen, S. K. (2012). *Påbygg – et gode eller en nødløsning? En studie av påbygging til generell studiekompetanse i Østfold, Akershus, Buskerud, Rogaland og Nord-Trøndelag skoleåret 2010–2011* [Academic supplementary year for vocational students – a last resort or a good thing?] (NIFU-rapport 2/2012). NIFU. <http://hdl.handle.net/11250/280848>

- Michelsen, S., & Høst, H. (2012). Apprenticeship, youth and labour market outcomes: A diachronic investigation into the Norwegian case. In S. Stolz, & P. Gonon (Eds.), *Challenges and reforms in vocational education: Aspects of inclusion and exclusion* (Vol. 11, pp. 215–234). Peter Lang.
- Muehlemann, S., Pfeifer, H., & Wittek, B. H. (2020). The effect of business cycle expectations on the German apprenticeship market: Estimating the impact of Covid-19. *Empirical research in vocational education and training*, 12, 1–30.
<https://doi.org/10.1186/s40461-020-00094-9>
- Nyen, T. & Tønder, A.H. (2020). Capacity for reform: The changing positions of apprenticeship in three Nordic countries. *Transfer: European Review of Labour and Research*, 26(1), 44–56. <https://doi.org/10.1093/esr/jcaa047>
- Pierson, P. (2000). Increasing returns, path dependence and the study of politics. *American Political Science Review*, 94(2), 251–267.
<https://doi.org/10.2307/2586011>
- Reegård, K. (2015). Sales assistants in the making: Learning through responsibility. *Vocations and Learning*, 8(2), 117–133.
<https://doi.org/10.1007/s12186-015-9129-0>
- Skålholt, A., Høst, H., Nyen, T., & Tønder, A. H. (2013). *Å bli helsefagarbeider: En kvalitativ undersøkelse av overganger mellom skole og læretid, og mellom læretid og arbeidsliv blant ungdom i helsearbeiderfaget* [Becoming a healthcare professional] (NIFU-rapport 5/2013). NIFU.
- Traini, C. (2022). The stratification of education systems and social background inequality of educational opportunity. *International Journal of Comparative Sociology*, 63(1–2), 10–29. <https://doi.org/10.1177/002071522111033015>
- University and College Act. (2005). *Lov om universiteter og høyskoler* (LOV-2005-04-01-15).
- Vangen, T. (2007). *Nasjonal utdanningsdatabase: Dokumentasjonsrapport*. [National education database: Documentation report]. SSB.
https://www.ssb.no/a/publikasjoner/pdf/notat_200754/notat_200754.pdf
- Vibe, N., Frøseth, M. W., Hovdhaugen, E., & Markussen, E. (2012). *Strukturer og konjunkturer: Evaluering av Kunnskapsløftet. Sluttrapport fra prosjektet «Tilbudsstruktur, gjennomføring og kompetanseoppnåelse i videregående opplæring»* [Structures and business cycles: Final report, evaluation of the Knowledge Promotion Reform] (NIFU-rapport 26/2012). NIFU.
<http://hdl.handle.net/11250/280897>

Official policy documents

- Meld. St. 21 (2020–2021). *Fullføringsreformen: Med åpne dører til verden og fremtiden* [The completion reform: Open doors to the world and the future].
<https://www.regjeringen.no/no/dokumenter/meld.-st.-21-20202021/id2840771/>

- NOU 1988:28. *Med viten og vilje (Hernes-utvalget)* [Perspectives on higher education and research]. Statens forvaltningstjeneste.
- NOU 1991:4. *Veien videre til studie- og yrkeskompetanse for alle (Blegen-utvalget)* [The route to upper secondary competence for all]. Statens forvaltningstjeneste.
- NOU 2018:15. *Kvalifisert, forberedt og motivert: Et kunnskapsgrunnlag om struktur og innhold i videregående opplæring* [Qualified, prepared and motivated: Existing knowledge on structure and content of upper secondary education].
<https://www.regjeringen.no/no/dokumenter/nou-2018-15/id2621801/>
- NOU 2019:25. *Med rett til å mestre: Struktur og innhold i videregående opplæring* [Structure and content of upper secondary education].
<https://www.regjeringen.no/no/dokumenter/nou-2019-25/id2682947/>
- NOU 2023:4. *Tid for handling: Personellet i en bærekraftig helse- og omsorgstjeneste* [Personnel in a sustainable health and care service].
<https://www.regjeringen.no/no/dokumenter/nou-2023-4/id2961552/>
- Prop. 68 L (2013–2014). *Endringer i opplæringslova, privatskolelova og folkehøyskoleloven (leksehjelp m.m.)* [Changes in the educational law, including laws on private schools and folk high schools].
<https://www.regjeringen.no/no/dokumenter/Prop-68-L-20132014/id756224/>
- St.meld. nr. 33 (1991–92). *Kunnskap og kyndighet: Om visse sider ved videregående opplæring* [On certain parts of upper secondary education].
<https://www.stortinget.no/no/Saker-og-publikasjoner/Saker/Sak/?p=5288>
- St.meld. nr. 32 (1998–99). *Videregående opplæring* [Upper secondary education].
<https://www.regjeringen.no/no/dokumenter/stmeld-nr-32-1998-99-/id192308/>
- St.meld. nr. 30 (2003–2004). *Kultur for læring* [Fostering a learning culture in education].
<https://www.regjeringen.no/no/dokumenter/stmeld-nr-030-2003-2004-/id404433/>
- St.meld. nr. 44 (2008–2009). *Utdanningslinja* [Opportunities for education].
<https://www.regjeringen.no/no/dokumenter/stmeld-nr-44-2008-2009-/id565231/>