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Special Issue: Academisation and Academic Drift of Vocational Education and Training

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Nordic Journal of Vocational Education and Training, 2025

Editorial: Academisation and academic drift of vocational education and training

Philipp Gonon[1], Anja Heikkinen[2] & Franz Kaiser[3]

[1] University of Zurich, Switzerland
[2] Tampere University, Finland
[3] University of Rostock, Germany

(gonon@ife.uzh.ch, anja.heikkinen@tuni.fi, franz.kaiser@uni-rostock.de)

This special issue with a selection of peer-reviewed papers is one outcome of a conference, organised by the VET and Culture Research Network[1] at the Oslo Metropolitan University (OsloMet) in September 2023. The focus of this conference was to explore the topic of academisation and academic drift regarding vocational education and training (VET). The VET and Culture Research Network celebrated its 30 years in Oslo. Therefore, the special issue begins with an article that provides memories and reflections on its journey by long-term members **Anja Heikkinen** (Tampere University) and **Liv Mjelde** (OsloMet).

Until recently, research and policy discourses on academisation and academic drift have focused either on growing aspirations among populations towards academic pathways or non-university ('professional') institutions striving to operate like universities and be included in the tertiary sector. Due to its diverse, contextual interpretations and definitions, discourses focusing on VET have remained scattered and incoherent.

However, in recent years the term academisation has been coined in the context of VET reforms in Europe. Especially in the German-speaking countries and regions with a strong dual VET system, academisation also expresses a fear of alienation and of jeopardising the core of VET, which is based on skilled work, experiences in the workplace, and dominance of practical learning. Many young

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people choose a VET route due to the prospect of experience-based learning beyond schools and integration based on qualifications in the world of work and the community of practice there. However, if parents, firms, and the public see academic tracks with further options for studying in higher education as more promising than VET, it is not a surprise that more young people choose them instead of VET programmes. One consequence of this demand to expand and open up VET for higher education access may therefore be an academic drift of the whole VET system. Such a drift is an often deliberate, but sometimes also unforeseen institutional dynamic that raises the status within education (but not necessarily in the world of work).

This is a global phenomenon happening in most countries as the rise and expansion of academic institutions play a more important role in the whole education system. These effects on vocational education may be ambivalent. On the one hand, a more permeable VET system strengthens its position by helping to enhance – as some international organisations like OECD and EU and comparative studies suggest – the ratio of academics. On the other hand, a boost towards institutions, which enrich their profile with academic knowledge and certificates endanger access to VET. Such a policy may jeopardise VET programmes which aim to qualify people with basic practical knowledge, skills, and competencies oriented towards the needs of the labour market and the ability to solve specific problems based on experience. By enabling learners to cope with complex situations they don't focus as much on formal levels and certificates as traditional educational programmes. The contributions of this special issue are unfolding the debate and further perspectives on academisation and academic drift discourse, recognisable in different countries.

The first research article, *Academic drift and metabolic alienation in vocational education*, by **Anja Heikkinen** (Tampere University) suggests the revision of historical research on vocational education, reflecting on a selection of Finnish studies through the theoretical lens of social metabolism and from a critical ecological perspective. Consequently, the academisation of VET can be considered as an aspect of a capitalist growth regime. This is assumed to undermine the possibility of addressing the planetary crisis through sectoral measures across occupational and educational hierarchies.

Svein Michelsen (University of Bergen) and **Håkon Høst** (Nordic Institute for Studies in innovation, research and education, Oslo) also highlight from a historical perspective the drift towards more and higher qualified educational credentials in Norway. In their article, *Norwegian higher vocational education: Between academic drift and labour market relevance*, they argue that the trend is not specifically an academic drift but a reaction to labour market signals leading to a re-orientation of VET including more school-based elements.

Regarding the topic, academic drift is less explicit as a result of education institutional reforms in the article of **Elisabeth Hovdhaugen, Torgeir Nyen** and

Asgeir Skålholt (Nordic Institute for Studies in innovation, research and education, Oslo [Hovdhaugen & Skålholt], and Fafo, Oslo [Nyen]), *Avoiding tracking? Vocational students who take the supplementary programme for university admission*. They trace the development of a specific Norwegian programme which opens opportunities for VET learners to access academic higher education. They find the institutionalist approach to academic drift and conversion vital in explaining the growing importance of such a programme.

Philipp Gonon (University of Zurich) and **Lorenzo Bonoli** (SFUVET, Renens) offer a similar perspective on the academisation of VET in their reconstruction of the hybrid programme of combining a vocational certificate with a specific vocationally based baccalaureate degree in Switzerland. In their contribution *Two waves of academisation of VET in Switzerland: Threat or way forward?*, they trace the start of the reform in the 1960s and depict its development as a response to growing public expectations and internal pressures inside VET.

Switzerland as a case for different kinds of academic drift in and around the VET system is the focus of the article *Academic drifts in vocational, professional, and continuing education: A multi-perspective approach for the case of Switzerland* by **Jörg Neumann, Thomas Ruoss** (both SFUVET, Zollikofen), and **Markus Weil** (University of Teacher Education, Zurich). The authors demonstrate the complexities of academic drifts and different tensions in three central areas of VET. Their analysis helps to understand VET and academisation more deeply, showing how much they depend on the context.

Franz Kaiser (University of Rostock) highlights in his article *Academic drift of technical VET teacher education in Germany, Sweden, and other Nordic countries* the recent academisation of teacher training in a comparative perspective. He shows the effects on the development of VET research and how it has led to gains and losses for VET teachers education at the same time.

While the articles introduced in the first part include a historical perspective, the following inquire about present-day practices and considerations regarding VET and academisation. **Liana Roos** and **Karmen Trasberg** (University of Tartu) focus in their article *The unmet potential of higher education graduates as boundary crossers to vocational education and training* on the individual perspectives of academics in Estland, who add a second vocationally based education which allows them to find a new job in the world of work.

Lars Gjelstad (Western Norway University of Applied Sciences) unfolds an ethnographic perspective on academisation in his article *Countering academisation of VET through local collaboration: A situational analysis from Western Norway*. The article develops a conceptual and methodological framework for dealing with the complexity of the actors, social practices, and institutions involved in shaping the purposes of vocational knowledge practices, informed by reflections on a network of local actors strengthening the quality and attractiveness of VET in the

region. The article finds ethnographic research essential to understanding the diverse, contextualised meanings of the academisation of VET.

Mohammed Asaduzzaman (Islamic University of Bangladesh), **Anja Heikkinen, Santeri Sorsa** (both Tampere University), and **Pamela Wadende** (Kisii University) ground their reflective article *Vocational education in the academic drift or arrogance of academia in front of planetary crisis* on a Global North–South configuration. They argue that the discourse on the academic drift in VET expresses an epistemic rift between academic and vocational education, dominated by conceptual frameworks from the Global North, and indicating ignorance of academia of local knowledge and educational traditions in other parts of the world.

This special issue is exploratory, referring to cases in Norway, Finland, Estonia, Sweden, Germany, Switzerland, Bangladesh, and Kenya. The various articles highlight particular aspects of academisation and academic drift, reflecting on different problem areas with diverse links to VET. The contributions from different countries show that academisation and academic drift are complex phenomena that require a broader historical and contextual analysis. The articles show the diversity of reasons for academisation or academic drift. One is the context of academisation as part of a global capitalist growth regime, but also competitive advantages of nations can be a driving in expanding higher education. Another reason is the adaptation to more complex work tasks in industry and services to meet the demands of improved technology. The struggle for recognition and prestige and better chances of success in a changing economy and society motivates educational institutions to 'upgrade' with academic knowledge and pursue their programmes to be more attractive to potential learners.

We appreciate the time and commitment of all the referees who volunteered to support authors and editors to improve their contributions. We are also grateful to OsloMet and the Norwegian team for their collaboration in organising this inspiring event, especially Prof. Dr Evi Schmid's careful arrangement and commitment to this conference. We hope the special issue raises interest among readers and encourages future research and discussion about academisation in vocational education.

Endnote

[1] https://vetandculturenetwork.wordpress.com/

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Thirty years of sharing and caring in Vocational Education and Culture Research Network

Anja Heikkinen[1] & Liv Mjelde[2]
[1] Tampere University, Finland
[2] Oslo Metropolitan University, Norway

(anja.heikkinen@tuni.fi)

Abstract

There are as many stories about the Vocational Education and Culture Network as there are people who have involved themselves in the network activities during the past 30 years; they all are worth telling. The organisers of the 2023 Oslo workshop asked us two to present a kind of memoir of the network because we were both involved at the start of joint activities. We hope this dialogue on our experiences will show some of the shared and distinctive features of the network. It is not chronological but covers a few themes raised by our experiences, illustrated by photos from earlier presentations and documents available to us. They do not try to do justice to all the diverse activities and meanings networkers have experienced during the past 30 years. Since so many have participated and contributed, we focus on activities rather than individuals, but readers will identify some long-term members in the photos. We hope a more detailed discussion continues after our dialogue.

Keywords: vocational education, culture, memoir, dialogue

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Introduction

With the rising economic and political importance of vocational education and training (VET) and adult education, they have become issues in the academic world. This chapter provides a personal and dialogical story of the Vocational Education and Culture Research Network (shorter VET and Culture), which emerged as a grass-root initiative in Europe over 30 years ago, expanded worldwide, and is still in action. To capture a few glimpses from network history, visit the website[1] of the network and have a look at the list of main annual events (Appendix 1) and a selection of some network-connected publications (Appendix 2).

There are as many stories about the network as there are people who have involved themselves in the activities during the past 30 years; they all are worth telling. The organisers of the 2023 Oslo workshop asked us two to present a memoir of the VET and Culture Network because we were both involved at the start of the joint activities. Like others in VET and Culture, we have gone our separate pathways in life, but everyone's crossings back and forth have made the network what it is. We hope our experiences will show some of the shared and distinctive features of the VET and Culture Network.

This dialogue covers a few themes raised by our experiences, illustrated by photos from earlier presentations and documents available to us. They do not try to do justice to all the diverse activities and meanings networkers have experienced during the past 30 years. Since so many have participated and contributed, we focus on activities rather than individuals, but readers will certainly identify some long-term members in the photos. We argue that compared to other networks, the strength and persistence of VET and Culture are based on its loose structure and a strong commitment to a wide interdisciplinary, gender-sensitive, and critical approach to vocational and adult education and culture. We hope our dialogue encourages a more detailed discussion in the future.

The emergence of the network: What happened, in what context, and what did it mean to us?

Concerning the topic of the current Oslo workshop, could we claim the emergence of the network reflected an academic drift occurring in vocational education?

Anja: I would disagree. At least for me, the workshop in Tampere was motivated by problematising the neglect and ignorance of work and vocational education in research and studies of education in academia. My research at the turn of the 1990s, including comparisons between Finland, Germany, and Britain,

had focused on the historical formation and interpretations of vocational education primarily in crafts and industry. I analysed them in the intersection of the three spheres: economy and industry, political and social relations, and education. I found them to express controversial, competing, and transforming 'cultural' agendas and interpretations of vocational education.

I feel some guilt about combining vocational education with culture in the network title, though I have never managed to impose my reasoning on networkers. I was deeply critical of the theoretical and empirical aversion to work and work-related education in educational sciences, universalist and nation-state-centred comparisons in social sciences, and managerial psychology in organisational and business studies. This is a mainstream prejudice that demands to be challenged. Boldly I dreamt of revising concepts and connections of culture and education based on materialist ontology and epistemology, which centre on work, and work-mediated interaction among humans and their non-human environment (obviously being quite Marx-inspired). It also seemed a critical alternative for the rise of studies about vocational education and human resource development as instruments for the globalisation of trade and governance, supported by EU and OECD policies.

Reading research literature and familiarising myself with colleagues having interests and ambitions resonating (enough) with mine, in Finland, Germany, Britain, Norway, and Switzerland in the first place, there seemed to be a potential for a 'cross-cultural' collaboration to analyse work and vocational education beyond national borders. Though not necessarily referring to culture, they emphasised historical contextualisation, power structures in industrial relations and formation of subjectivities, the intersectionality of life histories with wider historical transformations, and distinctive pedagogies in understanding vocational education. A group of us organised a workshop 'Vocational Education, Culture and History – European Perspectives' held in Tampere in 1993. Our ambition was to outline a critical, historicising research agenda on the following themes:

1. Relationship of 'models' of state and state formation processes to vocational education, including changes in national and local citizenship,
2. Educational paradigms and their proponents, i.e., organisation and pedagogical principles of vocational education,
3. Vocational education as a constituent of life-worldly existence in a cultural context, i.e., social and personal structuring of life-course and spheres of life through vocational education,
4. Traditions of learning, teaching, and knowledge, which differentiate academic and vocational education and various forms of vocational education from each other,
5. All of these themes were seen to include a gender dimension.

Not taking certain definitions of vocational education as given, it was self-evident that the analysis of its formation must relate to other forms of education, such as adult and academic education. In practice, we could not continue activities strictly on previous themes, because there has been a constant discussion and debate about what they should be. However, I assume the themes have been more or less visible in all network activities ever since.

Figure 1. Tampere and Hämeenlinna 1993: 'Vocational Education, Culture and History – European Perspectives'.

Liv: In late October 30 years ago, I received an invitation from Anja Heikkinen to a workshop in Tampere in November 1993. I had just defended my doctoral dissertation: *Apprenticeship: From practice to theory and back again* at the University of Joensuu. I had been in Joensuu before, invited by professor Ari Antikainen in 1979 to talk on the 'Work of Hand and Mind', based on the first research I initiated in VET in the 1970s, on the integration of dropouts from the newly developed 9 years of compulsory school into vocational schools. I worked as a social worker in the biggest vocational school in Scandinavia. I started to acquire practical experience with dropouts and saw how unfairly the state apparatus treated vocational students and apprentices. Part of the work involved starting an interest organisation for vocational students and apprentices in 1970. It was perhaps a time prior to academic drift in this field. I tried to raise awareness in the academic world about research and writing on working-class education, specifically vocational education for craft and industry. At the time there was little interest or research money in the field.

I said yes to the invitation to Tampere and on some dark November days from the group that gathered, seeds were planted for the VET and Culture Network. We were scholars from different academic disciplines interested in researching the history and culture of vocational education. This thinking didn't exist much

in Norway at that time. Educational activists were invited to Finland and Malta for other VET and Culture conferences in 1994, 1995, and 1996. Finland was in a deep economic crisis in this period. But some money was found, invitations were produced, and new scholars joined the network.

The VET and Culture Research Network has no formal rules, structures, or aims, but does it have a distinctive research ambition and profile?

The expansion of the network required communication in English and increasingly led to the adoption of Anglo-Saxon vocabulary, for example in the acronym VET and Culture. On the website[1] the network informs: 'We are a voluntary network of senior and junior researchers and students, practising cross-cultural, independent and critical research on transformations in vocational education, and in relations between work, education and politics. The aim of the network is to support members in their different academic and institutional environments through collaborative research, virtual communication, annual meetings, teaching, supervision and publishing.'

Figure 2. Malta 1996: 'Vocational Education and Apprenticeships'.

Anja: The beginning of the network was almost accidental but based on mutual interests and ambitions of initiators to develop a joint research agenda with a cross-cultural, historicising approach to vocational education. In the early 1990s, Finland was not part of the EU, and there were hardly any opportunities to get funding for international research, especially for a topic marginal and uninteresting to the academic world, in educational or social sciences. Also, before completing my doctoral thesis, I couldn't act officially as a Principal

Investigator – contracted senior researcher – for initiating and coordinating funded projects. Therefore, we continued as a network, supporting research discussions through annual meetings, joint research and teaching, and publications. Thus, there was no institutional or financial support, and the participants had to organise activities as part of their regular work – but often not recognised or appreciated by their affiliations and colleagues – and by searching for individual funding for single activities. This promoted informal, personal, and non-bureaucratic practices among networkers.

At least my naivete drained when since the mid-1990s, vocational education and training became a priority in making EU-Europe the most competitive economy in the world. At the same time, marketisation ideology expanded globally, promoting research and development through management by projects-policy. New markets were opening for policy-led studies and careers in research on vocational education, but unfortunately, cross-cultural and historicising approaches were not given relevance.

Figure 3. Sørmarka and Oslo 1997: 'Work of Hands and Work of Minds in Times of Change'.

With the transforming of mainstream research networks and associations into project-generating and disseminating institutions, it was challenging to continue voluntary and informal conceptual and empirical analyses and reflections about the meanings of culture and vocational education. On the other hand, though the lack of time, funding, and recognition has accompanied the network down through the years, most participants have found the freedom from structures, project funding, and institutional restrictions an important quality of the network. There are few opportunities to meet, debate, and share ideas and experiences of intellectual and research interests and ambitions voluntarily and free from the regular pressure of academic work. However, the other side of the

coin is that no one can be forced to support a certain agenda, and even joint initiatives and ambitions are hard to implement without institutional support and resources. Yet, the continuity of the core group of the network has maintained the theoretical and methodological focus and the atmosphere and shown an alternative to newcomers or more random participants.

Figure 4. Joensuu 2005: 'Transforming Politics of Education and Work'.

Due to my shifting academic position, I was primarily engaged with adult education for many years. Although I found it just widening and strengthening the historical and cultural perspective, the tensions and contradictions between adult and vocational education became visible in research, practice, and politics. Yet, instead of ignoring them, they should remain central topics of research and study. Sometimes I started to feel that networkers were searching for recognition by following renowned figures in social scientific discourse, instead of providing alternative and original analyses and interpretations about vocational education and culture. My few conceptual and methodological initiatives seemed not attractive enough for designing a joint research profile. Therefore, my function has rather been an enabler and coordinator for networkers to gather, develop, and discuss their own ideas and agendas.

However, despite the lack of a sharp agenda, there have been attempts to document the network profile in research and as an academic collective. For example, we had a project during 2005–2008 on developing books on three themes: reconceptualising education and industry; reconfiguring occupations – especially educators; and social relations of working and knowing. This was followed by discussing a joint 'intellectual agenda', for example in the 2010 annual event.

Figure 5. Hattingen 2010: 'Futures of VET and Culture'.

Liv: As Anja said, the beginning of the network happened almost by accident. For example, as my thesis was too controversial in Oslo, I defended my thesis in Finland in 1993. In 1990 I started working as a professor of Vocational Pedagogy at the old vocational teacher training institute in Oslo, hired to strengthen research and to work on the MA programme for vocational teachers. In 1993, there was not much belief in empirical research on vocational education, nor scientific understanding of the complexities and contradictions within the expansive educational system, which aimed to integrate vocational and academic education under the slogan 'Equality through Education'. Through my practical work in vocational schools, I, like many colleagues in the network, realised that the goals were far from fulfilled. Lately 'Social Justice' has been used in this context.

I am a sociologist by training, with minors in political science and history. I have much practical experience outside the academic world and teaching experience at all levels, 18 years as a teacher and social worker in the vocational schools in Oslo. Visiting vocational workshops widely in the world, I found a similar social division of learning; workshops and academic classrooms in vocational and adult education wherever I went. One problem in many academic institutions in Norway is a lack of historical knowledge about vocational education and its roots in crafts and industrial trades, and the gender divisions as they had developed under industrial capitalism.

While a visiting scholar at the Department of Sociology of Education in Toronto, I encountered strong women posing new questions about the social division of knowledge in science and women's place in family and working life. Feminist questions were at the forefront politically and in the streets in the 1970s and 1980s, although with marginal interest in 'the gendered history of vocational

education'. The VET and Culture Network took up related questions on the social division of labour. In May 1996, a group of female researchers gathered in Hämeenlinna to look into 'the gendered history of (vocational) education – European comparisons', raising new questions from a gendered and historical standpoint. The gender question within vocational education was also the topic in Aarau 1999.

Figure 6. Hämeenlinna 1996: 'Gendered History of VET – European Comparisons'; Aarau 1999: 'Gender Perspectives on VET'.

The Age of the Smart Machine as Information Technology and now Artificial Intelligence was called in the 1990s challenged both the labour processes on the manual labour market and led to an expansion of education and new research interests in the state apparatus in vocational education.

The Norwegian Research Council opened 1990s economic support for research on the educational reforms in upper secondary education, which had integrated vocational and general education under one common law. That gave new opportunities to the Institute of Vocational Pedagogy and other research milieus. We had the VET and Culture conference at Sørmarka in Oslo in 1997, where colleagues from the Institute of Sociology at the University of Bergen participated. They were doing comparative research on the European labour market, vocational education, and democracy. They followed up and organised a VET and Culture conference in Bergen. The Institute of Vocational Pedagogy in Oslo invited another Conference in 2004, where we had participants from South

Africa, the USA, Argentina, Cuba, and Australia, to mention some from beyond Europe.

My ambitions and activities in the VET and Culture Network have been to develop a cooperative and democratic way to develop interdisciplinary comparative research in vocational and adult education in the academic world on the one hand. On the other, to stress what I have called 'science and research from below', an educational science that takes people's everyday life as a point of departure. I wanted the working-class experiences with the new educational expansive reforms to be heard. We struggle in the academic world often from a mainstream point of view in our 'ways of seeing', and as we say in sociology, 'whose side are you on'. It is also important to make the contradictions between the work of hand and mind visible in both vocational and academic education. To make its ambitions and profile visible, the network has focused on joint publishing, such as the Peter Lang book series.

VET and Culture Network has no institutional home or affiliation, why and what are the implications?

The VET and Culture Network has commonly been identified as critical and alternative, even anarchic to hegemonies in academia. The continuity has relied on the voluntary sharing of informal mailing lists, letters, and websites. Might this be a methodological implication from 'culture' in the title, and from favouring a 'cross-cultural' and 'historicising' approach? Does this mean self-critical positioning and encounters in the intersection of diverse and contradictory fields of research, practice – work life, VET – and policymaking?

Figure 7. Mustiala 2003: 'Occupation and Education in Transition'.

Anja: I assume that besides the pragmatic, there are also personal and political reasons among networkers for avoiding institutional commitment. I had never learned or even wanted to confirm with academic rules and games. This may originate from my life before starting the so-called academic career in educational science. I came from a non-academic and not-too-easy social and family background and was engaged in the leftist student movement. Besides education, I have a degree in philosophy, sociology, mathematics, and natural sciences, and experience as a teacher in various educational institutions and as an administrator. Such background might have contributed to feelings of alienation from academia. Yet, in the 1990s, I had naively thought it possible to go your way and follow your ambition in research. Also, being not so young and having a temporary contract and a daughter to raise, I simply did not have time to satisfy hegemonic academic rites and rules. Most of all, there was no community or support for my research at my home university or even in Finland, while vocational education raised marginal interest in academia. Furthermore, critical, cultural, and historicising approaches were not welcome or were considered even dangerous, among leading practitioners, scholars, and policymakers of vocational education.

Some of the original principles in network activities were integrating research, studies, and dialogues with practice and policymaking, concrete and physical encounters and locating activities in places and spaces, such as VET institutes and worksites. While some of us and our activities have faced marginalisation, opposition, and even resistance from the established VET pedagogical, policy, and research communities, it has not simply been a disadvantage. It may have sharpened argumentation and strengthened the agenda.

Figure 8. Gilleleje 2006: 'Convergences and Divergences of Vocational Education'.

Liv: I have had many of the same experiences in the academic world as Anja describes. When people are trained in the pedagogical and academic world they

may think that they 'know it all' when it comes to the art of teaching and learning. I was told, 'You do not need research'. Vocational education per se did not exist in the academic world and research interest in the field was zero until the 1990s. Yet, vocational teacher training has existed since 1947. Vocational teachers demanded other ways of learning how to teach. They wanted their own practice in the workshop to be at the rotation point for learning; such experiences demanded a John Dewey Laboratory School approach to teaching/learning. Our Norwegian MA programme in vocational pedagogy is based on cooperation and group learning. I started to grasp this more and more when starting work on the programme. I learned from and together with my students and good colleagues. Another thing was that I started working outside Europe with our ideas. In Norway, we made a successful application for building up a master's degree in vocational pedagogy in Kampala, Uganda, with scholars from Kyambogo University. It was a cooperation project with South Sudan where other teachers from our institute were involved. What I want to pinpoint here is that there was a lot of support from VET and Culture colleagues for this project over the years. The Peter Lang book series gave the students some texts with more complex ways of thinking about VET. The network also invited scholars and students from Kampala to present keynotes and participate in the conferences. It gave new opportunities to many people and enriched our discussions. It was also a learning experience that the same contradictions and relations of ruling existed in the academic bureaucracy in Norway and Uganda. Heartless and mechanistic bureaucratisation was part of academic life. New public management demanded also more bureaucracy and control from above.

Figure 9. Mzumbe 2014: 'Vocational Education Beyond European Conceptions'.

Is VET and Culture Network most distinctive because of intertwining research, pedagogy, ethics and politics?

Some have characterised the VET and Culture Network as distinctive due to the sharing, caring and open atmosphere. Yet, some have criticised this as compromising the competitive foundation of academia, arguing that 'high-quality research and teaching cannot build on friendships'. In network activities, friendships may mean 'intellectual hugging' that builds on sharing critical and – though problematic and complex – gender-sensitive perspectives on work, education, politics, and academia. However, it may be that the reflections of our Australian colleague Sue Shore have become increasingly controversial since the network has faced the competitive atmosphere of global academic capitalism during later years.

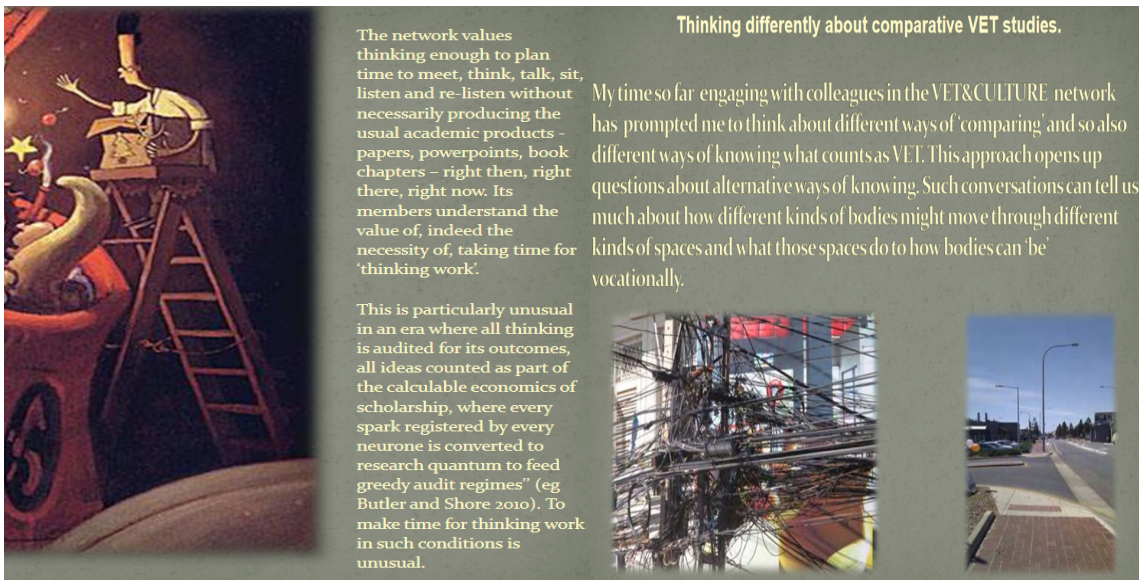

Figure 10. Sue Shore 2012: 'Reflections on VET and Culture'.

Anja: For me, such entwinement is fundamental for several reasons. First, I am committed to the idea that research, teaching, and studying should be intertwined in academia. Network activities should combine them, to relate and be meaningful to our everyday lives. Second, it is also an issue of resources and space. I would not have time and other resources in my environment if I did not integrate research, teaching and 'societal interaction' – the slogan of recent university policies, substituting our understanding of the linkage of theory and research with practice and politics. For me, collaboration in teaching and working with students is the most important among network activities. During 1998–2003 we experimented with collaborative research-based study modules applying

VET and Culture principles between Finnish, German, UK, and French universities. They continued in 2005–2008 as a pilot programme 'Cross-cultural Collaboration in Lifelong Learning and Work' in MA and Doctoral studies, jointly among Finnish, Swiss, UK, Maltese, Danish, and Australian universities. They provided an opportunity for long-term and intensive conceptual and methodological discussions and concrete – though small-scale – cross-cultural empirical research on vocational education.

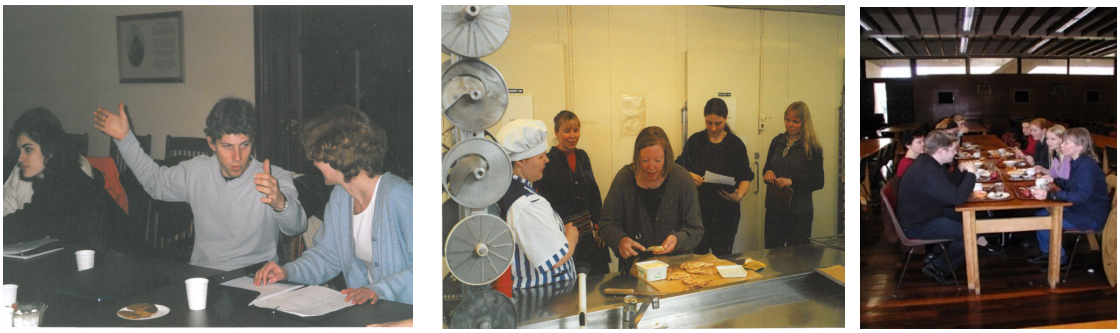

Figure 11. EMVET modules 1998–2003: Jyväskylä 2001, 'Status and Prestige of VET'; Leicester 2002, 'Methodological and Ethical Challenges of Cross-cultural/comparative Educational Research'.

Though the gender perspective is mentioned as the quality of the network, it may not quite be the proper expression of how I understand this intertwinement. It is rather thinking about theory and research as components of praxis in a wider sense, where intellectual – analytical, reflective, interpretative – activities intertwine with concrete activities shaping human and nonhuman environment, and where both activities are conditioned by and affecting material and historical realities. This implies conscious mutual exposure or encounter – and bodily, ethical, and emotional – between theory, research, practice, and politics. In sum, politics may be understood as a struggle on, and as an exercise of power to decide about the future and education as promoting an ethically sound future by intervening in individual and collective growth processes. Therefore, political, educational, and ethical action intertwine as praxis – also bodily and emotional, as do theorisation and research on politics, education, and ethics.

Yet, I believe that the global triumph of capitalism, the world-historical era of the Capitalocene, which has enabled the environmental crisis of the Anthropocene epoch, is politically, educationally, ethically, and theoretically permeated by hegemonic masculinity. This affects both males and females or any assumed 'genders'. Since the issue is fundamental when analysing and theorising economy, work, occupations, and vocational education, I have hoped that a gender-informed approach, together with other Capitalocene-critical approaches

to colonialism, or nonhuman perspectives to politics, economy, and work, would characterise the network in all its activities.

Consequently, I have understood the network as a self-educative community – sometimes I suggested the concept of a cross-cultural study circle to characterise the 'ideal' of activities – where members regardless of their seniority or theoretical and methodological expertise and experience are open to learning from each other. This also means that those who take the responsibility to organise events or activities also consider how they are pedagogically organised, to allow participants to learn and educate each other. For example, it means thinking about the 'choreography' of events, how they are structured and how participants are taken care of and guided.

Liv: The advantage of the VET and Culture Network is that we have been interdisciplinary and transdisciplinary-oriented. We have not been concerned about academic and scientific backgrounds. We have been searching for ways of building inspiration and curiosity together in the research of vocational and adult education. We have tried to inspire 'The Unfinished', as researching and teaching in the field of vocational pedagogy demands. It may allow us to be close to what Jeanne Gamble has called 'unthinkable' in vocational pedagogy, and be clear that as teachers/researchers, we do not have all the answers. I have been concerned about how to build a good non-competitive foundation in our learning processes as teachers and researchers in general and in our VET and Culture conferences. But my main point of departure is, how to work towards an educational system where cooperation and curiosity for all is the main goal and where respect for the protection of nature and people's cultures is the centre of the learning processes.

What are the impacts of the VET and Culture Network?

The networkers are widely engaged in research, practice, and politics. Since the network is voluntary and lacks institutional status and resources, its impact is mainly concretised and documented in their other affiliations and projects. It is hard to estimate its distinctive personal, collective, and institutional influences.

Figure 12. Intensive workshops Tampere 2006, London 2007, Tampere 2008, Malta 2008: 'Crosslife – Cross-cultural Collaboration in Lifelong Learning and Work – Pilot Program 2005–2008'.

Anja: Networkers like me are active also on hundreds of other platforms, in national and international research associations, projects, and publications. Since the network has no such official status or institutional reputation as established scientific associations, the impacts of participation in the network remain quite invisible and unofficial. People have used the network for a diversity of individual purposes, which is logical due to its open and inclusive profile. Yet, I am positive that it has catalysed theoretical, methodological, political, and practical ideas; giving peer support and empowerment to people to survive and succeed in their lives and careers. Still, those who have been there for a long time know that it has influenced members in many ways. It has encouraged or opened up opportunities for them to focus on certain research topics, develop agendas, and carry out projects. It has promoted alternative ways to research, teach, and interact with practice and politics. For me and many others, it has both been integrated into our regular academic work and existed as separate cross-cultural and historical study modules, programmes, and projects – such as 'Vocational Education and Culture'-modules and 'Cross-cultural Collaboration in Lifelong Learning and Work'-pilot – addressing changing relations between work, education, and politics. For many, the network means lifelong friendships.

However, despite the lack of formal status, the network has produced an astonishing number of publications, as a collective, in different combinations, and as individuals. Besides other publishing forums, the Peter Lang-series Studies in Vocational and Continuing Education has served as a literary home for the network since early 2000. There are countless other joint activities among networkers, linked to their everyday life, such as joint courses, seminars, and supervision of graduate and doctoral students, but also to their other networks or academic associations. Since tens of colleagues and hundreds of students have

been involved mentioning individual names and occasions would not do justice to their engagement.

Liv: Maybe it has been an advantage that the network does not have an official status. Conforming to 'the rules of the academic game' was unnecessary. I felt we did not need to compete; people were willing to help each other. For example, Justine Nabaggala from Kampala went on for a PhD in Canada, thanks to connections through our meetings. The atmosphere of support and willingness to cooperate have been significant. Our colleague Olav Eikeland had difficulty getting his work on Aristotle, actually on 'academic apprenticeship', published in English, but the book was published in the VET and Culture Network series.

What could and should be the future of the network?

Anja: Nobody ever planned that there would be this kind of network and even less that it would be still active after 30 years. It hasn't been self-evident when there are no formal structures or resources to moderate changes in institutional positions and life situations or some inevitable personal tensions among networkers. One of the worrying periods was the global COVID-19 pandemic, which led all institutions and actors into uncertainty and chaos. Yet, a critical mass of networkers has been concerned about keeping the network alive, and we managed.

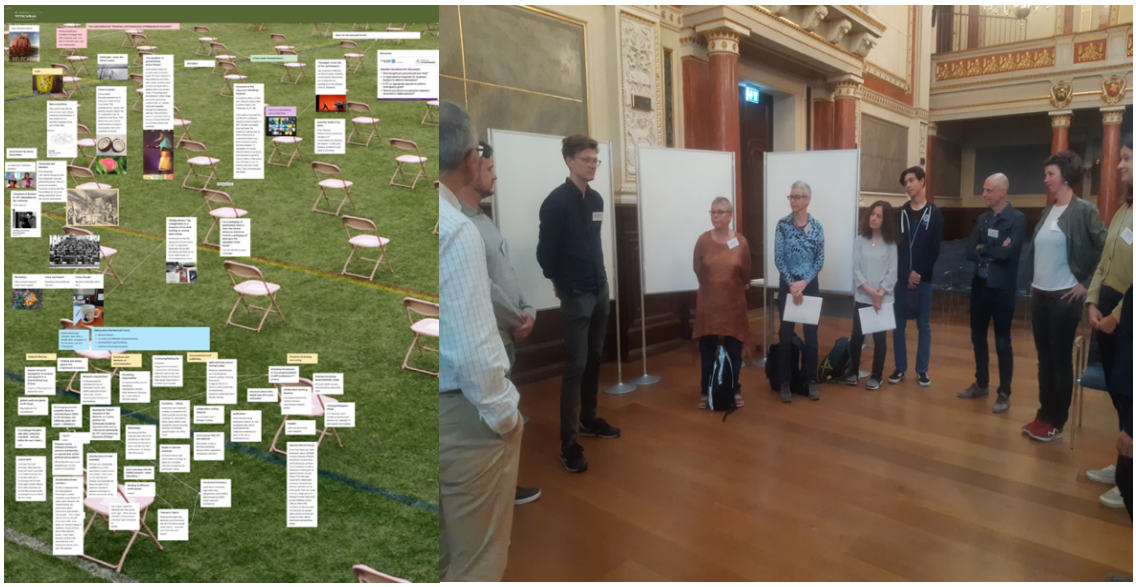

Figure 13. Three online workshops 2020–2021; in-person Rostock 2022: 'Current Challenges and Hegemonic Discourses on Vocational and Adult Education'.

Looking back 30 years, many of the basic principles of the network seem more prevalent than ever. Despite the expanding VET research and study programmes, they are increasingly policy-led and conformist. It has been a struggle to maintain the critical and historicising focus on vocational education and culture, among established factions such as comparative, economist, policy analytical, learning psychological, and multiculturalist research. The competitiveness in academia has become ever more global and brutal. Therefore, the voluntary mobilisation of researchers is more important than ever in creating alternative spaces to do critical, historicising, cross-cultural, and gender-informed research on vocational education.

However, after 30 years, it is vital also to critically revisit the research topics and practices of the network: what may not have been addressed or have become marginalised and forgotten. Although forgivable due to the loose and voluntary nature of the network, it is a pity that it did not engage in a more systematic (self)critical conceptual and historical analysis of culture and vocational education, concerning work, occupations and economy, and education and politics. In the geological epoch of the Anthropocene and the world-historical era of the Capitalocene, it seems urgent to continue such analysis by taking their nonhuman, planetary, technologised and gendered qualities seriously. This does not mean abandoning previous theoretical and empirical research and conceptualisations but reconsidering them in a wider, deeper cross-disciplinary, and non-Eurocentric perspective.

I hope the ethical, political, and pedagogical identity and the caring and sharing atmosphere of the network will prevail. However, new research perspectives and the pressures of global academic capitalism also require critical reflection on the evolution of network practices. Open dialogue is needed about revitalising the integration of research, teaching and studies, and encounters with practice and politics in network activities.

Liv: None of us can tell in which direction research on vocational and adult education will proceed. Pedagogy is an old craft, often with a stuck record and not much critical thinking seems to happen at the time. Critical social sciences are new constructions and may face a lot of challenges in the coming years. The education system is in crisis. The world is unpredictable to say it mildly. Social science departments are often closed if they do not serve 'the ruling apparatus' and critical professors in our fields lose their jobs. This is happening in this time of crisis. The network has been kept alive for 30 years by enthusiasm and non-traditional ways of cooperating in the academic world. One important feature of the network has been that we have always included in our meetings to step outside the 'academic classroom'. We have visited factories, vocational schools, adult education centres, and craft and industrial workplaces as part of our agenda in different countries. That gives inspiration for keeping our research

focussed on the complexities of vocational and adult education and culture from a comparative perspective. I hope the grounds can be prepared to keep these traditions alive also in the future. 'Never despise humble beginnings' as I wrote with Manfred Wahle, who was also one of the organisers of our first meeting 30 years ago, which was the beginning of a long journey towards rich inspiration for scholars around the world in an era where the only constant is change.

Anja and Liv: We appreciate the initiative for historical self-reflection in Oslo in 2023. Considering local and global inequalities in work and well-being, escalating environmental crisis and accelerating competition in academia, the topics, mission, and principles of a critical VET and Culture Network are more urgent than ever.

Figure 14. Oslo workshop 2023: 'Academic drift in vocational education'.

The theme of the 31st annual network meeting in the University of Valencia 2.–4.10.2024, 'Cultures of work and education: Understandings and values of work taught and learned in adult and vocational education' attests to the vitality of the network. If the Vocational Education and Culture Network were not there, it would be high time to invent it again. We feel privileged to have been part of its evolution; and hope to continue the struggle for esteem of students, teachers and researchers of vocational and adult education in the future.

Endnote

[1] Website of the network: https://vetandculturenetwork.wordpress.com

Notes on contributors

Anja Heikkinen is an emeritus professor of Education at Tampere University (TAU). Her research, teaching and publications focus on relations between education, work and politics, from historical, cultural and gender perspectives. She has been active in national and international research networks, associations and projects in vocational and adult education, and history of education, as well as leading the research group Equality and Planetary Justice in Vocational, Adult and Higher Education in TAU.

Liv Mjelde, Dr. Philos., is professor emeritus in Vocational Pedagogy connected to the Senior Centre, Oslo Metropolitan University. She is a sociologist specialised in Sociology of Education. Her research interests focus on the social division of knowledge: the changing relations between vocational and general education from psychological, didactic and sociological perspectives. One of her main research fields is the gender divisions of labour. Her scientific work is published in several languages.

Appendix 1

Main annual meetings of VET and Culture-Research Network

'Vocational Education, Culture and History – European Perspectives', Tampere and Hämeenlinna, Finland, 1993
'Searching for Agenda of VET and Culture', Tampere, Finland, 1994
'Vocational Education and Culture, Prospects from Theory and Practice', Hämeenlinna, Finland, 1995
'Gendered History of VET – European Comparisons', Hämeenlinna, Finland, 1996
'Vocational Education and Apprenticeships in Europe', Valletta, Malta, 1996
'Work of Hands and Work of Minds in Times of Change', Sørmarka and Oslo, Norway, 1997
'Economic, Social and Political Embeddedness of Vocational Education – Historical and Cultural Perspectives', Bergen, Norway, 1998
'Gender Perspectives on VET', Aarau, Switzerland, 1999
'Lifelong Learning – One Focus, Different Systems', Bochum, Germany, 2000
'Social Competence and Learning: A Relation Causing Many Questions', Arvidsjaur, Sweden, 2001
'Governance and Marketisation in Vocational Education', Erfurt, Germany, 2002
'Occupation and Education in Transition', Mustiala, Finland, 2003
'Working knowledge in a Globalizing World; Learning at School – Learning at Work', Sørmarka and Oslo, Norway, 2004
'Transforming Politics of Education and Work', Joensuu, Finland, 2005
'Convergences and Divergences of Vocational Education', Gilleleje, Denmark, 2006
'European Challenges for VET – Cultural, Political and Didactic Issues', Konstanz, Germany, 2007
'Reflections on VET and Culture: Past, Present and Future', Arvidsjaur, Sweden, 2008
'Inclusion and Exclusion in a Globalised World ', Baden, Switzerland, 2009
'Futures of VET and Culture (Themes and Topics, Methodological Approach, University Teaching and Studies)', Hattingen, Germany, 2010
'Research for VET Policy and Practice', Turin, Italy, 2011
'The Futures of Adult Educator(s): Agency, Identity and Ethos', Tallinn, Estonia, 2011
'The Personal and Political in Cross-Cultural Comparisons', Tampere, Finland, 2012
'Shaping the Futures of (Vocational) Education and Work – Commitment of VET and VET Research', Wuppertal, Germany, 2012
'Myths and Brands in Vocational Education', Tampere, Finland, 2013

'Vocational Education Beyond European Conceptions', Mzumbe, Tanzania, 2014
'Vocational education, citizenship and participation: Problematizing relations between education, work and politics from contemporary and historical perspectives ', Valencia, Spain, 2015
'Vocational and Academic Education – Clash of Cultures', Vienna, Austria, 2016
'Disciplinary Struggles in the History of Education', Tampere, Finland, 2017
'Opening and Extending Vocational Education', Zürich, Switzerland, 2018
'Vocational and Adult Education in Times of a Pandemic', virtual, 2020
'Impact of Digitization on (Vocational) Education', virtual, 2020
'Closenesses and Distances in Vocational Education', virtual, 2021
'Current Challenges and Hegemonic Discourses on Vocational and Adult Education', Rostock, Germany, 2022
'Academic Drift in Vocational Education', Oslo, Norway, 2023

Appendix 2

Selection of publications, connected to VET and Culture-Research Network (some available online, and in ResearchGate or Academia.edu), presented chronologically according to the conventions of the publication forum.

University of Tampere/Tampere University Press

Heikkinen, Anja, Pätäri, Jenni, & Molzberger, Gabriele (Eds.). (2019). *Disciplinary struggles in education*.

Heikkinen, Anja, & Sultana, Ronald (Eds.) (1997). *Vocational education and apprenticeships in Europe: Challenges for practice and research.*

Heikkinen, Anja (Ed.). (1996). *Gendered history of (vocational) education: European comparisons*.

Heikkinen, Anja (Ed.). (1995). *Vocational education and culture: Prospects from research and practice.*

Heikkinen, Anja (Ed.). (1994). *Vocational education and culture: Prospects from history and life-history.*

University of Jyväskylä Press

Heikkinen, Anja, Mjelde, Liv, & Lien, Tove (Eds.). (1999). *Work of hands and work of minds in times of change.*

Cambridge Scholars

Heikkinen, Anja, & Lassnigg, Lorenz (Eds.). (2015). *Myths and brands in vocational education.*

Peter Lang series Studien zur Erwachsenenbildung; Editors: Klaus Harney Dieter H. Jütting

Governance and Marketisation in Vocational and Continuing Education, by Rudolf Husemann, Anja Heikkinen (Volume editors), 2004.

Lifelong Learning: One Focus, Different Systems, by Klaus Harney, Anja Heikkinen, Sylvia Rahn, Michael Schemmann (Volume editors), 2002.

Peter Lang (Education)

Gender Perspectives on Vocational Education – Historical, Cultural and Policy Aspects, Editors: Philipp Gonon, Kurt Haefeli, Anja Heikkinen, Iris Ludwig, 2002.

Futures of education II: essays from an interdisciplinary symposium, Editor: Jürgen Oelkers, 2003.

Peter Lang series Studies in Vocational and Continuing Education; Editors: Philipp Gonon, Anja Heikkinen

Governance Revisited – Challenges and Opportunities for Vocational Education and Training, by Regula Bürgi, Philipp Gonon (Volume editors), 2021.

Apprenticeship in dual and non-dual systems – Between tradition and innovation, by María José Chisvert-Tarazona, Mónica Moso Diez, Fernando Marhuenda-Fluixá (Volume editors), 2021.

Opening and Extending Vocational Education, by Philipp Eigenman, Philipp Gonon, Markus Weil (Volume editors), 2021.

Internationalisation and Transnationalisation in Higher Education, by Vesa Korhonen, Pauliina Alenius (Volume editors), 2018.

Collective Skill Formation in Liberal Market Economies? The Politics of Training Reforms in Australia, Ireland and the United Kingdom, by Janis Vossiek (Author), 2018.

Vocational Education beyond Skill Formation – VET between Civic, Industrial and Market Tensions, by Fernando Marhuenda-Fluixá (Volume editor), 2017.

History of Vocational Education and Training in Europe – Cases, Concepts and Challenges, by Esther Berner, Philipp Gonon (Volume editors), 2017.

Shaping the Futures of (Vocational) Education and Work – Commitment of VET and VET Research, by Gabriele Molzberger, Manfred Wahle (Volume editors), 2015.

National Qualifications Frameworks and the Dual Model of Vocational Training in International Cooperation, by Markus Maurer, Philipp Gonon (Volume editors), 2014.

Challenges and Reforms in Vocational Education – Aspects of Inclusion and Exclusion, by Stefanie Stolz, Philipp Gonon (Volume editors), 2012.

Hybrid Qualifications: Structures and Problems in the Context of European VET Policy structures and problems in the context of European VET policy, by Thomas Deissinger, Josef Aff, Alison Fuller, Christian Helms Jørgensen (Volume editors), 2013.

Divergence and Convergence in Education and Work, by Vibe Aarkrog, Christian Helms Jørgensen (Volume editors), 2012.

The Ways of Aristotle – Aristotelian Phrónêsis, Aristotelian Philosophy of Dialogue, and Action Research, by Olav Eikeland (Author), 2009.

The Quest for Modern Vocational Education – Georg Kerschensteiner between Dewey, Weber and Simmel, by Philipp Gonon (Author), 2009.

Knowing work: the social relation of working and knowing. By Markus Weil, Leena Koski, Liv Mjelde (Volume editors) 2009.

Reworking Vocational Education – Policies, Practices and Concepts, by Anja Heikkinen, Katrin Kraus (Volume editors), 2009.

Work, Education and Employability, by Philipp Gonon, Katrin Kraus, Jürgen Oelkers, Stefanie Stolz (Volume editors), 2008.

Working Knowledge in a Globalizing World – From Work to Learning, from Learning to Work, by Liv Mjelde, Richard Daly (Volume editors), 2006.

The Magical Properties of Workshop Learning (Translated by Richard Daly), by Liv Mjelde (Author), 2006.

Social Competences in Vocational and Continuing Education, by Antony Lindgren, Anja Heikkinen (Volume editors), 2004.

Examples of books, special issues in journals, proceedings etc. from network activities

Heikkinen, A., Jinia, N. (Eds.) 2023. *Environmental care and social progress – (im)possible connection*. Osder Publications.

Harju, A., Heikkinen, A. (Eds.) 2016. *Adult education and planetary condition*. Finnish Adult Education Association.

Heikkinen, A., Jögi, L., Jutte, W., Zarifis, G. (Eds.). 2012. *The Futures of Adult Educator(s): Agency, Identity and Ethos*. ESREA ReNAdET&VET and Culture.

Seddon, T., Henriksson, L., Niemeyer, B. (Eds.) 2009. *Learning and Work and the Politics of Working Life: Global Transformations and Collective Identities in Teaching, Nursing and Social Work*. Routledge.

Vocational Training 32/2004, special issue 'A history of vocational education and training in Europe - From divergence to convergence'.

E. Figueira (ed.) 2003. *Vocational Education and Training in Europe: Culture, Values & Meanings*. INOFOR.

Nijhof, W., Heikkinen, A., Nieuwenhuis, L. (Eds.). 2003. *Shaping Flexibility in Vocational Education and Training – Institutional, Curricular and Professional Conditions*. Springer.

Journal of Education and Work 2/2001, special issue 'Centres and Peripheries in Vocational Education'.

Sakslind, R. (red.) 1998. *Danning og yrkesutdanning – Utdanningssystem og nasjionale modernisierungsprojekter*. Norges forskningsråd.

Nordic Journal of Vocational Education and Training, 2025

Academic drift and metabolic alienation in vocational education

Anja Heikkinen
Tampere University, Finland
(anja.heikkinen@tuni.fi)

Abstract

The article aims to initiate rereading the history of vocational education from the perspective of its contribution to the emergence of the planetary crisis. I hypothesise that this connection relates to the academisation of vocational education and the concurrent changes in the concepts of occupation, vocational education, and academic education. Drawing on studies in the history of vocational education and a few historical documents, I demonstrate my attempt by tracing shifts in the governance of vocational education in Finland from the early 19th century to recent years. In this article, my focus is on the sectoral aspect of this process. I argue it proceeded from the sectoral promotion of industries during primitive capital accumulation towards a comprehensive education cluster in fossil fuel-supported welfare capitalism. According to my preliminary interpretation, academisation connects during these periods with the increasing alienation of social metabolism from biophysical metabolism. Tackling alienation would require revisiting how it has been promoted through (vocational) education in industrial sectors and their global metabolic chains.

Keywords: academisation, vocational education, metabolic alienation, historicisation, Finland

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Introduction

Academic drift – or academisation – in vocational education has become a major topic in European political and research discourses. While these mainly focus on re-positioning institutions at 'levels' of education systems or on the inclusion of 'academic' subjects and contents to curricula, they seldom specify how the educational meanings of vocational and academic are changing in these processes. Yet, this is essential for understanding how they contribute to the escalating planetary crisis, which intertwines environmental degradation, economic and social inequalities, and diverse forms of forced migration. Underlying my exercise is an assumption that to show the meaning of academisation in vocational education requires revisiting its history from the perspective of social metabolism.

In the next section, I describe the conceptual and methodological rationale of my analysis of academisation in vocational education, explicating my interpretations of the 'social metabolism' and 'historicising and contextualising' approach. Because of my familiarity with the context and earlier research, the analysis in the following sections consists of a rereading of findings from studies on the history of vocational and academic education in Finland, contrasting academisation with changes in social metabolism. While disturbed metabolic relations between human and nonhuman biophysical systems are currently – and rightly – addressed to the colonial capitalogenic history controlled by the Global North, I argue that similar and connected processes have occurred inside the Global North. While places such as Finland are exemplary for local adjustment to globalising industrial clusters, and sectoral production and commodity chains (Hjerppe, 1985; Kuisma, 1993), the article narrows the focus to the sectoral aspect of vocational education. Due to the topic's spatial, temporary, and substantial complexity, my synopsis is intended as an introduction for more detailed future studies.

Mainly by following shifts in the governance of vocational education, I discuss the 'industrial-sector dominated' period of vocational education from the early 19th century and the 'comprehensive' period from the 1960s onwards. My preliminary suggestion is that academisation in vocational education can be interpreted as 'metabolic alienation'. More substantial statements would require relating it to the transformation of other forms of education, such as civic (folk/comprehensive) and popular adult (folk) education, but are beyond the scope of this article. Since the enhancement of metabolic alienation took off during the period with the close linkage of vocational education to the sectoral promotion of industries, the argument concludes that tackling the current planetary crisis would require a sectoral response across vocational and academic education.

Conceptual and methodological rationale

Academisation of vocational education – often characterised as academic drift – or vocationalisation of general or academic education are typically discussed from an institutional perspective (e.g., Holmberg & Hallonsten, 2015; Markowitsch et al, 2022). The transformations in education policies, curriculum contents, or pedagogical principles are identified in the frameworks of static, obvious national 'systems.' Due to standardised conceptualisations, institutionalist approaches provide powerful statements for comparative political and research discourse. However, the indisputable entry of the Earth into a new geographical epoch, the Anthropocene, has triggered widening cross- or supra-disciplinary concerns about how it links with human history. This suggests a vital revision of spatial and temporal framework for analysing education that cannot be achieved by ahistorical, anachronistic, abstract, and decontextualised institutionalist approaches.

To problematise the distinction between vocational and academic education, I am utilising the concept of social metabolism, which has been almost unanimously adopted in the cross- or supra-disciplinary discourse triggered by the Anthropocene and environmental crisis (Rockström et al., 2024; Saito, 2022). My approach is influenced by Jason Moore's request to researchers to focus on the world-ecological historical counterpart of the geological era of the Anthropocene, that is, the formation of the Capitalocene. It refers to the capitalist world system that has 'progressed' through the accumulation of capital by appropriating and exploiting four Cheaps of Nature: energy, raw materials, labour-power, and food. The Capitalocene proceeds by extending commodification and capitalisation of unpaid human and nonhuman resources and dustbins, altering nature (in itself) to Nature as a commodity (e.g., Moore, 2017, 2022). Concerning planetary crisis, it is vital to recognise that the local and global flows of human labour and energy and their reproduction are integral parts of the world-ecological process. Moore's interpretation can be extended by Jason Hickel's (2022) empirical analysis of the history of flowing energy, material, labour, and capital, causing economic and environmental inequalities across the Earth. Furthermore, previous approaches should be compensated by Alf Hornborg's (2020) warnings about ignoring the analytical distinction between the asymmetric exchanges of biophysical resources on the world market and their monetary valuing in the capitalist world system (e.g., 'Cheaps'). However, previous theorisations tend to remain abstract and general if they ignore the 'internal colonisation' inside the Global North and South, intertwined with the 'external colonisation' of the Global South by North.

Social metabolism provides a framework for analysing the conceptualisation and institutionalisation of different forms of education based on their transforming contribution to the local and planetary organisation and division of

– human and nonhuman – work in intertwined local and planetary economic formations. To move in such a direction, I have started to reread critically historical studies on Finnish vocational education by contrasting academisation with changes in social metabolism. From the perspective of economic, social, and political history, a quote from economic historian Markku Kuisma, who has studied the transformation of the Finnish forest industry as part of the global economy since the 17th century, is exemplary for my attempt. Following him, to understand the contribution of vocational and academic education in the making of industrial capitalism, research should seek 'to integrate the slow changes of weighty structures with individual decisions, goals and identities of persons, groups, communities, and organisations operating under the pressures and circumstances of their historical context' (Kuisma, 1993, p. 559; also Kuisma, 1999). In addition, in a historical analysis of vocational and academic education, 'it is perfectly clear that ecological and environmental dimensions are to be included in the picture' (Kuisma, 1999, p. 560). Yet, there is hardly any historical research on the environmental dimensions of academic and vocational education to compare my attempt. Although historical studies analysing industrial and economic transformation from environmental perspectives are increasing (e.g., *Environmental History* Journal; Zentrum fur Umweltgeschichte) they remain largely ignored. Therefore, I have utilised findings and interpretations from a pioneering study of Finnish environmental history (Ruuskanen et al., 2021).

Therefore, to understand the transforming relations between academic and vocational education concerning their contribution to (disturbed) social metabolism, I start rereading a selection from the few existing historical studies on Finnish vocational education. They are primarily accomplished by me, some with colleagues, and are mentioned in the References list (Heikkinen, 1995, 2011, 2016, 2018, 2020; Heikkinen et al., 1999, 2002, 2019) and backed by research in economic, political, and environmental history. To illustrate some key interpretations and disputes, I use a few samples from representative figures and official documents. In the following sections, I discuss the transforming relations between academic and vocational education and how they contribute to what can be called 'metabolic alienation', during the 'industrial-sector dominated' period from the early 19th century and the 'comprehensive' period from the 1960s onwards.[1] Tentatively, 'metabolic alienation' indicates a lack of awareness of and engagement with flows of energy and matter in individual and collective work.

To gain recognition, researchers of vocational education have widely adopted dominant conceptions and theories of education, which build on traditions of academic education and do not recognise the diversity and competing functions and interpretations of 'education'. In addition, the standardised approaches in social and educational sciences require adopting English as the *lingua franca* in

the global academic competition. This forces researchers to apply anachronistic concepts of academic and vocational education that do not necessarily match historical and contextual realities. As sociologist and ethnographic economist Susana Narotzky argues: 'Through their ordinary participation in the political struggles of their day, social scientists' commonsense views of their lived experience get entangled in the production of scientific concepts, with the result that the categories used for description and analysis become part of different political projects that treat abstraction and causality in particular oriented ways' (Narotzky, 2007, p. 403). Since the categories of academic and vocational education are politically controversial and affected by conceptual colonisation, phenomena and concepts should connect in rereading the history of vocational education. In the Finnish context, lessons for historicising and contextualising analysis can be drawn from Reinhard Koselleck-inspired research on transforming political concepts in Finland (Saastamoinen et al., 2003).

The institutional history of vocational and academic education in Finland may show similarities to other Nordic countries and Europe. It is common to interpret the academisation of vocational education as a search for recognition among diverse collective actors, while previous elites were using the academic route to maintain their hegemonic status and position in society. Yet, understanding their contribution to the Capitalocene requires analysing them in the intersection of local and global political, economic, and educational relations and struggles. For this, it is vital to notice that the word 'academic' is hardly used in the Finnish language discourse but rather referred to as 'opillinen' (~scholarly) or 'tiedollinen/tieteellinen' (~theoretical/scientific). Equally, the word 'vocational' has had a wide meaning referring to all kinds of occupations and is not limited to institutional and administrational definitions. Despite accepting the use of 'academic' and 'vocational' as generic concepts in this thematic issue, I problematise their universalising usage by drawing attention to their native meanings.

The attempt to contextualise and historicise the contribution of vocational and academic education to the capitalist world system does not mean that comparative studies on institutionalisation and transformation of vocational and academic education institutions would not be relevant. Yet, instead of taking them as given, ahistorical entities, institutions can be viewed from an 'oikological' perspective as emerging organisations of social metabolism, embedded in the earthly economy (oikos). A commonly recognised process towards the planetary metabolic imbalance (or rift) is colonising the Global South by the North, including resources, ways of life, cultures, and minds but its link to the 'internal colonisation' inside the Global North and South tends to be ignored. Studies on changing interpretations of vocational and academic education across contexts and cultures could highlight how conceptions about

work, occupations and industry, and metabolic interaction between humans and nonhumans have transformed and institutionalised.

Primitive capital accumulation exploiting self-sustainability: The turn of the 19th century–the 1960s[2]

Since the 12th century, Swedish economic, political, and religious rule expanded in the Finnish territory until the takeover by the Russian empire in 1808. Yet, while the previous elites maintained their positions, the Swedish language remained hegemonic in political, economic, and educational governance until the end of the 19th century, and in academia even later. To maintain political and economic autonomy under Russian rule and address the growing pressure of movements promoting the political and economic rights of the Finnish-speaking majority, the governing elites gradually started to recognise the Finnish language. Consequently, the vocabulary about education and work was moulded between Swedish and Finnish, as a vernacular and literary language in making. The period between the 19th century and the 1960s was characterised by struggles about ownership and utilisation of human and nonhuman material and energy, and Finland's place in their division in expanding global capitalism. The transforming conceptions of vocational and academic education, work, and occupations reflected the growing metabolic rift between human and nonhuman nature.

Engagement with global capitalism

The links of academic and vocational education to the 'progress' of industrial capitalism and to changing political and social relations are visible in shifts of central governance, which can be contrasted with simultaneous changes in the interaction between human and nonhuman nature. The crucial role of sectoral governance was understandable after Finland's separation from Sweden and becoming an autonomous Grand Duchy of the Russian Empire in 1809. The political, social, and economic infrastructure had to be rebuilt on Finnish soil, but by caring for the maintenance of previous structures, principles, and practices, and resisting their Russification. This included the heritage of a wide peasant economy with local governance, minor burgher towns with trade, craft and manufacture privileges, and state-led promotion of national industries by 'industrially enlightened civil servants' (Heikkinen, 1995; Kyöstiö, 1955; Rasila et al., 2003).

Figure 1 may be complicated, but it should indicate that the institutionalisation of vocational education started in sectoral ministries. It was first targeted as higher education for managers, supervisors, and experts in key industries and public administration, only gradually expanding to lower levels in occupational

hierarchies. The guild system was tiny and did not affect the formation of occupations and industrial relations. The leaders in sectoral administration, industries, and education formed governing networks to promote national industries and economic autonomy and competitiveness, linked to political independence and social coherence. The officers auscultated in state departments or trained abroad, and graduates from the Cadet School and state institutes of agriculture, technology, and forestry were expected to control the effective use of natural resources and labour. Until the 1970s, interpretations, practices, and institutions of vocational education were shaped separately in different industrial sectors. They were negotiated between proponents of sectoral ministries and departments, industries, and educational institutions, typically with similar backgrounds and shifting positions. The gradual expansion of sectoral vocational education 'downwards' was primarily conditioned and framed by the proponents of the higher occupational and educational levels (Heikkinen, 1995; Heikkinen et al., 1999).

The shifts in governance are related to transforming interpretations of occupation and vocational education. Among the Finnish-speaking population, occupation and industry were traditionally subsumed to 'elanto' (~livelihood), referring to the holistic utilisation of human and nonhuman resources required for maintaining life, primarily in rural households. It included hunting, fishing, collecting nourishment and materials from forests, meadows, and marshes, agriculture, animal husbandry, construction, and preparing household items. During the Swedish rule until the early 19th century, the word 'ammatti' (~occupation) has been used as a translation from Swedish and German (~'ämbete', 'Amt') in the marginal guild system but also used for office in civil service. The word 'elinkeino' (~means of livelihood) was used for activities in the peasantry, clergy, gentry, office in civil service and the army, or ownership and management of estates, factories, and big farms. Since the Russian rule, these started to be called 'elinkeinoammatti' (~occupation as a means of livelihood), while 'ammatti' referred to specific, rather individual craft and trade. A critical issue for transforming the interpretations of occupation – and consequently to occupation-oriented education – was 'isojako' (~Great Partition/storskiftet), initiated in Sweden–Finland in the late 18th century to promote a more profitable use of land and forest. The prime time for implementation in Finland was during the mid-19th century, continuing to most remote areas until the 1960s. With the legal division, enclosure, and privatisation of land and the rapid increase of the landless population, the notion of 'ammatti' expanded to anyone who had to gain a living through more specific work, increasingly against salary. Still, as indicated in Figure 2, the dominant employment in rural and largely self-sustaining industries pertained until the 1960s (Heikkinen, 2016; Huhtamies, 2008; Kyöstiö, 1955; Tilastollinen toimisto, 1870, 1874).

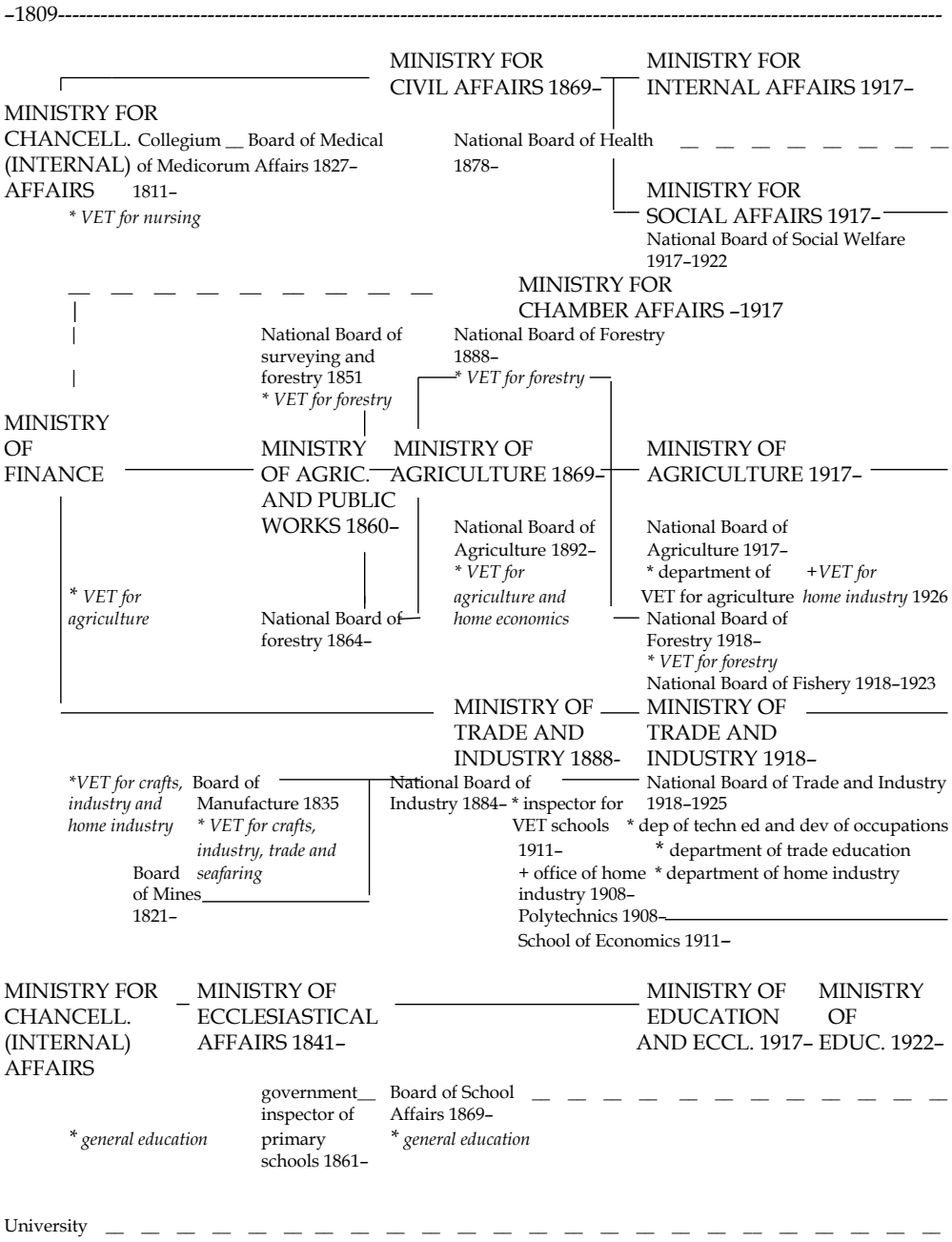

Figure 1. Vocational education in central governance 1809–1999 (Heikkinen et al., 1999).

(Figure 1 continued.)

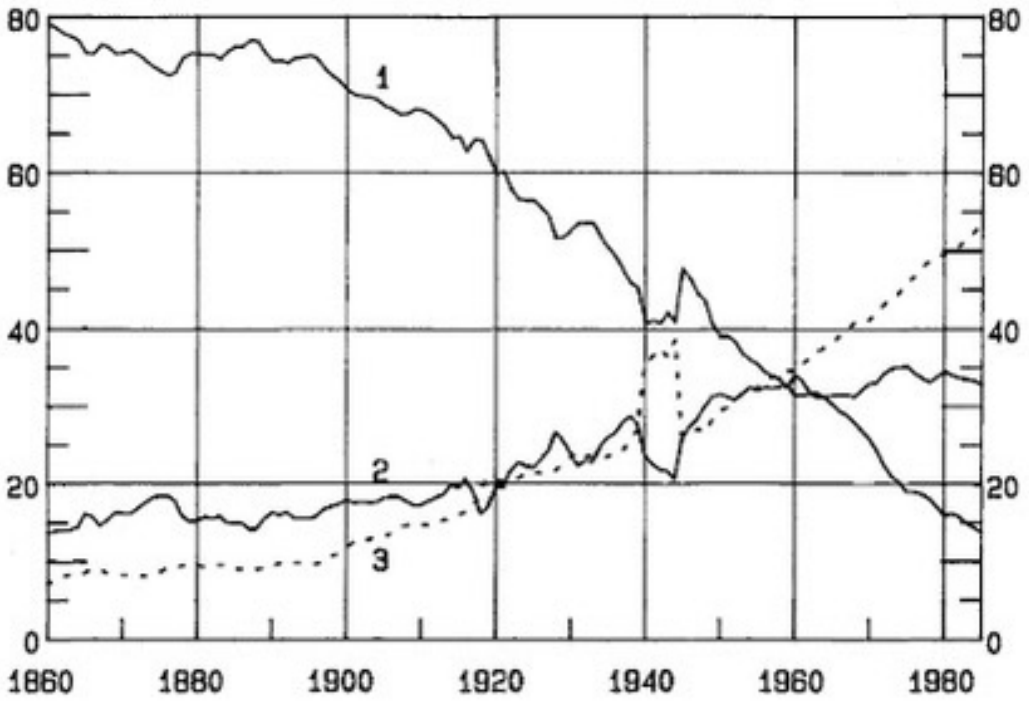

Chart 8. Distribution of Employment, 1860–1985, %

1 Primary production
2 Secondary production
3 Services

Figure 2. Distribution of employment 1860–1985 (Hjerppe, 1989, p. 63).

There is no reason to glorify the attitudes and practices of the rural population towards interaction with nonhuman nature. The use of nonhuman resources was necessary for survival, but still, they were not considered separate objects in life and livelihood. Since production and consumption cycles were largely intertwined, people had to understand the local connection between social and earth metabolism. Especially poorer households practised 'circular economy' long until the 20th century, avoiding wasting anything that could be useful in production and consumption. However, primitive capital accumulation, boosted by cheap wood, water, and self-sustaining labour, made the connection between local and global metabolism invisible to the rural population. During the period, the tar and timber traders, later the forest 'robber' barons, exploited cheap human and nonhuman nature. Extractive and commercial methods started to replace traditional, low-metabolic ways of using forests and waters and reach even the most remote parts of the country, engaging small farmers, landless people, and rural workers as lumberjacks and sawmill workers. In addition, until

independence in 1917, the Russian government and the Senate promoted the textile industry, which utilised imported technology and experts and replaced domestic materials with cotton, primarily for export to Russian markets. Due to reliance on imported expertise and ignorance of domestic traditions and skills, the female excess population from rural areas was preferred instead of children as cheap 'unskilled' labour (Kuisma, 1993; Kuisma et al., 1999; Heikkinen, 1995; Heikkinen et al., 1999; Peltonen, 2004; Rasila et al., 2003; Ruuskanen et al., 2021).

Until the turn of the 20th century, political and economic elites promoted two competing agendas of social metabolism. The successors of Swedish rule trusted Swedish-speaking civil servants, officers, and leaders in the army to enable the Finnish economy to compete with industrialising countries internationally. They degraded the capacity of the majority of the population, whose language they did not understand, and which relied primarily on self-sustaining rural industries. They emphasised the value and importance of a 'practical mindset and thinking', and 'industrial spirit' for developing an economy based on machine-driven production. Instead of referring to 'academisation' they launched natural and practical sciences and scholarship as an alternative to 'sivistys' (~edification/Bildung), the dominant literary, theological, and humanist concept. The holistic initiatives for science-based education for all industrial sectors led only to the establishment of a separate government agency, the Board of Manufacture, in 1834. Its task was to design and coordinate 'lower' and 'higher' technical education together. The first (secular) Act of Vocational Education in 1842 obliged towns to establish 'Sunday schools' for craftsmen and manufacturers but did not satisfy the ambitions of proponents of industrial Finland. Yet, this led to the distinction between technical and vocational education and between them and 'opaline' (~scholarly, theoretical) education, which was considered their required foundation.

The protagonists of the Finnish-speaking majority found agriculture the most important industrial sector, safeguarding political and economic independence, and spiritual and moral integrity. They were looking for examples in rural industries of Denmark and German-speaking countries. They prioritised education for civil service, the promotion of nationhood, and the advancement of rural industries. They criticised the agenda of industrial Finland for supporting the dominance of the Swedish-speaking elites and for preparing staff for the Russian factories, economy, and agriculture. Philosopher and scholar J. V. Snellman, who was a senator and leader of the Fennoman movement during the 1830s–1880s, questioned:

> What is the use of all such agronomists, technologists, bergmen [~'miners'], mechanists, engineers and architects for our country? How can they be used and how can they gain their living? Can even a dozen of these categories find occupation, work, and livelihood? Anyone should understand that the technological and higher agricultural institutes can only educate managers for the factories and estates in

> Russia. [The same with 'bergmen' and architects – AH] […] Illustrative for the plans [for higher vocational institutes – AH] is that the Finnish language does not exist for them at all. Such schools and institutes disregard Finns and assume that industrialists in Finland have nothing to do with the Finnish language. (Snellman, 1858)

On the other side, proponents of the Swedish-speaking industrial elites were also looking at German-speaking countries but referring to the scientific-technological exploitation of natural resources. An opponent to Snellman, A. F. Soldan, a teacher of chemistry in Technical Real School/Institute (est. 1847) and a graduate from the Cadet School, complained that

> The reasons for our backwardness in so many areas are the one-sided scientific education […] We talk about hundreds of years of edification work, but excluding newspapers, which under difficult printing conditions have tried to disseminate something other than religious and reflective enlightenment, what has been the spiritual nourishment of this folk? Only catechism and the bible, supplemented by poems and fairy tales… True, we have highly educated and skilful manufacturers, merchants, businessmen, and theorists of the national economy, who admit the importance of material endeavours. Unfortunately, they are exceptions to the rule […] Also, chemistry and physics, which are the indispensable foundation for understanding the real structure of the world, and which in the edified countries of Europe have contributed strongly to the promotion of industry and edification in general, have here been engaged only theoretically, while their impact on practical life has remained minor. (Soldan, 1862, in Wuolle 1949, pp. 86–87)

Yet, neither proponents of industrial nor agricultural Finland found it meaningful to learn from native practices, methods, or techniques in coping and interaction between human and nonhuman nature in vocational education. On the contrary, traditional ways of life and livelihood were considered obsolete, ineffective, and even harmful compared with solutions in more advanced, productive, and competitive countries. The scale and intensity of utilising nonhuman nature grew dramatically when capitalist production progressed by the end of the 19th century. Land, water, and forests were reserves and waste bins for the growing export industry and national economy. Although universities, including theological studies, had also promoted rationalisation and enlightenment of rural industries, the new vocational establishments deliberately educated leaders and experts to promote technologically and commercially advanced activities. By initiating industrial and economic associations and societies, they also moulded mentalities and practices among the wider population towards 'modernisation' which would support their agendas (Heikkinen et al., 1999; Kuisma et al., 1999; Kyöstiö, 1955; Ruuskanen et al., 2021; Wuolle, 1949).

Still, academic routes – gymnasium and universities – maintained their hegemonic status in justification for societal hierarchies and elite positions. Therefore, also in vocational education occupational and social groups struggled for power, upward mobility, and equality through recognition according to

standards set by academic education. Their importance for proponents of agricultural Finland became visible in upgrading agriculture, then forestry as an academic subject at the University of Helsinki in the 1890s.[3] The concept of academic education became increasingly challenged, when higher vocational institutes of technology and commerce, and later nursing and social work, were also upgraded to the university level. They were not considered to need a faculty of philosophy or humanist subjects, and they gained their status in the hierarchies of sectoral vocational schooling. Academic education started to refer to general or generic, instrumental knowledge and skills, and a mechanism for climbing educational and career ladders.

Towards occupational citizenship in national industry

The meanings between the notions of 'elinkeino/toimiala' (~industry, industrial sector), 'ammatti' (~occupation, occupational sector), 'sosioekonominen asema/sääty' (~socio-economic status/estate) started gradually to separate in the political and economic discourse due to general suffrage and abolishing the estate system in early 20th century. 'Ammatti' became increasingly understood as an individual, though shared, and 'elinkeino' as an organisational activity and means of livelihood. After independence and the Civil War of 1918, social and economic conflicts were solved by liberating tenants and by state-regulated distribution of land to the landless. Consequently, small farms increased, urbanisation was delayed, and self-sustained and multitasking ways of life continued. After the Russian Revolution, vocational education was affected by the turn of the Finnish economy to the West and globalising monetised capitalism, enforcing competing agendas about using natural resources and labour. While big farmers preferred using nature for commercial, rationalised agriculture in vocational institutes for rural industries, the expanding cooperative and rural movements and associations promoted self-education and ambulating schools and advisors for holistic and collective livelihood among small farmers. Despite the rise of the household industry, it remained ignored in vocational education for craft and technical occupations. Proponents of forest, metal, and textile industries favoured cheap export products in big factories, exploiting cheap forests, waterpower, and rural labour force. Thus, besides engineers and foremen, they required vocational schools only to educate politically reliable and skilled workers as machine operators. At the same time, female workers in emerging health, social, and household services asked for recognition of the 'welfare sector'[4] and occupationalisation of their work through schoolish education (Heikkinen et al., 1999).

In vocational education, the mounting ideals of engineers, foresters, and nurses as masters and mistresses of the nation aligned with figures of an independent farmer or member of an industrial worker collective, owning their

work, as opposed to capitalist employers or owners of factories and businesses. From the perspective of the national economy, it was vital to distinguish non-productive groups without occupation. In reality, farmers and factory workers were increasingly subsumed to capitalist industrial relations and monetised interpretations of human and nonhuman work and resources. Thus, the challenges of effectiveness, loyalty, and motivation of 'human machinery' gained major interest in vocational education in schools, management of companies, and households. The principles of psychotechnical education integrated the success of the company and industrial sector, prosperity and independence of the national economy, and performativity and pride as individual workers, increasingly breaking their ties to local communities and traditional livelihoods (Heikkinen, 1996, 2016, 2018; Heikkinen & Henriksson, 2002; Heikkinen et al., 2019; Kettunen, 1997; Tilastollinen päätoimisto, 1934).

Yet, Small Farmers Finland remained a priority in state and mostly rural municipality politics until the 1950s. Consequently, despite the dominance of technology and commerce, distinctive interpretations of vocational education – born in agriculture, home industry, household economy, fishery, forestry, health and social work, which all had their special educational institutions – expanded and deepened between actors of sectoral boards, work life, and vocational institutes. However, during World War II, the proponents of technocratic Finland gained leadership in the economy, politics, and all vocational education sectors. The Department of Vocational Education, in the Ministry of Trade and Industry, envisioned becoming the designer and coordinator of national industries, and allocation and development of the labour force. They emphasised the equal value of economic and vocational edification and culture with spiritual edification and culture. One of the most influential figures in vocational education policy during 1940s–1970s, the head of the Department and later the director of the National Board of Vocational Education, Aarno Niini stated:

> The aim of Finnish education must always be to develop personalities who will and can deliberately build Finnish culture. Since the definition should emphasise as much ability as determination, which implies that culture should besides spiritual cultivation equally include societal and economic activities, prerequisites for spiritual cultivation, education should, besides general, also promote vocational edification. Concerning edification in general, we can demand every citizen to learn a certain minimum of knowledge and acquire shared manners and habits. Instead, vocational edification should be divided into parallel and consecutive school forms, according to the diversity in ways of life. (Niini, 1945)

In post-war Finland, the diversity of interpretations of occupation and vocational education continued, and the connection between sectoral administration, institutes, and industries was strengthened until the 1970s. This was secured by the sectoral organisation of vocational teacher training governed by sectoral ministries and departments. In the schoolish organisation, workers had a minor

direct influence on their education (compared to academic professions). Therefore, teachers with occupational backgrounds became prominent in shaping occupational identities and justifying metabolic relations in occupational work.

Fossil fuels and welfare capitalism, since the 1960s

Until the 1960s, the reconstruction and reparations and the settlement of half a million Karelian refugees after World War II still increased the number of small farms and the continuation of self-sustaining, low-metabolic ways of life. Yet, a radical shift was happening in Finnish politics and economy when a class compromise was established between the social-democratic workers' movement and the export industry. The midwife for the emerging welfare state-capitalism was the replacement of domestic labour, energy, and raw materials – besides humans, plants, animals, wood, and water energy – with imported cheap fossil fuels, fertilisers, and pesticides. While proponents of industrial and welfare Finland shared the belief in scientific-technological progress, mechanisation proceeded in all industries, including the growing export of textile, garment, and shoe products to the Soviet Union. To intensify and rationalise the forest industry, marshes and wetlands were drained massively while increasing waste, pesticides, and fertilisers polluted waters. The few initiatives to conserve samples of 'pristine' nature and improve waste management remained marginal and had a minor effect on industrial sectors or vocational education. Furthermore, state-supported closures of labour-intensive, unproductive small farming led to forced migration to Sweden and industrial regions and increasing suburbanisation (Heikkinen et al., 1999; Koivunen et al., 2001; Kuisma et al., 1999; Peltonen, 2004; Rasila et al., 2003; Ruuskanen et al., 2021).

The principle of 'equality of opportunity', adopted in national planning, promoted centralised, technocratic governance of all areas and stages of education. It started by integrating the folk school and lower gymnasium into a comprehensive school. However, vocationally oriented institutes, including universities of technology, commerce, and veterinary medicine, were governed by sectoral ministries until the 1970s and maintained links to industrial sectors. Implementing unified education policies had to wait until their transfer into the Ministry of Education (Heikkinen & Henriksson, 2002; Heikkinen et al., 1999).

Parallel movements and agendas paved the way to reform vocational and academic education, aimed at democratising society and work life. The 1971 reform committee replaced the concepts of 'academic/scholarly' and 'vocational' education with 'general' and 'vocational' schooling. The schooling system should follow social and economic political goals and facilitate the advancement of a personality structure favourable to them. This should be expressed in concrete,

measurable features and behaviour. General and vocational schooling should penetrate each other and make a continuum from early childhood to higher and adult education. Both should include general and vocational edification; the former refers to abilities useful for all and the whole society, and the latter to abilities useful for certain sectors of society and industry or distinctive occupations (Komiteanmietintö [KM], 1973).

Similar visions were present in university reform discourse, emphasising democratising university structures and educating students for democratic professional practice. In both visions, progress in economy and production and democratisation of society should build on science and technology. The visions still emphasised the sectoral approach, which should construct a progressive pathway from comprehensive school to vocational and university degrees. Though the aim was to liberate humans from hard, routine, and restrictive work and social life, holistic socio-economic planning was expected to anticipate and control potential harmful impacts on nature. The conservation of nature approach was challenged by environmental pollution and led to general agendas and legislation at the state level but not concretised in education. Instead of specifying the protection of nature and the environment in sectoral education, the 1971 reform suggested the creation of a separate sector for environmental protection (Heikkinen et al., 1999; KM, 1973; Ruuskanen et al., 2021).

The reform was implemented only in vocational institutions during the 1980s by creating sectoral strands that shared basic studies, focusing on general (~academic) subjects. National curricula, staff development and vocational teacher training enhanced standardising conceptions of work and occupation. The individualist concept of 'koulutusammatti' (~schooling occupation) was launched as an alternative to concrete tasks and occupations in work life. It emphasises the potential of graduates to express their personality and shape work life, besides increasing understanding across educational and occupational hierarchies. In practice, reform focused on offering general studies as an instrument for progressing along the academic route at upper secondary and tertiary levels. Instead of realising visions of academic education democratising society through professional practices, the parallel university reforms remained as the implementation of standardised degree structures and tripartite internal governance. Simultaneously, all universities transformed into state universities under the Ministry of Education (Heikkinen et al., 1999; Räty, 1987).

The sectoral connections between administration, industries, and vocational institutions started to break during the 1970s when the governance of vocational education was gradually transferred from the sectoral ministries and departments into the National Board of Vocational Education in the Ministry of Education, as indicated in Figure 1. To enhance the unification of the education system, the ministry started standardising vocational teacher training and

bringing it closer to subject teachers' education in academia. After launching a decree on 'general studies of vocational pedagogy' and higher qualification requirements, the category 'teacher of occupational work' was abolished. Since the 1980s, teachers in vocational subjects no longer represented the occupation of their students because they were expected to have the 'highest possible' qualifications in curriculum subjects. The resistance among teachers against increasing standardisation, reduction of occupational practice, and occupation-integrated general subjects in the curricula was gradually silenced (Heikkinen et al., 1999, 2019).

The evolution towards a comprehensive educational cluster, serving other industrial clusters, continued during the 1990s through 'international' streamlining into primary, secondary, and tertiary levels and upgrading higher vocational institutes to polytechnics. On the one hand, the dominant (social-democratic) educational policy emphasised education as an individual opportunity to become a free and equal citizen, worker, and consumer. On the other hand, it aligned the market capitalist view of individuals as generic human resources, responsible for the profitable exploitation of human and nonhuman material and energy. This should promote the competitiveness of industries in Finland, claimed as the condition for maintaining the universalist welfare state. The political governance by the Ministry of Education strengthened after gathering all tertiary education and teacher training in the ministry and replacing the National Boards of Vocational Education and Schools with a National Board of Education with limited competence in primary, secondary, and popular adult education. Despite criticism among vocational teachers, 'lower' and 'higher' vocational education in industrial sectors were institutionally separated, and a standardised certificate of general pedagogical studies was introduced and offered in a few polytechnics and university teacher education departments. The sectoral linkages across occupational hierarchies were increasingly broken (Heikkinen & Henriksson, 2002; Kettunen, 1997; Koivunen et al., 2021).

Vocational teacher education became vital in separating interpretations of occupation and education between polytechnics, 'lower' vocational, and university education. Instead of 'ammatti', linked to concrete tasks and division of work, the basis of polytechnic pedagogy is individual 'asiantuntijuus' (~expertise), combining applying disciplinary knowledge, reflecting work practice, and developing and innovating work life through practice-relevant research. Instead of sectoral industries and organisation of work, polytechnics emphasise close relations and responsiveness to work life in general, compared to abstract and rigid academic education. The individualist concepts of occupation and expertise abolished the ideals of 'ammatti' as participation and belonging to occupational collectives in interconnected industrial sectors and being a citizen. The 'academisation' of vocational education through polytechnics

and vocational teacher education furthered its detachment from concrete metabolic processes and failure to address environmental impacts from local and global production and consumption chains (Ekola, 1992; Heikkinen & Henriksson, 2002; Helakorpi & Olkinuora, 1997; Ruuskanen et al., 2021).

When implementing the latest reforms of universities, universities of applied sciences and vocational education have turned into multi-sectoral conglomerates providing more broad and generic qualification profiles. The concepts 'occupation' and 'vocational' have returned to political and practical discourse with new impetus. The vocational competencies and expertise of individual graduates should directly respond to the needs of industries and promote their competitiveness, and general/academic competencies should satisfy students' personal needs and qualify them for continuing studies. In universities, expertise is defined as part of a Research, Development and Innovation hub for economic competitiveness. However, vocational and academic education are both servants of technologisation, (sub)urbanisation from forced migration from rural areas, and increasing extraction and degradation of the environment. Simultaneously, the erosion of connections to sectoral industries conceals their links to the promotion of competitiveness of businesses and the competitiveness of the national economy. Educational reform policies are increasingly shaping vocational and academic education, including cross-cutting rhetoric of sustainable development. The digitalised, urbanised, internationally competitive welfare society should persist through high-tech solutions of green/pure transition, replacing fossil fuels with wind, solar, water, nuclear, and bioenergy. However, the sustainability measures of vocational and academic education remain silent about outsourcing cheap labour, energy, raw materials, and dependence on fossil fuels and extractive industries to workers and industries in the 'less developed' world. It is questionable if this supports solving local self-caused historical problems of metabolic disruption and alienation (Hickel et al., 2022; Randell, 2017).

Academisation as metabolic alienation in vocational education

The previous sections did not aim to show a causal relation but rather suggest a parallel between academisation in vocational education and distorted social metabolism and metabolic alienation. The Finnish social and economic history is commonly described as a success story: a small, peripheral, and poor country progresses to the forefront of Western welfare capitalism with a highly advanced scientific-technological industry and a well-functioning society. The advantages experienced by most of the population in opportunities for consumption, lifestyle, education, and careers, cannot be denied. However, the other side of the coin is becoming entirely dependent on complex global production, circulation,

and consumption chains and comprehensively alienated from the metabolic processes that such ways of life and livelihood build on.

To simplify, I hypothesise that in vocational education, the transforming ideas of 'academic' education justified the primitive capital accumulation by cheap labour, energy, and raw materials and its extension into welfare capitalism by fossil fuels. Supported by the governing networks in administration, industry, vocational institutes, and academia, they moulded mentalities and mindsets to downgrade traditional and experiential means of livelihood and adopt monetarised, capitalogenic attitudes towards metabolic interaction between human and nonhuman nature. I assume analogous 'internal colonisation', intertwined with 'external colonisation', has happened elsewhere. Since my reflections are preliminary, making diverse controversies, frictions, and oppositions more visible would require more detailed studies and discussion in the future.

Understanding how the 'academisation of vocational education' contributes to the Capitalocene, requires integrating human- and socially-centred and biophysical conceptions of work. Following Hornborg (2020), human work and economy should be biophysically contextualised instead of extending economic and monetised interpretations to nonhuman nature. As an alternative, I suggest an 'oikological' perspective – management and caring of planetary 'household'/ integrated social and biophysical processes – for understanding work as a mediator of social metabolism, embedded in the earth's metabolism. In Finland, metabolic alienation was shaped by sectoral networks of governance, academic, and economic elites. However, in the progressing Capitalocene, their power over the definition and organisation of the 'sector' in industry and occupations has merged with global capitalist networks. Yet, paradoxically, the concepts 'elinkeino' and 'elinkeinoelämä' (~means of livelihood, 'means of livelihood life') are still used for industries and work life in Finnish.

The current disruption of the earth system, accompanied by planetary economic, political, and social crises, is caused by the capitalogenic process, which has made economies and societies dependent on scientific-technological 'progress.' The declarations to 'restore' nature sound hypocritical when the self-inflicted crises are intended to be managed with the same methods as they were caused, relying on the ever-more intensive use of science, technology, and artefacts. From the perspective of the Capitalocene and metabolic alienation, disturbance between social and earth metabolism and human and nonhuman nature, this is a most dishonest response. Although it is impossible to 'restore nature' without restoring the relation between social and earth metabolism, there is no discussion about what kind of means of livelihood should be created to match the 'restored nature'. Yet, any education that shapes them and the local

and planetary organisation of work and industries is crucial in searching for alternative ways of life and livelihoods.

The nationalist institutional focus of policy and research discourse obscures the substantial and analytical distinction between functions and institutions of academic and vocational education. In the framework of social metabolism, any educational activities shaping the organisation of human and nonhuman work, their local and global division, and integration, can be interpreted to have a vocational function. Despite their other functions, such as promoting participation in bodies of and creation of knowledge, shaping social interaction, and enhancing personal self-actualisation, they always also channel people into distinctive positions in primarily occupationally divided work in industrial clusters. The institutional separation of the educational and industrial worlds leads to the illusion of autonomy of education, dominating current individualistic sustainability measures in both vocational and academic education. Addressing the legacy of the sectoral capitalist accumulation and appropriation of human and nonhuman nature embedded in planetary social metabolism requires sectoral, self-critical reflection across academic and vocational institutions and industries, locally and across localities.

Endnotes

[1] The translations from Finnish or Swedish to English in this article are mine.

[2] Since the research literature used for individual notions is wide and repetitive, most references are collected at the end of paragraphs.

[3] Though economics had been an important component of different university subjects earlier, as a discipline, it was established in the Department of Agriculture and Economy as 'Folk economy' (~ political economy), referring primarily to rural industries.

[4] It may be important to recognise the difference between the English expression 'welfare state/society' and the Finnish (and other Nordic) 'well-being state/society'.

Notes on contributor

Anja Heikkinen is an emeritus professor of Education at Tampere University (TAU). Her research, teaching, and publications focus on relations between education, work, and politics, from historical, cultural, and gender perspectives. She has been active in national and international research networks, associations, and projects in vocational and adult education, and history of education, as well as leading the research group Equality and Planetary Justice in Vocational, Adult, and Higher Education in TAU.

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Norwegian higher vocational education: Between academic drift and labour market relevance

Svein Michelsen[1] & Håkon Høst[2]

[1] University of Bergen, Norway

[2] Nordic Institute for Studies in innovation, research and education, Oslo, Norway

(svein.michelsen@uib.no)

Abstract

Norway has been characterised as a hesitant and slow reformer in higher vocational education (HVE) reform policies. However, a shift can be identified, where HVE has moved from a residual position towards the centre of policy attention. Policies have gradually picked up speed, and there is a turn towards upskilling and labour market relevance policies expanding access to new and more advanced forms of practically oriented types of vocational education and training (VET). The unprecedented growth of Norwegian HVE have created new political controversies and tensions. The systematics of developments and drivers in higher vocational education have not been much explored. We have analysed the structuring of HVE as an organisational field in a Norwegian setting, focusing on three different mechanisms: coercive isomorphy, mimetic isomorphy, and normative isomorphy. We have identified two different types of isomorphic pressure: academic drift and labour market relevance, and their interaction in the structuring of advanced practical forms of education and training. We argue that the structuring of Norwegian HVE should be interpreted as a sharpening of the labour market relevance profile in Norwegian education rather than academic drift.

Keywords: higher vocational education, academic drift, labour market relevance, institutional theory, isomorphy

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Introduction

In this paper we will analyse the structuring in the Norwegian higher vocational education (HVE). OECD defines HVE as 'post-secondary programmes and qualifications that prepare students for specific occupations or careers, which are beyond upper secondary level, and that would normally require at least six months full-time or equivalent preparation' (OECD, 2014, p. 22). There is no common internationally recognised definition of HVE (Bathmaker et al., 2017), and available research has documented a variety of state specific developmental trajectories in this area. Norway has been characterised as a hesitant and slow reformer in educational reform (Bleiklie, 2009). This most certainly is the case as far as HVE reform is concerned. This heterogeneous ensemble of schools and educational programmes was not included in the two great reform waves in Norwegian upper secondary and higher education where new boundaries were shaped between the two levels in the educational structure. These schools were considered as vocational schools located above the level of upper secondary education but below the threshold of the higher education level in the new educational architecture. For long it was unclear what to do with these schools, political attention was scarce, and their development suffered. Since then, Norwegian policies for HVE have gradually picked up speed. In 2018, a government proposal formally defining these schools as higher vocational education received support from all parties in the Norwegian Parliament as well as the labour market partners (Høst et al., 2019) . For the first time in history HVE moved to the centre of political attention. Polls have repeatedly suggested that an increasing number of youths find HVE an attractive option and labour market demand for these skills seems substantial.

Therefore, we ask: In which direction is HVE moving? Based on an institutionalist perspective and available data, the article discusses whether we can trace signs of emerging academisation, or if we can observe a sharpening of the labour market relevance profile of the HVE field.

Background and perspectives

Norwegian skill formation: Structural conditions

Our analysis is informed by the literature on comparative skill formation (Busemeyer & Trampusch, 2012) and the Nordic model (Ansell, 2010; Esping-Andersen, 1981) emphasising redistribution and welfare, high participation rates, huge public investments (Pontusson, 2005), small private investments in education and the comprehensive school as a basic form of organisation (Antikainen, 2006). The Nordic model is furthermore characterised by the strong role of the state, a high level of collective organisation in working life, and a

consensual policy style, where policy formation is embedded in an elaborate system of consultation and compromise. In historical terms the Norwegian version has been characterised by a peculiar combination of weak apprenticeship traditions and a weak academic tradition (Michelsen & Høst, 2018; Lauglo, 1995). Norwegian higher education (HE) today is about OECD average measured by the number of students enrolled. VET has developed a surprisingly strong profile. Approximately 50 percent enrol into VET programmes in upper secondary education, and the number of apprentices has increased significantly the last 40 years.

The Norwegian educational system has been formed and rationalised into a ladder structured by comprehensively organised and regulated levels. Through a series of reforms, the old diversity of parallel school types has gradually been broken down and integrated into a comprehensive system organised under the purview of the Ministry of education. Educational expansion has for a long time been driven by student demand rather than managed according to labour market requirement. The combination of such structural features has received little attention in the comparative literature on HVE. Most available studies emanate from continental skill formation systems (Di Maio & Trampusch, 2017; Graf, 2016; Graf & Lohse; 2021; Graf & Powell, 2022), where educational systems traditionally have been organised as disparate or parallel ladders (Heidenheimer, 1997; Baldi, 2021) and early demarcations between general education and VET (Allmendinger, 1989). We argue that Nordic types of structural settings like the Norwegian should be more explored as they represent distinct preconditions for the shaping of HVE policies and structures.

Theoretical perspectives

We connect to institutionalist theory, where we analyse the ongoing formation of HVE as an organisational field (DiMaggio & Powell, 1983). This type of field analysis has gained considerable traction in higher education but has not been much applied in HVE. We argue that Norwegian HVE is well suited for this type of analysis, due to its small size, its former institutional heterogeneity, and emerging formal legal homogeneity. The core dynamic in field formation is institutional homogenisation (Riesman, 1958) or isomorphy (DiMaggio & Powell, 1983). Riesman (1958) argues that American colleges modelled themselves upon each other. He compares them to a 'snakelike procession' where the avantgarde forms the head, and the middle part tries to catch up where the head once was (Riesman, 1958, p. 35). This resonates well with DiMaggio and Powell's seminal contribution, where organisations in a field increasingly mirrors each other. Interaction between organisations in the field will intensify over time, and intermediate arenas and structures for articulation of interest, dominance relations, coalitions, and cliques of actors will emerge (DiMaggio & Powell, 1983).

The development towards isomorphy is in DiMaggio and Powell's approach based on three different mechanisms: coercive isomorphy (regulations), mimetic isomorphy (homogeneity based on uncertainty), and normative isomorphy (based on norms and values) (Di Maggio & Powell, 1983; Scott, 2008). Regulations can have very direct implications for organisations in the field which forces them in a particular direction. But they also look towards other organisations with high prestige in the field and imitate their structures, symbols, and strategies as a basis for their own strategies to create legitimacy (Holmberg & Hallonsten, 2015) and reduce uncertainty. This may produce decoupling and considerable distance between symbolic adaptations and ordinary activities that goes on (Meyer & Rowan, 1977). Normative pressures also play an important role in structuring processes in the organisational field, where norms are developed, legitimated, and shared. This happens in two ways; through legitimation created by knowledge producers from relevant organisations and through the development of networks and venues. In these networks and venues professional organisations may have key roles to play.

Newer contributions to institutional theory emphasise the significance of competition and the development of niches, where units in the organisational field can be pressured in different directions (Scott et al., 2017). A combination of institutional logics might provide different guidelines for strategic development in the field and clique formation (Thornton et al., 2018). This presupposes a certain autonomy for the individual organisation in the field and space for interpretation of rules and values for innovators, producing conditions for new demarcations (Mahoney & Thelen, 2010). In such cases isomorphic pressures might primarily apply to similar organisations in the field and provide a basis for different types of organisational positioning.

Dynamics in the HVE field

When a heterogeneous ensemble of organisations become embedded in an emerging organisational field, powerful processes are created where variation is constrained (DiMaggio & Powell, 1983). The central question here is which direction(s) these isomorphic processes take. Here we will focus two types of isomorphy, academic drift and labour market relevance, which can highlight developments and tensions in the HVE field.

Academic drift

Insights from studies of isomorphism can be easily connected to academic drift. Academic drift is a complex and multidimensional concept that often has been used to analyse long term processes in higher education in a direction where academic knowledge, research, and research-based teaching achieve dominance in the polytechnic and college sector (Kyvik 2009; Neave, 1979; Pratt & Burgess,

1974). These studies emerged in the 1970s and the concept soon became increasingly popular in HE studies (Tight, 2015). Academic drift can be broadly related to the process of aspiration to achieve university status and to resemble universities (Huisman, 2023, p. 199) and is often measured by any increase in academic institutions and students in the field of higher education (Baker, 2014). Other contributions emphasise academic drift as a type of goal displacement or 'mission creep', where legitimate goals provided by the government have been supplanted by illegitimate, taking place in the dark, where vocational institutions have been transformed and reemerged as academic (Morphew & Huisman, 2002). Higher education studies often emphasise that public regulations might constrain academic drift, but it is also acknowledged that normative and cognitive pressures might become so strong that formal regulatory boundaries might erode over time (Huisman, 2023; Kyvik, 2009). The main gist in academic drift studies implicitly or explicitly emphasise HE organisations and staff as the main drivers of academic drift, but for the most part, studies of academic drift have not specified the 'who's' and 'what's' of academic drift (Huisman, 2023).

In this case we interpret academic drift as a specific type of pressure which create isomorphy within the field of HVE, and that this structuration process will be oriented towards imitation of higher education field structures. As communication within the HVE field intensifies, we expect increased isomorphy based on academic values in the formation of program profiles and organisation structures; first in the vanguard organisations and then in the middle organisations 'in the snakelike procession'. We explore three different drivers of academic drift: coercive isomorphy, mimetic isomorphy, and normative isomorphy. At the field level, academic drift processes might in turn unleash chain reactions in form of changing recruiting patterns, changing value orientations, changing cognitive patters, and new forms of interaction extending upwards towards the field of higher education.

Labour market relevance

The concept of labour market relevance is also quite broad and covers a range of different elements. It represents an attempt to grasp a different isomorphic logic, where educational institutions, organisational fields, or the whole of the educational system becomes more oriented towards the labour market and the world of practice (Harwood, 2010). Labour market relevance has emerged as a key concept in the increasing political emphasis on employment, labour market integration, and the expectations of the world of work towards the educational system in Europe.

In higher education this type of process imply significant tensions, and studies in this area often contrast the logics of higher education to the logic of the enterprise (Scott & Kirst, 2017). This has led to a strong focus on student

transitions into the labour market (Kivinen & Nurmi, 2014) as well as the influence of labour market organisations and employers on qualification profiles and learning outcomes (Kvilhaugsvik, 2022). In other areas of the educational system associated with vocational or professional education, the logic of labour market relevance has often been more or less taken for granted, but also here there is an increased emphasis on employers needs and smooth transitions into the labour market and employment.

We consider labour market relevance as a source of increased isomorphic pressures in the HVE field. We explore three different drivers of labour market relevance, the same as we used for analysing academic drift: coercive isomorphy, mimetic isomorphy, and normative isomorphy. As communication within the field expands and intensifies, we expect increased homogeneity closing in on values of practice, the organisation of connections and linkages to working life and employers in the formation of qualification profiles and programmes, as well as regulation and monitoring activities. In that process dominance relations, coalitions, and cliques will crystalise, where organisations and actors will attempt to expand in such directions. These pressures might align or evolve into different interpretations based on different notions of labour market relevance.

We can also envisage the interaction of countervailing isomorphic pressures towards labour market relevance and academic drift in the form of mixes or hybrids combining different institutional field logics (Thornton et al., 2018). One example would be the development of programmes which combine strong practical elements with academic theory and research-based teaching. We maintain that the analytical distinctions based on different types of isomorphism and their combination may be useful for understanding the development of HVE as an organisational field as well as the development of different positions in the field, where different groups of organisations form and move in different directions.

The case of Norwegian HVE, data and methods

We have analysed the development of HVE policies, the stream of reforms, and the development of regulations and regulatory institutions as well as the structuring of the field in terms of organisational actions, institutional underpinnings, and norms. The methodology may be described as process tracing where we draw on evidence from a sequence of developments in the field (Bennett & Checkel, 2015). Data have been extracted through our own research, analysis of available empirical sources, from evaluation reports, candidate surveys, annual reports on the condition of HVE as well as available statistics. Research on HVE and its development in Norway is not well developed. For the most part it is centred around applied research and grey zone literature. Public

reporting practices is still in its infancy, and the quality of the quantitative data often poor. The parts dealing with the formation of HVE as a distinct level and policy developments mainly relies on reports produced by the Nordic Institute for Studies of innovation, research and education in the period of 2016–2024 (Alne et al., 2023; Høst & Michelsen, 2021; Høst & Tømte, 2016; Høst et al., 2019; Høst et al., 2024), as well as the special report on HVE by The Norwegian Advisory Committee on Skill Needs (2022). As far as the analysis of academic drift, we have relied on empirical studies of what the literature considers as the first major academisation process in Norway (Kyvik, 2008; Neave, 1979). In this process a series of vocational schools were elevated and reconstructed as higher education institutions with a strong emphasis on research, where the old vocational model was academised through a sequence of steps. This allows comparing academic drift in the HVE field with prior academic drift processes in HE.

Contours of HVE as an emerging organisational field

Before the turn of the millennium, HVE could be regarded as a residual in a new and emerging educational structure. The big political issue was whether these schools should be developed into a new comprehensive system of institutions and programmes regulated by one common law, aiming at the formation of a new and clearly defined educational level between upper secondary and higher education, or whether they should be organised as a more heterogeneous market-based system for continuous and further education and training (Høst & Tømte, 2016). In 2003, the Norwegian parliament passed a new common law for all programmes and educational institutions in the grey zone between upper secondary and higher education. The aim was the formation of a new school type, the vocational college, and a separate and clearly defined level in the educational system, where adequate quality would be secured through public certification and control.

The political consensus in parliament closed in on the need to develop a new school type, the vocational college, on the foundations of a strong practice-oriented profile. The vocational colleges were taken out of the upper secondary regulations and relocated into a separate legal framework. According to the new law, this type of education should build on knowledge and experience from one or more vocational fields, shaped in accordance with the requirements of working life, and based on close contact with the world of work. Finally, that the candidates should be able to enter the labour market and work immediately after completion of the programme. The target group was not only absolvents from the numerous upper secondary VET tracks but also comprised students with a completed exam from general upper secondary tracks who preferred a more practical programme to academic higher education.

Since 2003, Norwegian HVE has changed considerably, especially the last five years, see Figure 1. After a period of stillstand, student number expanded from 15,000 in 2018 to 32,000 in 2024, and forecasts predict a doubling of this number.

Figure 1. Number of students in Norwegian higher vocational education 2016–2024, 2 year courses and shorter courses (Statistics Norway, table 11621).

A significant part of the growth can be attributed to increased state funding, as well as a huge increase in demand for programmes financed by student fees. Still, the level of state funding for HVE must be considered as low, compared to HE. In 2019, 44 percent of total financial resources available came from the Norwegian state (Diku, 2021), while the equivalent number for HE is 91 percent (Kompetansebehovsutvalget [KBU], 2022; Meld. St. 19 (2020–2021)). Nearly all student fees come from private vocational colleges (97 percent in 2020), where more than 50 percent of the students in HVE are registered (KBU, 2022). In comparison, the total financial contribution from the employers is low. Just 3 percent of HVE students receive full wages during the programme, while 6 percent are partly compensated. More than 50 percent of the students combine participation in a HVE programme with part time work. In general, students in HVE look clearly distinguishable from HE students. The average age of the students is 32 years, and half of them come from families without a higher education background (Alne et al., 2023). As such, HVE seem to provide possibilities for groups that have not been well represented in HE.

Programme profiles and recruitment patterns

A central background for understanding the character of HVE programmes can be identified in the development of the upper secondary VET and the number of apprenticeship contracts, see Figure 2.

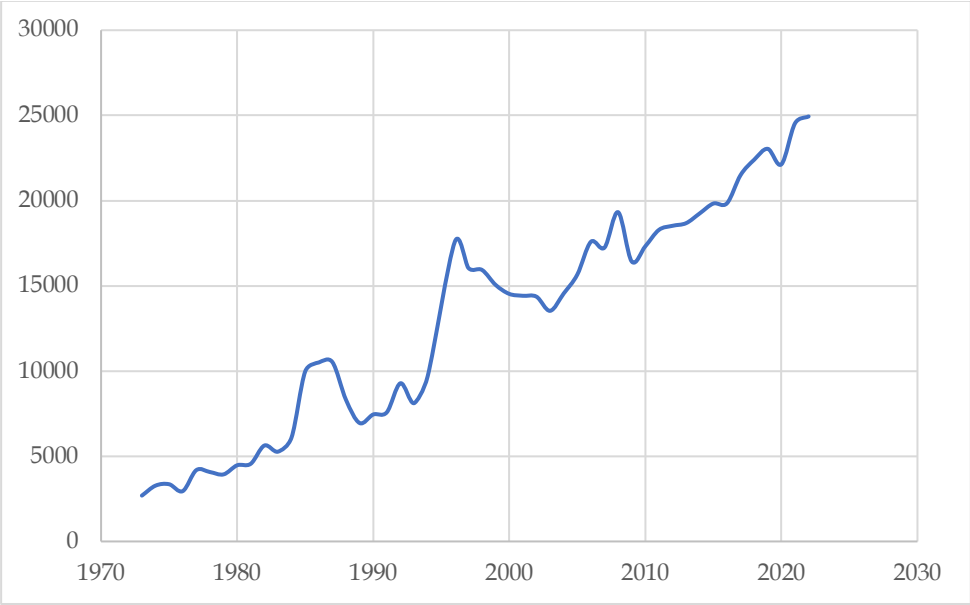

Figure 2. Number of apprenticeship contracts in Norway 1970–2022. For the years 1970–2007: Høst et al. (2008). For the years 2008–2022: The Norwegian Directorate for Education and Training. Statistics Vocatonal Education and Training (Utdannings-direktoratet, Statistikk fag- og yrkesopplæring).

The growing trend demonstrates the expansion in the number apprenticeships and trades registered, as well as the exposure of apprenticeship to business cycles, as the level of unemployment strongly influences the number of apprenticeships offered in the private sector (Høst et al., 2008). The persistent growth represents a staggering contrast to the development of VET in most comparable European countries, where VET recruitment and apprenticeship reached a top in the 1980s and have since receded. This makes for development trajectories and possibilities in the formation of Norwegian HVE that are different from most comparable countries. The consistent trend also reflects the extension of apprenticeship from old core areas in industry and crafts to health, social care, and services where school-based education and informal on-the job training of youth and adults traditionally has been the dominant mode of recruitment and training (see Figure 3). Apprenticeship has become important in health and social care, but remain relatively small or insignificant in the growing

service sector compared to industry and crafts which are still dominating the apprenticeship system.

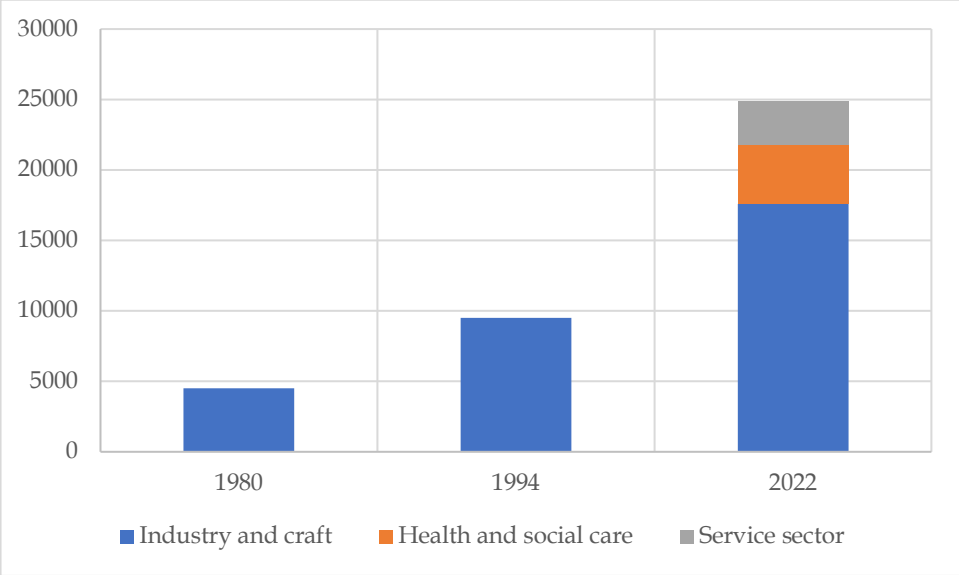

Figure 3. Number of new apprenticeships in Norway 1980, 1994 and 2022 distributed by labour market sectors. For the years 1980 and 1994: Høst et al. (2008). For the year 2022: The Norwegian Directorate for Education and Training, Statistics Vocational Education and Training (Utdanningsdirektoratet, Statistikk fag- og yrkesopplæring).

HVE programmes normally consist of different mixes of students with a variety of educational backgrounds and work experiences. However, some distinct variations and patterns can be identified. Two of the main programme sectors, Industry and craft and Health and social care, primarily recruit students on the basis of a skilled worker's certificate, often combined with skilled worker experience. This allows constructing more advanced programme skill profiles. In the service sector, the apprenticeship system has historically been weak or almost non-existent. In the creative, economic-administrative, and IT programme areas it has been hard to recruit enough students with a skilled worker's certificate, and recruitment has primarily been based on attracting students from general education tracks. This creates conditions for practical programme profiles with a more basic orientation. In these areas, students from general education tracks can also find a vocational route to the labour market.

While the whole HVE system is growing, the strongest growth rates can be identified in the lower end of the programme structure, in programmes with short and medium duration profiles (level 5.1 up to 90 study points in the National Qualification Framework [NQF]). The number of students in two-year

programs (level 5.2 up to 120 study points in the NQF) is also increasing, but growth rates are significantly lower (Statistics Norway, see also figure 1).

The high growth programmes comprise both advanced programmes based on recruitment of students with skilled worker's certificate and more basic programmes based on students without a trade specific background. In the lower end of the HVE programme structure we can also observe an interesting novelty, a large growth in 'micro' courses (5 study points or less). This type of courses has expanded significantly in a noticeably short time. The supply of micro courses now covers students with a general education background, students with a skilled worker certificate and practical experience, as well as students who has not completed an upper secondary study programme (Aspøy et al., 2022).

While full time students traditionally have constituted a large majority of HVE students, part time studies combined with work has emerged as a new normal in almost every type of programme (Report on the Condition of Higher vocational education, 2023). This is combined with a strong growth in the shorter programmes, and both tendencies may be explained by the fact that HVE programmes have become increasingly oriented towards applicants that are already settled in the labour market.

Organisational homogenisation and structural rationalisation

We can also observe significant changes in the organisation of the field. One expression of this change is the transformation of a large number of small, specialised, and locally embedded organisations towards a smaller number of bigger organisations with a larger number of students and a more diversified programme portfolio. From 2016, the number of vocational colleges has been reduced by more than 40 percent. The largest of the vocational colleges has reached more than 4,000 students. Six private and six public schools now comprise 75 percent of all HVE students (Høst & Michelsen, 2021). Increased access to financial resources and an increasing number of students have opened new possibilities for extending activities, programme diversification, and modularisation, facilitated by the development of a solid learning environment as well as the build-up of administrative capacity and quality management.

Nevertheless, remnants of the old, specialised model based on a tight connection between the college and a particular study programme area are still around, even if their share is reduced. In 2016, 32 colleges had less than 50 students, and in 2022, this number had been reduced to 17. For this type or HVE organisations, the build of necessary administrative quality and capacity is demanding as well as costly. A growing divide has been evolving between two cluster groups of vocational colleges, characterised by big and professional multi-campus organisations with a diversified programme portfolio and high administrative capacity on the one hand, and a diminishing group of smaller

vocational colleges with fewer students, thin programme portfolio, thinner learning environment, and lower administrative capacity on the other.

State regulation, intermediary venues and networks

The increased state intervention in HVE provided the basis for a stream of new regulations, but also for the formation of regulatory and intermediary institutions and venues for interest articulation, policy advice, and coordination. In collective skill formation systems, the labour market partners (the employers and the unions) are normally strongly involved in the governance of VET (Gonon & Maurer, 2012). Strong involvement allows them to intervene in the interpretations of regulations and secure what is perceived as an appropriate level in the enforcement of rules. This is also the case as far as the governance of apprenticeship in Norway is concerned (Michelsen & Høst, 2018). But not in HVE, where the responsibility for monitoring quality was allocated to the Norwegian Agency for Quality Assurance In Education (NOKUT); a single purpose, semi-autonomous (QA) institution, empowered to implement and oversee the national system for accreditation and quality in higher education. The vocational colleges now became dependent on study programme accreditation from NOKUT, which also got the important task of monitoring the legal boundaries between HVE and academic HE.

The development of the regulatory framework, new financing arrangements, and regulatory practices have had considerable consequences for the vocational colleges. New demands for quality assurance and procedures, administrative capacity, and a more professional administration to secure systemic conditions for quality and transparency have required more resources. The net result has been increasing pressures towards standardisation and structural rationalisation, where the larger colleges have developed towards a new role as 'flagships' or 'head' in the HVE procession with high regulatory legitimacy.

The initial lack of progress in the field enticed the Ministry of education to initiate the formation of a national council for HVE in 2010. The council was structured as a mixture of the tradition from HE, based on representation from the various types of HVE colleges, and the VET tradition, based on strong representation from the labour market partners and their organisations. Quality and accreditation issues were not included as a formal task area for the council, as this task belonged to NOKUT. This constellation prevented the council from exercising direct administrative influence on quality monitoring, accreditation, and boundary control. Apparently, not much authoritative decision-making has been going on in the council (Deloitte, 2023), but it has no doubt contributed significantly to the intensification of communication and networking within the field. In the new advisory structure, where each subfield in HVE is organised in a separate sub-council, both private and public vocational colleges are

represented, and representatives from the larger vocational colleges are particularly active. They have also become increasingly involved in international networks and accreditation committees in other countries.

The pattern of representation in the council has also allowed the peak labour market partners to act as intermediaries between state skill formation initiatives and HVE institutions in the development and implementation of shorter modularised courses (micro-courses) at the branch level in industry (Aspøy et al., 2022). The 'tripartite skill initiatives' have evolved into an important approach in the lifelong learning strategy of the state, where the government has provided the financial resources, and the labour market partners have provided linkages between the relevant branch organisations, firms, unions, and a variety of different educational institutions. The gradual build-up of the state skills initiatives and target groups during the COVID 19 pandemic and its aftermath has transgressed established boundaries between HVE and upper secondary level. To facilitate the inclusion of HVE organisations as skill providers, NOKUT accreditation arrangements and procedures had to be adapted to the new situation. In turn, this situation has necessitated legal re-regulations and formal extensions of older HVE boundaries at the lower end. At present there is in fact no lower legal boundary for HVE.

At the higher and more advanced end of the HVE programme structure things are different. Communication with HE communities for the formation of more advanced higher vocational programmes does not seem to be well developed, and networks and personnel flows that span the HE and HVE divide are scarce. It is probably fair to say that Norwegian HE has not contributed much to the development of norms of practice and programme profiles in HVE. The field has so far relied heavily on similarities and translations of practice norms and rationalisations emanating from the lower end of the engineering profession (Halvorsen, 1993) for scientific legitimation and on the labour market organisations for political legitimisation.

The intensification of labour market relevance

The general perception of HVE as labour market oriented and close to practice represents the core common understanding of Norwegian HVE. The representatives from the various colleges and areas in HVE invariably present themselves in such terms. Norms of developing programmes in collaboration with the employers are widely shared (Deloitte, 2023), and the majority characterises this type of collaboration as comprehensive.

Nevertheless, critical questions are increasingly being asked about the practice-oriented profile in the HVE field. This testifies to the mounting pressures towards homogeneity in the field, where the 'lack of profile' issue has condensed into different aspects and policy agendas. In 2003, the aim of HVE was defined

in terms of a separate, distinct, and regulated level in the educational structure between higher education and upper secondary education, and candidates from this school type should be able to enter the labour market immediately after completion. However, reports from several state commissions have concluded that the profile of Norwegian HVE and HVE colleges is unclear and contradictory (KBU, 2022). Questions have been asked if HVE has become 'overstretched' (Deloitte, 2023), or whether some colleges are 'decoupled' or 'loosely connected' to labour market relevance in their daily activities (cf. Meyer & Rowan, 1977). Furthermore, the HVE candidates' survey indicates that there are significant differences in employment rates between candidates from basic and advanced HVE programmes after completion (Alne et al., 2023).

Questions raised are how labour market oriented HVE programmes actually are, and whether the more basic programmes really have a proper place within HVE. Especially programmes in the creative and economic-administrative area have been contested, due to the low employment rates among the candidates after completion. In other areas of working life, for instance in the technical and the maritime sectors, there is substantial demand for absolvents with a HVE background (Alne et al., 2023), The combined effects of 'green shift' policies and strong market pull from oil-related industries have improved employment and career prospects for candidates with advanced practical skills in this area significantly. Still, available data suggest that there are considerable local as well as firm-specific variation in the appreciation of the more practical qualification profiles compared to other available qualification profiles from HE (KBU, 2022). In the health and welfare sector, HVE expansion can lean on the emerging lack of qualified personnel as well as the need for increased flexibility in health work organisations. There are also signs of increased competition with personnel educated in HE, where work organisations are permeated by strong authorisation and title requirements. In practice, many of these areas are closed for HVE absolvents, and HVE qualifications often do not offer much prospect for promotion and mobility upwards in the organisational hierarchies (Alne et al., 2023; Høst, 2017).

As far as the actual character of linkages between the world of work and HVE is concerned, a number of different features have been discussed in various types of literature. In the literature on decentralised cooperation in VET, content definition of programmes, the organisation of training and learning in the form of cooperation matching of demand and supply, employers' needs for skilled labour, co-financing, monitoring, and quality control (Emmenegger et al., 2019) as well as processes and stages of the cooperation process has been discussed (Bolli et al., 2018). The literature on policy instruments points towards the significance of regulations and their possible impact on labour marked relevance (Kvilhaugsvik, 2022). In a number of white papers, learning outcomes and

employer panels have been suggested as instruments to ensure quality and relevance, as well as increased cooperation with employers in higher education (Tellman et al., 2017).

Available data suggest that cooperation between vocational colleges and working life is both substantial and heterogenous. A new study indicates that labour marked panels have emerged into a national standard for collaboration between the colleges and representatives from (local) firms (Høst et al., 2024). Panels serve multiple purposes, including regulation, information, learning, and a symbol of external engagement. They allow the vocational colleges and study programmes to cooperate with employers on issues of shared interest. They also serve as documentation of employer involvement to NOKUT. Who the member of these panels actually represent – local businesses/branches or their own firm – varies a lot, very much depending on sector traditions for collective action. How these panels are organised, the number of members they have, their branch profile and what the panels actually are engaged in, also seem to vary significantly. Another source of labour market relevance which seems to be common, is engaging teachers in part time positions while at the same time holding a position in the specific field of work, in line with a long tradition in VET schooling. Learning outcomes as an instrument of labour market relevance does not seem to carry much significance.

Vertical upward extension and intensification of academic drift?

Another possible isomorphic pattern focusses on a particular type of homogenisation associated with academic drift. In the formation of the NQF in 2011, HVE was represented in terms of level 5 qualifications, in accordance with prior policy goals and guidelines. Since then, boundaries to HE has been continuously challenged in public debates. On a general level, the major actors in the HVE field, the colleges, the council and the labour market partners are in unison in their demand for increased space for growth and increased status for HVE. Strongly condensed the argument is: Coercive regulations and regulatory practices have created an artificial 'iron cage' which constrain the 'natural' development of HVE. The cage needs to be opened. These arguments are for the most part framed in terms of social (in)justice, more equality and equity between higher vocational and academic education rather than claims of labour market efficiency.

The rise of apprenticeships has played a significant part in the development of this narrative, where old injustices (VET has not qualified for HE education) must be rectified through vertical extensions. The national workers organisation (LO), the employer association (NHO) as well as the council has taken a clear position on the issue of vertical extension, and supported the construction of a separate educational ladder reaching above level 5 in the NQF. The policy implication is

that the more advanced types of practical skill formation programmes should be permitted to extend upwards and include accreditation at bachelor, master, and even PhD level (level 6, 7, and 8 in the NQF). The old goal for developing HVE as a distinct level in the educational structure has been downplayed and substituted by a new framing of HVE as a separate 'sector' or a separate 'pillar', parallel, adjacent, and equal in status to the academic HE 'sector'.

This raises an interesting question if or to what extent we can detect indications of academic drift in the HVE field? Academic drift can fruitfully be separated into a series of distinct elements or sequences (Neave, 1979). We connect to what is considered as the first great academic drift process in the recent history of Norwegian higher education where vocational colleges were transformed into university colleges (Kyvik, 2008). This transformation process evolved gradually.[1] Strongly condensed and simplified, it comprised the following main elements:

- A number of specialised vocational school types were elevated gradually to the new higher education space as university colleges, and thereafter subjected to comprehensive mergers into multiprogramme regional university colleges in 1994. The portfolio of short-cycle programmes in the redesignated institutions were gradually extended horisontally and vertically (up to NQF level 8).
- Academic theory became more important in the curriculum of the study programmes and practical training was reduced.
- A central mechanism for student transfers between different HE institutions was established and later institutionalised as a separate institution at the national level; The Norwegian University and College Admission Service (NUCAS), which coordinates admissions to undergraduate study programmes at all universities and university colleges.
- A new and more unitary regulatory structure was formed through two major legal amendments in 1995 and 2005.
- The university degree structure was extended to include the university colleges, providing the basis for an institutionally diversified but coordinated and comprehensive higher education space, where student degrees could be built on various combinations of programmes from several institutions.
- A separate council for university colleges was formed in 1986 and subsequently merged with the University Council in 2000.
- New names and measurements similar to the universities were introduced.

- Influx of personnel from the universities to the university colleges brought their identifications, practices, and preferences, and over time research-based knowledge was strengthened and relations to practice weakened. Positions and categories have been rearranged to include possibilities for research, and academic staff classifications standardised and homogenised. A high quota of senior academics at the university colleges are leaning towards research similar to the universities.

We can identify some similarities as far as the development of the HVE field is concerned. New names and new measurements have been introduced. The vocational colleges have achieved status as higher vocational education, new measurement scales like HE study-points as well as local student transfer agreements have been formed. HVE has been integrated into the Norwegian Universities and Colleges Admission Service (NUCAS), which coordinates admissions to undergraduate study programmes at all universities and university colleges. A large number of specialised smaller institutions are in the process of being substituted by a smaller number of larger multiprogramme institutions.

The sum of these features can obviously be interpreted as sequences or elements in an ongoing academic drift process. But so far, the new names have primarily symbolic significance, and the measurements do not have similar valour. To some extent local agreements for student mobility have been developed. Still, it is entirely up to the various HE institutions to decide whether and to what extent HVE programmes can be integrated as parts in a HE bachelor's degree. HVE participation in NUCAS is selective and has not been imposed on private HVE institutions. For the majority of HVE institutions, neither collaborative relations nor student transfer agreements have been formed (Deloitte, 2023). HE has not caved in to mounting political pressures for national standardisation of student transfers (as in 1982), and transfers and communications with HE in general is low. The drift upwards is selective and narrow down to vanguard institutions in distinct sub-areas in the field, for the most part technical and maritime areas, and to some vocational colleges rather than most. So far there is not much to suggest that the whole HVE field has developed aspirations moving upwards towards academe, and strong regulatory practices have (so far) inhibited incursions on HE territories.

There is not much mobility of teaching staff from HE to HVE – at least not yet, and the structure of positions and categories in HVE and HE are not coordinated (Lyckander & Grande, 2018). Positions at HVE institutions are in general teaching positions, often part time, and practical experience from working life is highly regarded and rewarded. Research and development (R&D) resources are normally not included in positions offered, and rules of academic freedom do not

apply. As R&D resources are scarce or non-existent, research-based education in the normal definition of the concept does not apply either. This is not particularly attractive for HE employees with preferences for R&D and teaching based on research activities and research experience.

Discussion

In this article we analyse emerging Norwegian patterns in the development of HVE after the turn of the millennium. Norway has been characterised as a hesitant and slow reformer in HVE reform policies. However, a shift can be identified, where HVE has moved from a residual position towards the centre of policy attention. Policies have gradually picked up speed, and there is a turn towards upskilling and labour market relevance policies expanding access to new and more advanced forms of practically oriented types of VET.

We have analysed the formation of HVE as an organisational field, focusing on three different mechanisms: coercive isomorphy, mimetic isomorphy, and normative isomorphy. We have identified two different directions for isomorphic pressures: academic drift and labour market relevance, and their possible interaction in the development of advanced practical forms of training. We have also assumed that units in the field can be pressured in different directions, where a combination of institutional logics might provide different guidelines for strategic development in the field.

The development of Norwegian HVE is often perceived and projected as the institutionalisation of advanced institutions and programmes based on apprenticeship completion and practical experience in the firm. Nevertheless, HVE is also very much an area for more basic programmes based on general track credentials in areas where apprenticeship historically has been weak. Furthermore, growth rates are stronger and more pronounced in the lower end of the HVE space than in the higher end. In the lower end, the HVE space has extended downwards through the provision of short micro courses. Political initiatives in this direction have necessitated legal re-regulations and extensions of HVE boundaries, and at present there is in fact no lower legal boundary. We can also observe strong forms of coercive isomorphism restricting boundary trespassing, especially at the higher end of the HVE space.

Strong coercive pressures have interacted with mimetic and normative pressures in the organisation of the field as new arenas and networks have been formed. The old specialised small structure in HVE organisation has evolved into a divide between two clusters of vocational colleges, the big and professional actors with high vertical and horisontal extension of programme portfolios, a solid learning environment, highly professional, and with high administrative capacity, and a decreasing number of smaller schools with fewer students, a thin

programme portfolio, a thin learning environment, and low administrative capacity. The group of larger organisations have evolved as the most important flagship model in the field.

The field has since its inception been dominated by normative representations as close to practice, where HVE programmes are shaped in accordance with the requirements of working life and based on close contact with the world of work. The old broad understanding where the schools were regarded 'practical' in a broad sense has gradually been challenged by the intensification of field norms and new perceptions of HVE and labour market relevance. The tensions centre around a number of issues related to how close to practice programmes actually are, and to what extent the students are good to go into the labour market after the completion of the programmes. For the most part these variations boil down to differences between basic and advanced programme profiles as well as different sectoral training traditions and relations between education and work. But the tensions also testify to the pressures of mimetic isomorphism and symbolic adaptations towards practice orientation and labour market relevance in each of these areas. Labour market panels with representatives from local enterprises seem to have evolved as a standard for vocational colleges to secure labour market relevance in their study programmes. Most represent individual firms, but the composition, profiles, and agendas of the panels vary a lot. The panels also serve the important task of documenting labour market involvement.

Between academic drift and labour market relevance?

In this article we have argued that the Nordic model provides important structural conditions for the development of higher vocational education (HVE). Important feature of this model is high state involvement, a strong emphasis on welfare, high participation rates, huge public investments, and small private investments.

Secondly, we have emphasised the significance of the comprehensive school principle as the basic form or organisation in Norwegian education. A series of reforms have transformed the system into a ladder organised by comprehensively organised and regulated levels. The expansion of the comprehensive upper secondary school integrated vocational schools and the gymnasium, followed by the further integration of apprentice training in the VET part. This has provided Norwegian VET programmes with an integrated yet strong practical profile. At the higher end, the extension of HVE has been constrained by an increasingly homogenised higher education level, where non-university higher education institutions were formed, integrated, upgraded, and merged. Gradually a new comprehensive higher education space has been formed, regulated, and consolidated with a strong emphasis among staff on research and research-based teaching.

A number of practical vocational schools were left behind in the reform processes. They were subsequently redesignated as vocational colleges and remade aiming at the construction of a new distinct level in the educational system above upper secondary level. So, there is much to suggest that the Norwegian educational system in practice came to combine a comprehensive HE level with a comprehensive upper secondary level, with HVE located in between.

Recently this structure has been challenged by new policy issues of vertical HVE extensions and political visions of parallel pillar formation. In the lower end of the HVE space the labour market partners have been able to develop influence, and here the extensions are the most pronounced. In the higher end, the situation is different and more complicated. As the university colleges have drifted towards the universities and been academised, their old space has been 'vacated'. The labour market organisations (LO and NHO) have supported extension of HVE programmes upwards above level 5 in the NQF, and the whole HVE field seems united in demanding increased space and increased status for HVE.

So far there are few indications of an emerging academic drift in HVE, in the sense that study programmes have drifted towards academic values and structures, and contact patterns between HE and HVE institutions are as a rule not well developed. The lack of communication between HE and HVE has probably protected HVE institutions from academic drift but has also made it difficult to develop common agendas and hybrid forms for study programmes based on new combinations at the nexus between HE and HVE. There is not much sign of integration of practice with academic higher education elements compared to the German development (Graf et al., 2016). Senior staff in Norwegian university colleges seems much more research oriented than their colleagues in German 'Fachhochschulen' (Teichler, 2008), and there is considerable scepticism in HE towards the tradition of the practical and its ability to sustain educational programmes at bachelor and master level on its own. The employers have so far not been much involved in the funding of HVE programmes. We suggest that the development of Norwegian HVE should be interpreted as a sharpening of the labour market relevance profile in Norwegian education rather than academic drift, and there is still strong normative consensus on the preservation of the practical profile of HVE.

Endnote

[1] This part draws heavily on Ahola et al. (2014), Kyvik (2007, 2008), Mordt (1993), Neave (1979), as well as Teichler (2012).

Notes on contributors

Svein Michelsen is Professor in Political Science at the Department of government at the University of Bergen, Norway. His research interests are focused on comparative public policy, public administration, and institutional change in vocational education and training and higher education.

Håkon Høst is Dr. polit. in Political Science and Research Professor at Nordic Institute for Studies in innovation, research and education in Oslo, Norway. His main research areas are higher education, vocational education and training, the professions and relations between the educational system and work.

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

Elisabeth Hovdhaugen[1], Torgeir Nyen[2] & Asgeir Skålholt[1]

[1] Nordic Institute for Studies in Innovation, Research and Education, Oslo, Norway

[2] Fafo, Oslo, Norway

(elisabeth.hovdhaugen@nifu.no)

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

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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-/svennebrev*, 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.

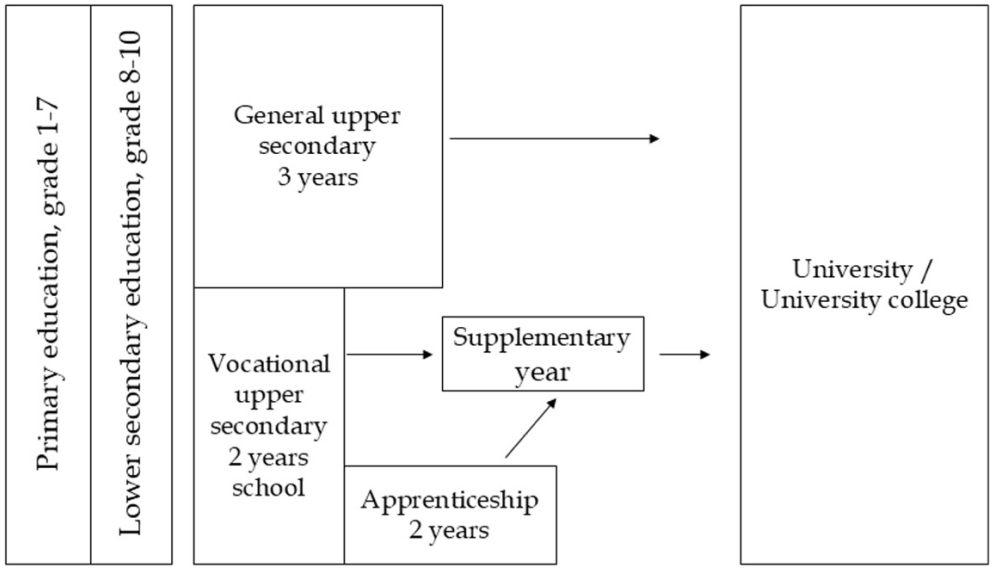

Figure 1. Norwegian educational system with the main routes to higher education.

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 supple-mentary 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 1or 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%.

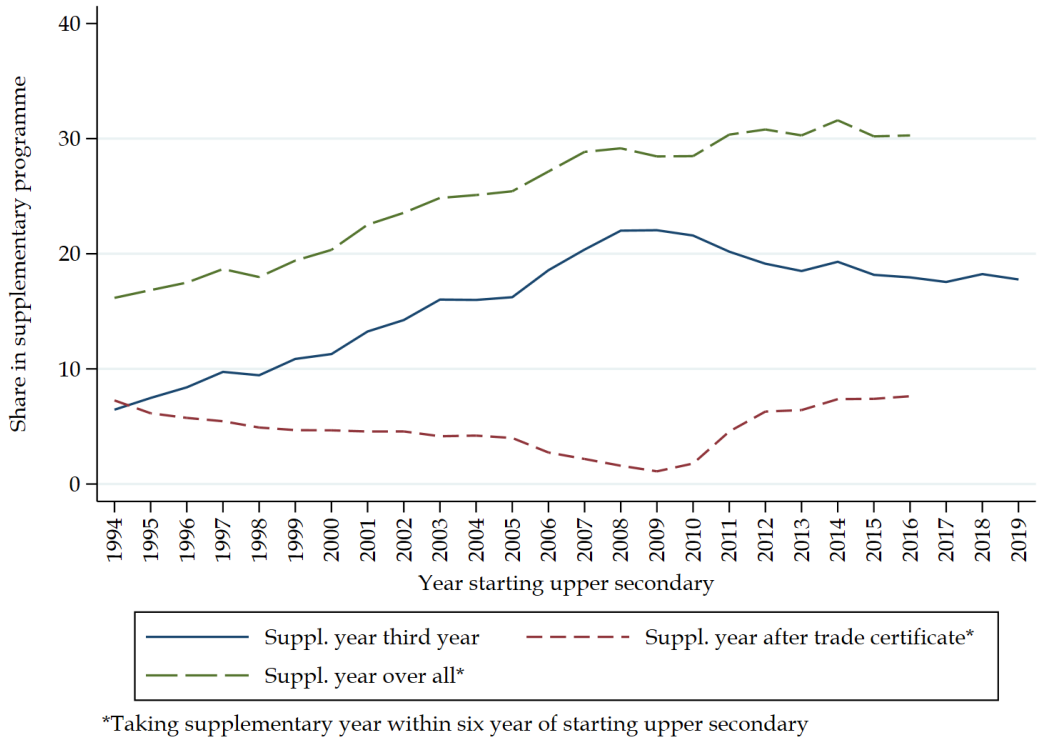

Figure 2. Share taking supplementary programme among those who started a vocational programme in upper secondary education.

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.

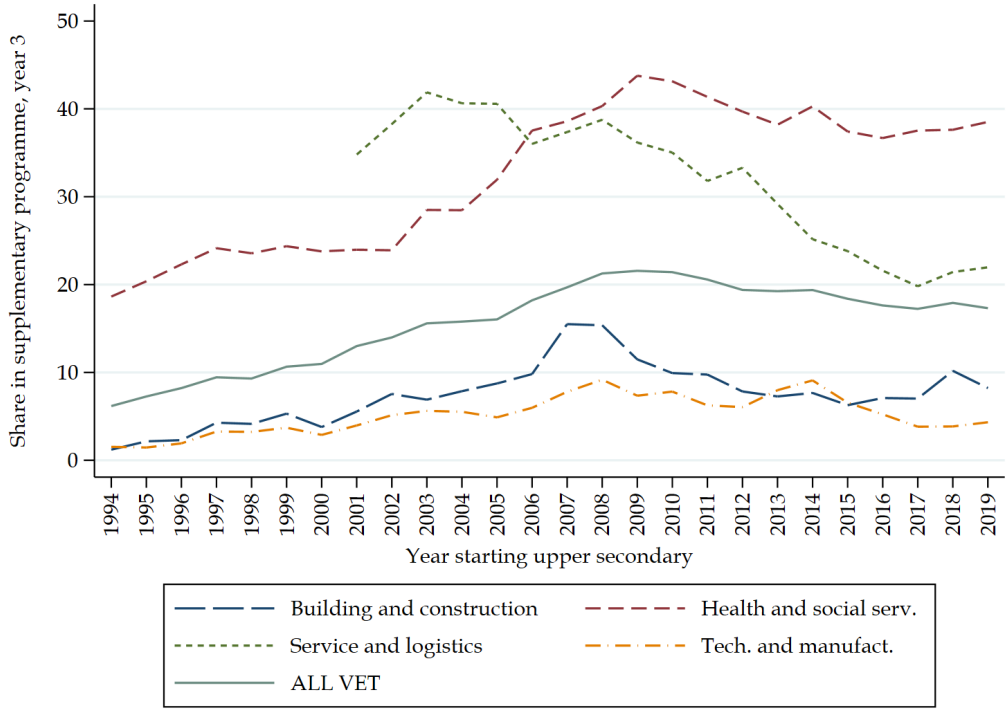

Figure 3. Share taking supplementary programme in the third year after starting upper secondary. Starting cohorts 1994–2019.

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.

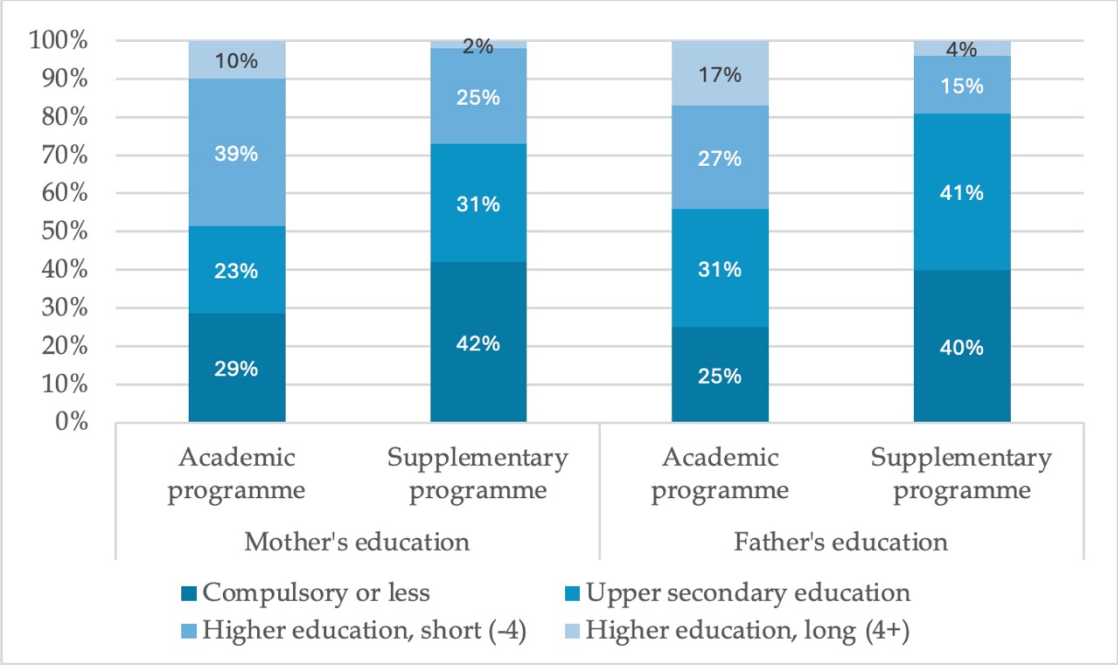

Figure 4. Mothers' and fathers' educational level. Students in supplementary programme and academic programme, in year 3, for cohorts leaving lower secondary in 1994–2019.

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).

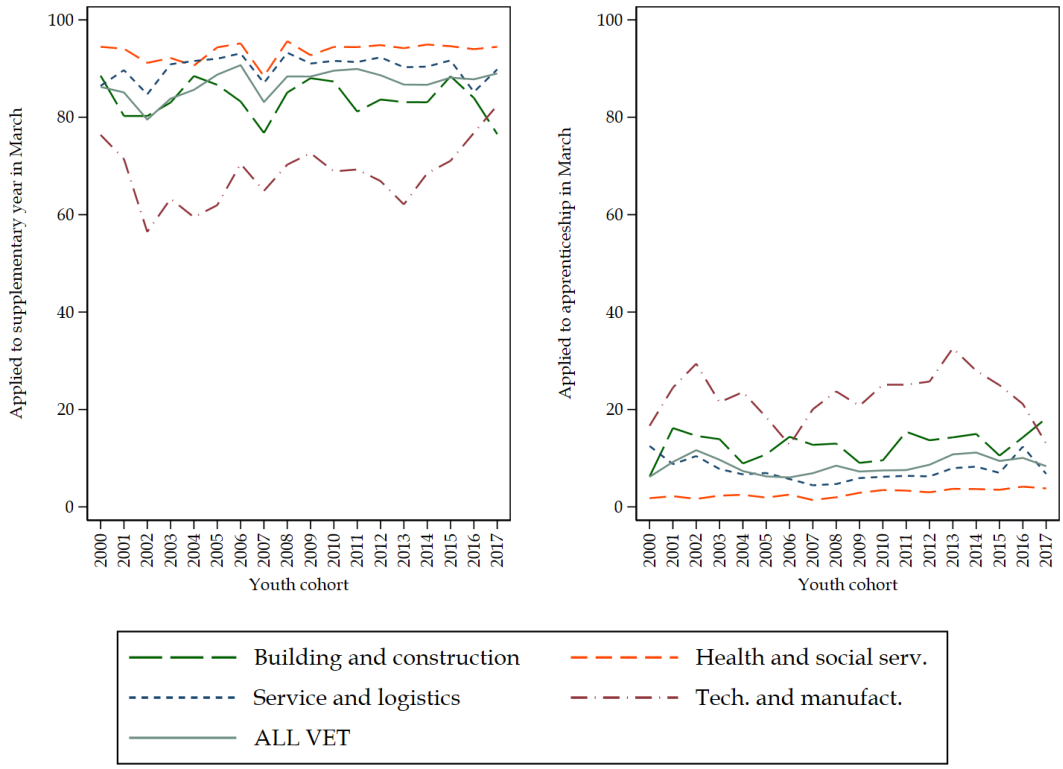

Figure 5. Share of those in supplementary programme third year who applied for supplementary programme (left figure) and apprenticeship (right figure), for cohorts leaving lower secondary in 2000–2017.

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

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

Notes on contributors

Elisabeth Hovdhaugen is a senior researcher at the Nordic Institute for Studies in Innovation, Research and Education, NIFU, a research institute in Oslo. Her research focuses on students, both in upper secondary education and higher education, and on transitions between the two educational levels.

Torgeir Nyen is a senior researcher at the research institute Fafo in Oslo. VET is his primary research field, but his research also spans education and skills policy in general.

Asgeir Skålholt is a senior researcher at the Nordic Institute for Studies in Innovation, Research and Education, NIFU, a research institute in Oslo, working primarily on vocational education and training and studies of transitions, both within the educational system and from school to work.

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Two waves of academisation of VET in Switzerland: Threat or way forward?

Philipp Gonon[1] & Lorenzo Bonoli[2]

[1] University of Zurich, Switzerland

[2] The Swiss Federal University for Vocational Education and Training, Renens, Switzerland

(gonon@ife.uzh.ch)

Abstract

In the development of the Swiss vocational education and training (VET) system we can observe a trend towards 'academisation', based on two movements: on the one hand, an expansion of general knowledge and non-vocational content, and on the other hand, a structural rapprochement of VET streams with higher education. In the 1960s and 1970s, a stronger orientation towards more academic knowledge was seen as necessary to keep VET attractive to intelligent learners. In addition, the opening of pathways to more technical expertise and career paths in higher education was promoted and strengthened in the 1990s in order to cope with technological and economic changes.

The article reconstructs two waves of this academisation, first in the 1970s in terms of content, and then in the 1990s in terms of structures. These two waves led to a successful positioning of VET by creating an institutional transition from VET to higher education. However, academisation as a process remains ambiguous, as it could be seen as a way forward, but also as a threat to the extent that VET weakens its core profile.

Keywords: academisation, Swiss vocational education and training (VET), higher education, vocational middle school, federal vocational baccalaureate, universities of applied sciences

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Introduction

Since their first institutionalisation at the end of the 19th century, vocational education and training (VET) systems have always had to position themselves in relation to general education, even though, in a number of countries VET is part of the education system itself alongside general education (Lauglo, 2005). In Switzerland, there are significant differences between these two streams, making their respective positioning within the education system a major issue in recent decades.

The aim of VET, and in particular of the dual apprenticeship model, which combines work-based and school-based learning, is to impart vocational knowledge and habits as well as specific skills, that can be applied in productive contexts. These practical skills and vocational knowledge are defined by economic actors in cooperation with public authorities. A limited amount of general knowledge content complements the mainly work-based training. On the other hand, general education aims to provide mainly theoretical, general, or academic content in order to continue towards higher education (HE). It is far removed from the concrete needs of the world of work. General knowledge, both in baccalaureate schools and in VET, is usually taught in a classroom context, and is divided into specific subjects, with the overall aim of providing young people with the knowledge base necessary for successful integration into society and further education. However, there is a tension concerning the right balance between general knowledge content and work-related skills in VET, especially in the context of the dual apprenticeship model. In recent decades there has been increasing pressure to include more general (and school-based) knowledge and to open up new pathways in order to make the VET system more permeable with opportunities for transition to higher education. The theme of academisation appears in relation to these questions.

Our article describes how this theme gained momentum in Switzerland in two different waves in the 1960s and in the 1990s. We show that the first wave (1960s) focused on the content of teaching and learning in VET schools and was driven mainly by educational actors based in schools at the upper secondary level. The second wave (1990s) emphasised the orientation and transition from VET to higher education and was driven more by external actors outside VET, such as engineering schools, national education councils, and various thinktanks and globally oriented advisory boards. While this gradual academisation of VET has been based on a broad consensus among the actors involved, the public discourse on academisation has from time to time been much more critical, warning that such a drift is a threat to VET (Janssen, 2024), which risks losing its practical specificity and its closeness to the world of work.[1]

Academisation and academic drift

In the German-speaking context the term 'academisation' today appears to be regular in the public discourse on VET (Ambühl, 2022). This term is often used as a wake-up call. It denounces the risk of devaluing the vocational dimension and criticises an education policy that neglects VET and devotes all its resources to the development of general education. It also points the finger at the decline in enrolments in vocational education, a decline that is also linked to parents' preferences for the baccalaureate option (Deissinger & Gonon, 2016). All these factors have undesirable consequences, as lamented by public figures (Rümelin, 2014), but also by political parties. VET, and in particular the dual model of apprenticeship, is seen as a key factor for economic competitiveness (Strahm, 2010). For this reason, some actors and politicians in Switzerland even argue for limiting the number of learners in the baccalaureate stream in order to strengthen VET (e.g., SVP-Basel, 2015). Alongside these discourses, however, we can also identify another, more discreet but nonetheless important, narrative that advocates broadening the content of general education within VET and bringing it closer to higher education. In order to make VET, and in particular dual apprenticeship, more attractive, more schooling and more general and specific knowledge (acquired in schools or learning centres) are needed to meet the demands of higher education, but also the expectations of the economy and of the learners.

However, aligning VET with academic forms, that is, content and also pathways leading to higher (academic) education, carries the risk of alienation, of turning away from the original objectives of VET as such (Baker, 2014). In contrast to experience-based knowledge and skills, school- and subject-based knowledge appear to be becoming increasingly important. This could lead to a shift away from the world of practical work and an encouragement for VET graduates to pursue roles in higher positions in production and services. This is a concern that has been raised in public debates (Annen & Maier, 2022; particularly Gonon, 2022).

The concept of academisation is less common in the Anglophone debate. The problems associated with this concept are partly addressed by the term 'academic drift'. A recent CEDEFOP report (CEDEFOP, 2020) identifies two general trends in European VET systems: a 'vocational drift' and an 'academic drift'. Vocational drift is evident when the value of VET increases in terms of its appreciation as a form of education and in its role in developing skills for the labour market, as well as in terms of the number of students enrolling in its programmes. Conversely, the phenomenon of 'academic drift' is associated with a decline in the importance of VET and an increased emphasis placed on academic disciplinary knowledge. It is also associated with an increase in the relative number of enrolments in general upper secondary education and

university education and with an 'increasing attractiveness of general and academic education (in terms of public opinion)' (CEDEFOP, 2020, p. 73). The concept of drift, as used in this CEDEFOP report, emphasises the inter-dependence of vocational and academic pathways. In line with the definition provided by Hacker et al. (2015), drift can be defined as a process of balancing institutional change and institutional reproduction. This means that periodically, vocational and academic goals and pathways need to be rebalanced.

Furthermore, some of the concerns associated with this concept are also addressed by the concept of 'over-education' (Grubb & Lazerson, 2003), which has a similar scope and ultimately identifies a discrepancy between content and real-life experiences. In such cases, young people lack the practical skills needed for effective integration into the world of work and society. Furthermore, over-education frequently results in diplomas that are not even in demand by companies, and individuals with academic qualifications possess skills that are not aligned with the needs of the modern workplace.

In our article, however, we will use the term 'academisation' because of its proximity to our sources.

Conceptual and methodological approach

The objective of this article is to reconstruct the academisation discourse by examining documents that marked two pivotal turning points in the evolution of Swiss VET. Our analysis is primarily based on a set of sources collected as part of the research project, 'The Development of Vocational Training in Switzerland'.[1] In this context, we have assembled a comprehensive collection of texts on VET in Switzerland, spanning the period between 1950 and 1975. The corpus comprises a wide range of documents, including official materials such as laws, regulations, ordinances, government messages, parliamentary reports, parliamentary debates, and statistics. It also includes specialist publications, such as sectorial journals, scientific publications, and reports by professional associations or trade unions. Additionally, the corpus features press articles and other archive documents, such as internal circulars, administrative letters, and handwritten notes. This body of work was then expanded firstly by research into the archives of the Association of the Vocational School Teachers (Schweizerischer Verband für Gewerbeunterricht SVGU) and its journal 'Pages for Vocational Teaching' (*Blätter für gewerblichen Unterricht* – today named *Folio*).

The sources were also expanded for the period from 1990 to now with documents written by several actors, such as the federal office responsible for VET (BIGA – Bundesamt für Industrie, Gewerbe und Arbeit), the Swiss Council for Sciences (SWR – Schweizerischer Wissenschaftsrat), the Cantonal Representants of Education (EDK – Schweizerische Konferenz der kantonalen

Erziehungsdirektoren), and the Association of Directors of Engineering Schools (DIS – Direktorenkonferenz der Ingenieurschulen der Schweiz).

On the basis of this corpus, we have conducted both a historical reconstruction and a discourse analysis to identify the key changes related to the academisation of the Swiss education system from 1950 to the present day, with a particular focus on VET. The discourse analysis approach (Keller, 2011; Landwehr, 2009) is first and foremost concerned with the discourses produced by the main actors in the domain. It identifies regularities at the argumentative level that emerge in the public debate, describing in other words 'what the main players in VET have been saying' on the issue of academisation. In this article we have added some quotes from the sources that support the analysis. All were originally written in German, and translated by us into English.

Secondly, it analyses the conditions under which these statements were possible, responding to questions like 'how could the relevant parties at the time express themselves in this way?', by relating them to the socio-historical conditions of the period in which the statements were made. This approach enables a more comprehensive understanding of the concerns of the key stakeholders and the tensions present in the public debate. In particular, it helps us to better understand the reasons, motivations, and interests that have led the main players to launch reforms in the field, paving the way for a gradual but progressive academisation of VET.

In this line we refer, thirdly, to a historical-institutionalist approach to characterise the emergence of new VET programmes and new forms of higher education. Such reforms aim to maintain stability by responding to new challenges (van der Heijden, 2013), but nevertheless led to a gradual change of the VET and HE systems (e.g., Graf, 2018; Seitzl & Emmenegger, 2019; Thelen, 2004).

The first wave of academisation 1960–1970

The first wave of academisation was a response to a series of challenges faced by the VET domain and Swiss society in general between 1950 and 1970 (Bonoli & Gonon, 2023; Bonoli & Vorpe, 2022). These were the years of the post-war economic boom, with a great deal of technological innovation and an educational expansion. Especially the debate around the Sputnik shock in the end of the 1950s was taken as an incentive to boost scientific but also technical knowledge (Gonon & Zehnder, 2016). In this context, VET was called upon to respond to a first challenge: the great demand for skilled labour by Swiss companies and the need to improve its attractiveness. Secondly, it also had to respond to the new requirements, which meant to include more general and scientific knowledge, in order to adapt to the new production methods. In the 1960s, a number of players

shared a common view of the challenges facing education and work: 'The demand for engineers, technicians', but also 'for members of the so-called lower management' had risen sharply:

> The modern production process generally requires a higher level of theoretical and technical knowledge; we are moving towards a growing intellectualisation of the professions. (Nyikos, 1967, p. 33)

Thirdly, from the 1960s onwards, VET, especially in countries with a well-established dual apprenticeship system like Germany, Austria, and Switzerland, was also part of the debate on social justice (Lipsmeier & Münk, 2022). VET was also meant to contribute to ensuring equal opportunities for all young people in Switzerland, regardless of whether they had a vocational or general education background (Muller, 2012). In this perspective, the desire to broaden and differentiate the content of teaching and learning in VET schools was mentioned in connection with the desire to improve the attractiveness of VET in relation to baccalaureate schools and to ensure equal treatment with students of these schools: with the argument that it is not fair to deprive apprentices of general education when this is extremely important for their future career. These three challenges lead directly to reforms that increase the academic content of VET programmes, in particular by increasing the number of hours in vocational schools and by introducing 'branch courses' that also provide general and theoretical knowledge. This first wave of academisation culminated in the introduction of a new vocational programme, with a new certification, which retained the traditional dual apprenticeship, but with a larger proportion of general education content provided in vocational schools, the so called 'vocational middle school' (*Berufsmittelschule BMS*).

The challenges mentioned above highlighted the need for reform of the existing VET with its dominant dual apprenticeship model. The number of lessons allocated to general culture and knowledge at the vocational school was still very modest. The question of whether the dual model could be relevant as a response to these challenges was raised, with different answers depending on the actors involved. The Swiss Federation of Trade Unions (SGB – Schweizerischer Gewerkschaftsbund) clearly stated: 'the current system of master apprenticeship in its present form no longer meets modern requirements' (SGB, 1971, p. 6). The Swiss Craft Association (SGV – Schweizerischer Gewerbeverband), on the other hand, defended the model unreservedly: 'The Swiss VET system with its emphasis on dual apprenticeship has fundamentally proved its worth. Even with a view to the future development of VET, there are many advantages to maintaining the focus on company-based apprenticeships' (SGV, 1970, p. 12). Nevertheless, both actors agreed on the need to better adapt VET to the new challenges of the time. In particular new technologies and new forms of

production and services were leading – as it was perceived – to an intellectualisation of occupations (Kern & Schumann, 1970).

Hans Dellsperger, head of the VET department at the Federal Office for Industry, Vocation and Labour (BIGA) in the 1960s stated:

> Modern production processes require everyone to have more in-depth theoretical and technical knowledge, which is to say that we are heading for a progressive intellectualisation of vocational tasks. (Dellsperger, 1969, p. 370)

Also, Paul Sommerhalder, vocational teacher in Aarau, president of the teachers' association of the vocational schools (SVGU) and an influential expert at the time, emphasised the appropriateness of the dual apprenticeships 'provided that certain innovations can be realised'. The 'increasing intellectualisation' of work and vocations must be taken into account and 'training must be significantly improved through more effective methods and organisational measures' (Sommerhalder, 1970, p. 19).

Of course, more cautious voices have also been raised in favour of overhauling dual apprenticeships to meet the need for more extensive general content. Hans Chresta, head of the Zurich Cantonal Office for VET warned against an 'over-intellectualisation of VET', based on a stronger role played by the schools. For Chresta the traditional apprenticeship must continue to play its role in training managers in technical professions:

> […] educational models […] are being developed that also consider school-based education with some practical experience to be sufficient for managers in technical companies, although exponents of the industry […] believe that the path to a management position leads through a dual apprenticeship. (Chresta, 1970, p. 6)

Hans Chresta plead instead for 'a more systematic, basic introduction to the profession' (Chresta, 1970, p. 7). On the whole, there was a consensus that more time was needed in vocational schools for everyone, to increase the theoretical and general culture content. Consequently, one of the claims of the SVGU was to widen the mandatory school attendance in general. As, again Paul Sommerhalder and others pointed out, especially for mechanics, electricians, designers, and printer apprentices a third half-day (i.e., an increase from 8 hours to 12 hours of weekly school attendance) was urgently needed. But schools also should provide more options for other apprenticeships. The main subjects to be expanded were mathematics and science but also foreign languages, economic knowledge, and techniques of learning and working (Sommerhalder, 1971).

The claim to broaden general knowledge and school-based learning in VET encouraged considerations to differentiate initial VET in three different programmes: a demanding programme with more theoretical content for strong learners (the BMS certificate), a regular programme equivalent to that already in place, and a more practical programme with less theoretical content for young

people with poor school capacities. This differentiation of school programmes for stronger, regular, and weaker learners in VET was thus precisely defined alongside the question of more or less academic content, which meant a larger dose of general knowledge for 'gifted' learners and a smaller amount for 'weaker' learners.

Fritz Grossenbacher, Director of the Berne Vocational School, pointed out at the annual meeting of the SVGU in Aarau (1967):

> The newspapers in Aargau talk about the stew of the vocational school as a fading meal. Unfortunately, this is true. As long as there is no attractive intermediate stage between the unskilled and the qualified skilled worker, we will have to serve it and spoon it up, in the classroom and at the final apprenticeship examination. (Grossenbacher, 1967, pp. 193–194)

The trigger for such a debate was a claim in the same year put forward by the association of baccalaureate teachers, who seriously discussed the creation of a new school for technical middle managers, based at baccalaureate schools. Lajos Nyikos, the man behind this proposal, put it this way:

> There is a significant gap between baccalaureate school and VET. We proposed to fill this gap with a school for 'middle managers'. This school should offer learners whose talents and career goals suggest a more advanced education […] and at the same time prepare them for a profession. (Nyikos, 1967, p. 32)

Although the perceived shortage of qualified technical personnel was widely shared, the idea of locating such a programme in baccalaureate schools provoked considerable dissent. In particular, some members of the Vocational School Teachers' Association (SVGU) did not hesitate to describe such a proposal as the wrong way to adapt to the possibilities of industry and work ignoring 'the requirements of practical learning' (Keller, 1967, pp. 50–51). This reaction was also marked by the fear that this programme for the qualification of technical personnel would be too much oriented towards general contents and not sufficiently oriented towards the requirements of the world of work, which only a programme within VET could guarantee. So, Paul Sommerhalder and his colleagues responded immediately by suggesting an alternative that would integrate more academic subjects in a programme proposed within the VET domain.

From these reflections emerged the so called 'Aarau'-model which was designed as a three-part track model in vocational schools: 80–85% should follow regular VET programmes, a more practical oriented programme was intended for about 10% of the apprentices, meanwhile 5–7% should enter a higher level of vocational schooling with larger general knowledge content. This more academically oriented track was later cold 'vocational middle school'. It would also be in the interests of VET to be attractive to 'gifted learners', as stated by

Hans Dellsperger, representing BIGA, which is supporting this pioneering project:

> If commercial and industrial apprenticeships are to attract to intelligent young people in the future, they must be able to offer them something. Promoting talented young people at the apprentice level is therefore becoming a task to be taken seriously. (Dellsperger, 1968, p. 194)

When Lajos Nyikos noticed that the SVGU was quicker in realising such a project of such a new vocational middle school, first in Aarau and then in other places, he congratulated his vocational school teacher colleagues. As he wrote in a letter to Fritz Grossenbacher:

> I am convinced that the vocational middle school as part of the vocational school is a big step forward. If it is implemented, we will have achieved more overall than with any reforms at baccalaureate schools […] I have just received Paul Sommerhalder's submission to the BIGA, I can congratulate you wholeheartedly. (Nyikos, 1969, [p. 1])

At the same time Fritz Grossenbacher wrote, after having convinced a great number of VET school teachers and other actors, including the BIGA, in a letter to Paul Sommerhalder: 'The battle has been fought. We have our vocational middle school' (Grossenbacher, 1969, [p. 1]).

This new 'vocational middle school' was launched in Aarau in 1968. The programme was aimed in particular at 'gifted' learners with a stronger academic profile. The new name 'Vocational Middle School' (in german: *BMS* – '*Berufsmittelschule*') was not coincidentally a reference to the existing (and newly founded) middle schools, which beside the traditional baccalaureate schools exactly provided learners with broader general knowledge. Practical training in company and lessons at school remained, but the general curriculum was extended, particularly in the teaching of languages, mathematics, and natural sciences. The orientation of such a vocational school towards academic subjects is remarkable in so far as, despite the orientation towards higher technical schools, the additional subjects were mainly not technical subjects, but – as in the baccalaureate schools – general culture and propaedeutic knowledge, which were to equip the learners with the ability to study.

A crucial point that made this new certificate interesting was the question of access to higher vocational technical schools (*HTL – Höhere Technische Lehranstalten*). Although the BMS did not include any additional technical content, some HTLs waived their entrance exams for BMS holders and granted direct access to their schools. In the end, however, the entrance requirements for HTLs were negotiated locally.

Paul Sommerhalder, the initiator of the Aarau model and the driving force behind the this new programme, was commissioned to develop a similar pathway from the BMS to the HTL and other technical colleges in the canton of

Zurich. In the 1980s, this BMS model, including the possibility of continuing on to technical colleges, spread to other Swiss regions.

> With the approval of a four-year trial phase for vocational schools, the authorities, industry and commerce are demonstrating their willingness to reform vocational education and training and to pursue an active and timely policy for the next generation. (Sommerhalder, 1971, p. 33)

The creation of this supplementary school programme ultimately served two purposes: on the one hand, it responded to a real need for more 'academic' profiles that were also trained in the vocational stream; on the other hand, it was also intended to provide a 'real' alternative to the existing middle schools (Chresta, 1970), aimed explicitly at young 'gifted' learners who would otherwise have opted for the baccalaureate.

However, the placement of the BMS within the vocational system did not prevent baccalaureate school reformers from creating alternative vocational programmes for pedagogical, social, artistic, and para-medical professions that were integrated into the baccalaureate schools. These so-called 'diploma middle schools' also offered a more general education before starting or complementing a vocational programme in these professions, which at the time were not regulated by the BIGA (Criblez, 2003).

The second wave of academisation 1990–2000

In the 1990s, the demand for a highly skilled labour force beyond national borders regained momentum. This debate gave impetus to a second wave of academisation of VET which was more focused on structural reforms. The OECD report on Swiss education, first published in French and then translated and edited by the cantonal representants of education (EDK), analysed education policy in the light of internationalisation and technological change. The experts identified a need for reform in Switzerland, particularly in VET but also in higher education. One of the concluding remarks also stated, that the BMS should be further developed (EDK, 1990, p. 133). Other analyses of the future of the Swiss economy in the early 1990s, such as the influential paper by the Working group on regulatory policy, a group of economists with a neo-liberal agenda, also argued for a boost to education and in particular VET (De Pury, 1992, p. 18).

In the same year, 1992, the Swiss Council of Sciences (SWR) published 13 theses arguing for reforms, in particular the transformation of higher vocational education institutions into universities of applied sciences (UAS). The ('classical') universities should be kept stable and not expand too much, and a new type of higher education at tertiary level should emerge: the UAS. They recommended a new 'vocational baccalaureate' based on VET programmes as a form of regular access. The number of students in the new vocational baccalaureate courses

should also catch up with the number of graduates from baccalaureate schools (SWR, 1992).

In addition, the Federal Office for Economic Issues (*BAK – Bundesamt für Konjunkturfragen*) argued that the VET system should significantly improve general education, reduce over-specialisation, and establish a higher level of vocational education, similar to the baccalaureate (BAK, 1992, p. 39).

Another important player in the debate in the 1990s was the newly founded Directors' Association of Engineering Schools (DIS) which was pressing for international recognition of Swiss technical diplomas awarded by the HTL. In order to be competitive in an international market, the HTLs should be given a status similar to that of tertiary-level engineering institutions in other countries (Kiener & Gonon, 1998). In order to achieve this international recognition, however, it was essential that access to these higher education institutions should be secured via a baccalaureate diploma. This kind of internationally based argumentation aimed at developing a nationwide higher education system on a tertiary level, which should be based on a vocational baccalaureate, as an ad hoc working group including stakeholders from VET and engineering schools claimed (Arbeitsgruppe Schnittstelle BMS/HTL, 1992).

As we can see, different actors argued for the same reform options which included the establishment of a nationwide Federal Vocational Baccalaureate (FVB), not just for technical education but for all professions which could be studied at Universities of Applied Sciences (UAS). These new universities of applied sciences would emerge from the existing technical and commercial higher vocational schools. Here we can clearly see that academisation was no longer limited to a question of content in vocational schools, as in the previous wave, but included more comprehensive reforms at a structural level.

The establishment of a federal vocational baccalaureate was seen as playing a key role in access to UAS. The aforementioned *Berufsmittelschule* (*BMS)*, which had already existed since the 1970s, were in a pole position here. These schools were initially regulated in 1970 by a 'Guide for running and organising Vocational Middle Schools', which very roughly described a framework for such a school. The final qualification was defined as an examination certificate (BIGA, 1970, p. 7). In 1983, two further amendments of the BMS guide followed, which specified certain requirements for the organisation of teaching, curriculum, and examination. Nevertheless, the BMS did not make any real progress in terms of numbers between the 1970s and the 1990s. In 1990, only just under 3% of VET learners were enrolled in such a course. One problem was the scattered implementation in different places and occupations. A more serious deficit was the lack of a binding and generally recognised qualification: only some HTLs and other higher vocational and commercial institutions accepted the BMS certificate

as a sufficient access requirement without further examinations. The stagnation of the BMS was therefore obvious (Martin-Jahncke, 1997, p. 13).

For this reason, the first intention of the VET stakeholders was to establish a regular – and exclusive – entrance certificate to the UAS with the already existing BMS certificate. On the other hand, the priority of the Directors' Association of Engineering Schools, which represented the HTLs, was to improve their status vis-à-vis technical universities. The DIS was reluctant to rely solely on the BMS, as it was sceptical about the quality and level of this certificate (Kiener & Gonon, 1998, p. 33). The representatives of the HTLs and the DIS were therefore also in favour of accepting learners from the traditional baccalaureate schools for the forthcoming UAS (see DIS, 1990). At the same time, they demanded to get out of the VET legislation and to create a specific law for themselves (Oberle, 1987). These two perspectives were confronted with each other rather harshly and led to a stalemate between the actors from the BMS and the engineering schools (see Arbeitsgruppe Schnittstelle BMS/HTL, 1992).

In the early 1990s, it was the EDK that paved the way by supporting the creation of UAS and the introduction of a federal vocational baccalaureate (FVB) as a prerequisite for admission. The technical professions initially played a pioneering role in the development of the FVB and the UAS. The new vocational baccalaureate, which was first introduced for technical professions and later for commercial and other professions, included more general education, with a strong element of regular practical learning in the workplace. The main purpose was to prepare young people for studies at UAS level without leading to a general 'academisation' (Gieré, 1993).

However, the formal requirements, including the amount of general education required to complete a BMS, were fiercely contested by stakeholders such as DIS and VET policy-makers. Nevertheless, a revised regulation for BMS schools was approved by the federal authorities in 1993 (Kiener & Gonon, 1998, pp. 43–50). It was in this 1993 regulation that the term 'vocational baccalaureate' was first coined as a regular diploma certifying the qualifications required for direct access to UAS. The text provides the regulatory framework for four streams (technical, commercial, design and art, but also for work in SMEs and services).
Nevertheless, concerns expressed by the public about the quality of the VET provision to prepare learners for higher education remained until evaluations did confirm that the quality of BMS was sufficient for entry to UAS (Gonon 2017, p. 349).

The development of the FVB and the rise and dynamics of the UAS can be described as a success story. FVB degrees and UAS students have increased in recent decades to establish themselves as a real alternative to the traditional academic route. More or less one of four VET learners is joining a FVB programme (Häni & Kriesi, 2022). Insofar the FVB has been established as an

attractive alternative beside the traditional baccalaureate and the regular VET program (Jäpel, 2016). Today it is out of question, that even with a smaller – compared to traditional baccalaureate schools – amount of general knowledge, the FVB nevertheless provides a sufficient basis for studying on a higher education level (Gonon, 2017; Gonon & Zehnder, 2018).

Conclusion

In the light of historical institutionalism, we can say that, with the FVB and the UAS, new educational institutions have emerged. Academisation as an institutional process of balance and reproduction has led to a new VET system, that is more permeable, especially towards HE. In addition to regular apprenticeships, a significant proportion of learners are now enrolled in FVB tracks, either as part of their apprenticeship or immediately afterwards. These reforms promoted the hybridisation of VET and higher education 'as a specific combination of institutional elements from the two organisational fields of VET and HE' (Graf, 2013, p. 14).

Our historical reconstruction has shown that this evolution was achieved in two waves of academisation: a first wave was driven by an analysis of future challenges that seemed to confirm the view that an increasing intellectualisation based on technology and cultural changes in the workplace, economy, and society was underway. In this wave the gifted learner was in the foreground. She or he should get more general education by completing an apprenticeship.

The debates in the first wave were mainly internal discussions driven by VET teachers and VET school principals within VET. In the second wave we can see a range of actors involved in establishing a new pathway directly through VET to the higher education system. Thanks to the successes of the first wave, issues related to academic content were discussed differently. Access to higher education (HE) was now compared to the traditional baccalaureate programme (Gonon, 1994). Nevertheless, questions about the structure and organisation of the pathway from VET to higher education were at the forefront. The second wave was fuelled by economic and political appeals. In order to be competitive on a global scale, the VET system as such should be transformed into a vessel for recruiting a highly skilled workforce. The main drivers were the technical and engineering schools, which had long argued in favour of stepping up efforts to increase the number of qualified technicians and engineers. The effects of this second wave are major changes in the structure of the Swiss education system, with the FVB and UAS coming in between the vocational streams on the one hand and the general streams on the other.

In terms of 'academisation' the second wave led to a further differentiation of the education system and also increased the potential of learners to study at a

higher education tertiary level. All in all, the reforms, mainly based on FVB and UAS, are now seen as a success story. Starting with an apprenticeship and obtaining a certificate that allows one to enter the world of work and/or to continue studying at tertiary level is now seen as a valuable asset that makes the FVB, and more generally the vocational sector as a whole, attractive. The FVB and the UAS have been accepted by the learners, by politicians, and even by companies.

To conclude our article, we can distinguish between, on the one hand, academisation as a *policy*, as a general *trend*, that has gradually modified and strengthened the legitimacy of the VET system in Switzerland, and, on the other hand, the *public debate* on academisation. Although the reforms that have been initiated within and outside VET have been approved and largely welcomed by various actors in the Swiss education system, there is still a fear in a part of the population and especially among some VET actors, of an overdose of schooling that would alienate young learners and reduce the attractiveness of VET. Academisation is here perceived as a threat and a danger which would lead to a reduction of the importance of the traditional VET system. In such a perspective, the move of education policy and the growing trend of learners towards academia is not seen as a complementary enrichment of VET, but as ruinous competition that ultimately undermines the position of VET (Strahm, 2014). Also, employers' associations plead to avoid an increase in baccalaureate rates, which would diminish at the same time the role of VET (Economiesuisse, 2022, p. 5). In this respect, the term 'academisation' expresses also a blind spot in the reform of VET that keeps alive the debate about the intended and unintended consequences of educational reforms.

Endnote

[1] The empirical basis of this article – regarding the first wave of academisation – was part of a SNF-funded study conducted under the supervision of Lorenzo Bonoli and Philipp Gonon: 'L'évolution de la formation professionnelle en Suisse entre cadre fédéral et différences cantonales. Les années charnières de 1950 à 1970' (Swiss National Science Foundation, PN 100019_179203).

Notes on contributors

Philipp Gonon is an emeritus professor of Vocational Education and Training at the Institute of Education at the University of Zurich. His main focus is on the development of vocational education and training systems, institutional history in Switzerland and the history of ideas relating to general education and vocational education and training.

Lorenzo Bonoli is a professor at the Swiss Federal University for Vocational Education and Training (SFUVET), Renens, where he conducts research activities on the evolution of the Swiss VET system, international comparisons, and international collaboration within the domain of VET. He is also head of the Master of Science in VET programme at SFUVET.

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Academic drifts in vocational, professional, and continuing education: A multi-perspective approach for the case of Switzerland

Jörg Neumann[1], Thomas Ruoss[1] & Markus Weil[2]
[1] Swiss Federal University of Vocational Education and Training, Switzerland
[2] Zurich University of Teacher Education, Switzerland

(joerg.neumann@ehb.swiss)

Abstract

In this article, we examine the phenomenon of 'academic drifts' within vocational education. Our objective is to gain a well-informed epistemic understanding of various aspects of academic drifts, considering their complexity and enabling meaningful conclusions. By heuristically exploring three different cases at their systematic, institutional, and functional levels, as well as temporal junctures of the Swiss education system, we show the different developments in the distribution of vocational and academic education, leading to a broader and less simplistic understanding of ongoing academic drifts. The cases under study cover three areas of vocational education in which we want to empirically identify aspects of academic drifts: vocational education teacher training, professional education and training, and continuing education and training at universities. We find that all three cases show different variations in academic drifts within the same education system, which is why we deliberately speak in the plural. According to our thesis, these drifts create different areas of tension for vocational education: academic drifts appear as external and internal tertiarisation, formalisation of qualifications and competences, and marketisation trends in education. The Swiss education system serves as an example, demonstrating that even in a country with a strong focus on vocational education and measures to support it, intended and unintended academic drifts take place within and around vocational education.

Keywords: vocational education and training (VET), VET teacher training, professional education and training, continuing education and training, academic drifts, universities, Switzerland

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Introduction

The changing dynamics of technology, economics, and society demand that national education systems adapt to ensure that students obtain the necessary knowledge and skills. Contrary to the fear that the importance of vocational education is declining compared to general education, the expansion and development of vocational education and training (VET) at higher levels in the sense of academic drift is seen as an opportunity. This applies both to the status of vocational education and to the development of general education in our knowledge society (Cedefop, 2020). This article aims to provide a well-informed epistemic and heuristic approach to the areas of tension in academic drifts by examining different perspectives within one education system: Switzerland's vocational education system.

Academic drifts in their heterogeneity have been a topic of initial VET (Cedefop, 2019; Kriesi et al., 2022). Considering the multifaceted nature of vocational education, we analyse three additional key areas that were exposed to various academic drifts: the training of VET teachers at the tertiary level (VET TT), professional education and training (PET) at the tertiary level of the education system, and continuing education and training (CET), officially positioned outside the formal education system, in our case offered by universities. While VET TT, PET, and CET represent different parts of the education system, they share a common characteristic: they are not principally categorised as academic education. This is surprising because in Switzerland, the tertiarisation of teacher training, the founding of universities of applied sciences (UASs), and the greater formalisation of continuing education have taken place with the Bologna and Copenhagen Processes since the early 2000s (Bieber, 2016; Cedefop, 2023; Eberle et al., 2009; European Commission et al., 2024). Following Forneck (2011), we can distinguish between internal tertiarisation and external tertiarisation. The foundation of new types of universities (of applied sciences and of teacher education) has been an act of external tertiarisation. Identifying fully as a university with its functions and staff would be an act of internal tertiarisation, which takes much longer and involves processes and functions within that institutional external tertiarisation.

In the sense of tertiarisation, academic drifts are inherently linked to their specific contexts. Our multi-perspective approach aims to underscore some general aspects of recent developments in vocational education. Depending on the level under consideration, the specific interests of stakeholders or the relationship to alternative educational pathways, it is imperative to recognise academic drifts in their varied forms (Cedefop, 2020). These drifts converge on formal education at universities, evident in their alignment with them, imitation of their structures, or the requirement of corresponding degrees. Consequently, academic drifts cannot be reduced to a simplistic model because they stem from

diverse causes, yield distinct consequences, and hold different values contingent upon their contextual nuances (Deissinger & Gonon, 2016; Markowitsch & Hefler, 2019). Our understanding of academic drifts is based on the preliminary work of Cedefop and its structuring of VET into three perspectives: education system, epistemological/pedagogical, and socioeconomic/labour market perspective (Cedefop, 2020; Markowitsch & Bjørnåvold, 2022).

Methodological approach and outline

In Switzerland, there is a lively debate regarding academic drifts within vocational education (Baumeler, 2021; Kriesi et al., 2022; Kriesi & Leemann, 2020; Neu & Elsholz, 2022; Osbahr, 2023). Each of the three cases under analysis represents distinct and significant shifts in the landscape of vocational and academic education across different educational levels and time frames. These cases are embedded within multifaceted contextual factors, including changes in workplace practices, labour market demands, economic conditions, and responses of the education sector to these transformations (Elsholz, 2014; Klebl, 2015).

We emphasise the importance of gaining a deeper understanding of vocational education within a distinct context to facilitate informed decision making, enhance clarity in (comparative) research, and elucidate the limitations of each individual perspective. By focusing on the systematic, institutional, and functional levels, we conduct a streamlined analysis that uncovers specific synergies and disparities among three cases to ensure a comprehensive exploration of academic drifts within the Swiss vocational education system. We base this on the Cedefop (2020, pp. 30–31) analytical model described above and derive three areas of tension from it.

The three case analyses originate from three different projects of the authors. Methodologically, they are based on document analyses and the evaluation of register data (publicly available statistics). Thus, this article is not based on a standardised data corpus but on a comparative analysis of the results of these three projects. It is only through this multi-perspective approach that the individual cases can be related and their significance for the areas of tension of academic drift in the Swiss system can be identified.

The three cases are described briefly as follows:

Case 1 – VET TT and academic drift: A strong academic drift of VET TT has been evident in the past two decades in the sense of a tertiarisation of educational institutions (Ruoss & Imlig, 2023). The pedagogical training of VET teachers today takes place at universities. Nevertheless, this academic drift remains clearly limited in terms of the meaning of VET teacher qualifications. Such an academic drift within VET TT conflicts with an image of VET teacher

professionalism primarily combined with professional-technical knowledge and skills (see the centre of Figure 1).

Case 2 – Shifting dynamics in PET: With the transfer of colleges of higher education into UASs, a noticeable academic drift of professional education towards universities has taken place. This has resulted in the decreased relative importance of PET at the tertiary level, falling behind its main competitor – UASs – as well as traditional universities and universities of teacher education (Kriesi et al., 2022). The orientation of PET and UASs towards traditional universities will likely continue, followed by additional titles in PET, mimicking university titles, and the introduction of a third cycle at UASs (see the upper left part of Figure 1).

Case 3 – Academic drifts in CET: In the last two decades, universities have formalised CET programmes and positioned them in the 'education market' (Weil & Eugster, 2019). These academic drifts of CET at universities show the competing forces of opening formal programmes of higher education by means of CET and, at the same time, formalising structures and qualifications, which keep access and permeability limited (see the upper right part of Figure 1).

As demonstrated in the aforementioned three cases, academic drifts should not be understood as a homogeneous development; rather, they create tensions and asynchronies. In this article, we conclude with these tensions and asynchronies as a potential for balancing academic drifts as external and internal tertiarisation, as formalisation of qualifications and competences, and as economic and pedagogical approaches for education because only with appropriate contextualisation can we genuinely discuss the aims, developments, and impacts of academic drifts in vocational education.

Contextualising vocational education in Switzerland

In the examination of academic drifts as an international phenomenon, the Swiss case holds significant relevance from a comparative standpoint; it is widely regarded as prominently illustrating a robust dual VET system that has successfully resisted the global trend towards academisation. The Swiss dual VET system receives worldwide attention from countries that would like to strengthen their respective (dual) vocational education systems to experience a lower level of youth unemployment (Kriesi et al., 2022).

Figure 1 locates our three cases of academic drifts in the stratified Swiss education system.

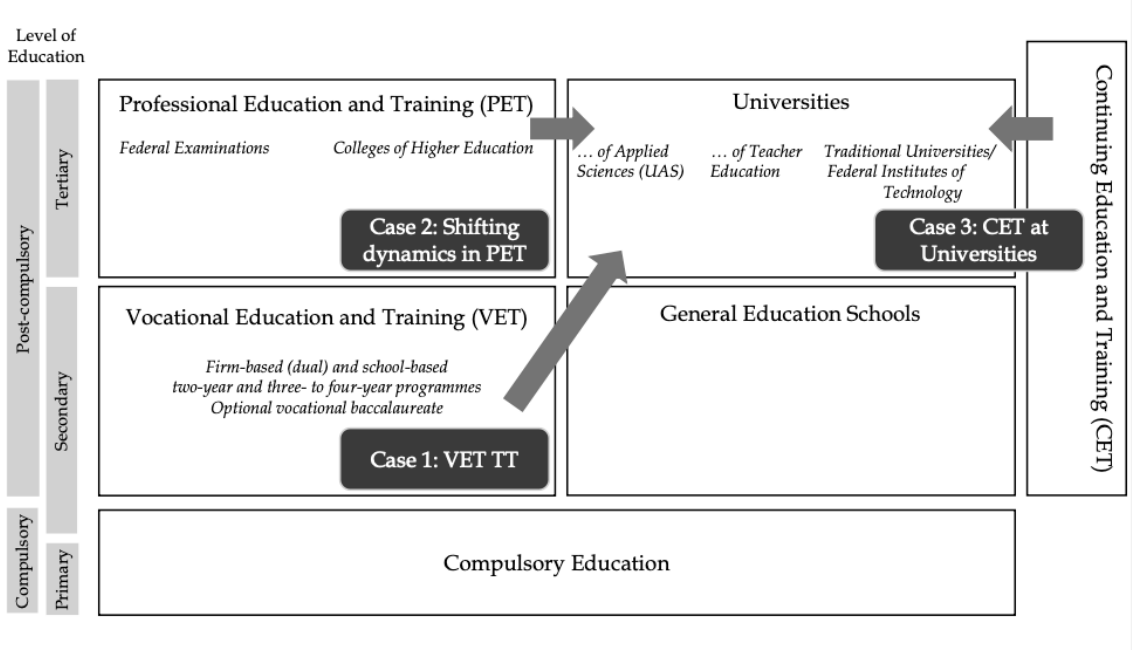

Figure 1. Three cases of academic drifts located on a sketch of the Swiss education system (source: own elaboration; SERI, 2019).

After completing six years of primary school and three years of lower secondary school subdivided into several tracks (compulsory education), most young learners enter post-compulsory education at the upper secondary level (SCRE, 2023, p. 113; see Figure 1). Approximately two-thirds of students engage in dual VET within companies, while 7% are enrolled in a school-based VET programme (SERI, 2023). The remaining third selects from general education pathways offered at baccalaureate schools, which confer the academic baccalaureate, or specialised schools providing both the specialised school certificate and specialised baccalaureate. Additionally, proficient apprentices enrolled in three- and four-year VET programmes leading to a Federal VET Diploma may pursue a Federal Vocational Baccalaureate (FVB). This qualification integrates VET with broader general education at vocational baccalaureate schools. At the tertiary level, there are different education pathways in the form of PET, UASs, universities of teacher education, and traditional universities along with federal institutes of technology.

In summary, as Figure 1 shows, Switzerland has a vertically and horizontally stratified education system. The educational levels can be distinguished vertically in compulsory and post-compulsory – or primary, secondary, and tertiary – education, as can be seen on the left. At the secondary and tertiary levels, the formal education pathways are subdivided horizontally into VET and PET (left centre) and general and university education (right centre). Alongside

these, there are non-formal education and informal education, indicated by CET on the right side of Figure 1.

The three cases can be contextualised in the Swiss education system: Between VET at the secondary level and university education is *VET TT*. There are diverse pathways to becoming a VET teacher, whether through a vocational or an academic route. In any case, there is a clear distinction between subject-specific and didactic-pedagogical knowledge. Subject-specific knowledge can be acquired through all tracks, depending on the subject. In the 'Swiss model', it is essential to note that all VET teachers typically teach for up to five years before acquiring didactic-pedagogical training and attaining qualification as permanent VET teachers. To secure a permanent full-time teaching position after this initial period, a didactic-pedagogical qualification comprising 60 European Credit Transfer and Accumulation System (ECTS) credits must be obtained from a university of teacher education, with different criteria applying for FVB teachers and part-time instructors (Barabasch & Fischer, 2019; Ruoss & Imlig, 2023).

Individuals holding a Federal VET Diploma but neither acquiring the FVB nor becoming a VET teacher can opt for *PET*. This can take the form of federal examinations or can be pursued at colleges of higher education. The latter option permits direct entry for graduates possessing a specialised school certificate. UASs welcome holders of the FVB or individuals with an academic or specialised baccalaureate, provided they demonstrate a certain level of work experience. Access to traditional universities is restricted to those with an academic baccalaureate, while universities of teacher education require either an academic or specialised baccalaureate.[1]

CET is positioned outside the formal education system as non-formal and informal education (SERI, 2019; see Figure 1). Various providers — also universities — offer non-formal CET programmes. However, the main part of CET can be considered as existing outside universities, being offered as non-formal programmes or perceived as informal education, such as in workplaces. Continuing education is part of the four service areas of universities – together with study programmes, research, and services – and has become part of the systematic and institutional frameworks (Schweizerische Eidgenossenschaft, 2019).

VET TT and academic drift

One aspect often overlooked in a systemic analysis of VET is the preparation and certification of 'VET professionals' who train and teach apprentices. This encompasses vocational trainers within companies and teachers at vocational schools, on which we concentrate specifically here. As our first case, therefore, we look at teacher training and academic drifts in VET. The (dual) VET system

primarily emphasises a substantial amount of practical experience, with apprentices typically spending three to four days a week engaging in productive activities within companies under the guidance of their vocational trainers. While minimum pedagogical qualification standards of at least 40 hours are required for these trainers, they do not align with any discernible academic drift. However, the scenario differs somewhat for teachers at vocational schools.

Reform of VET TT

Since the revision of the VET Act in 2004, there has been a significant elevation in the qualification requirements for teachers at VET schools (Barabasch & Fischer, 2019; Gonon, 2019). Consequently, at a formal level, we can observe an academic drift within VET TT over the past two decades. As a result of this revision of the VET Act, dual VET in Switzerland experienced a phase characterised by questions regarding the coordination and recognition of diplomas for VET teachers. Simultaneously, new providers emerged in VET TT, introducing competition for existing degree programmes. Since the 1990s, former teacher colleges (for compulsory schools) situated at the upper secondary level have transitioned into universities of teacher education. VET TT followed this development about a decade later with the VET Act revision.

In contrast to the situation before the revision of the VET Act in 2004, wherein the Swiss Federal University for Vocational Education and Training had predominantly overseen the qualification of teachers at vocational schools since 1972 (Baumeler, 2021; Straumann, 1997), numerous new programmes have been established in various universities of teacher education. At the same time, the number of available study places to become a VET teacher has increased. This proliferation of training programmes at diverse universities of teacher education has been perceived as competition, sparking concerns about a decline in performance standards, a phenomenon colloquially termed a 'race to the bottom' (Caduff, 2010). However, with the transformation of former teacher colleges into universities of teacher education, the adaption of VET TT after the revision of the VET Act in 2004 and, therefore, the recognition of their diplomas and their adherence to the Bologna standards (modularity of training and the allocation of ECTS points) were eventually ensured.

Viewed through the lens of institutional development over the past two decades, VET TT can be said to demonstrate an academic drift. Since 2004, training has been regulated by national framework curricula and offered by universities of teacher education, which compete for programmes and students. However, if we look at the qualifications of the VET teachers currently engaged in initial VET schools, a different picture emerges.

Qualification level of VET teachers

A distinctive aspect of the qualification requirements for VET teachers lies in the possibility of catching up on missing qualifications up to five years after entering the teaching profession (Barabasch & Fischer, 2019). Most universities of teacher education even define an active teaching position as an entry requirement for their study programmes. The didactic reason for this model is, on the one hand, the direct application of theoretical knowledge learned in practice. On the other hand, this model is based on a market rationale: teacher training programmes aim to admit only those who have already demonstrated success in the job market rather than training teachers 'in reserve'. This approach structurally limits the potential for academic drift among VET teaching staff and aligns with market-orientated rationality. VET teachers' expertise is primarily associated with professional-technical knowledge and skills, to which pedagogy is subordinate.

Two key observations illustrate the preceding rationality, which we briefly discuss: 1) the subsequent qualification of teachers who no longer meet all requirements after the revision of the VET Act in 2004, and 2) the current empirical landscape regarding the qualification of VET teachers.

1) In November 2010 the first and only study programme in Switzerland was launched with the aim of establishing a specific retrospective qualification for existing VET teachers (Bühler, 2017). This initiative was undertaken on behalf of the federal government to elevate teachers at vocational schools to the level of qualification in vocational education prescribed since 2004. A survey commissioned for this purpose identified a need for over 1,300 teachers not adequately qualified in German-speaking Switzerland (Zufferey et al., 2011). As part of this initiative, 213 teachers were ultimately requalified between 2010 and 2014. However, in relation to the identified need in German-speaking Switzerland alone, this qualification effort reached only a comparatively small proportion of the target group (213 out of about 1,300, or 16%).

   How has the situation developed in the meantime, and what does it look like today?

2) A corresponding cohort analysis has been carried out recently for the canton of Zurich, which has the most VET schools and apprentices (Ruoss & Imlig, 2023). As part of this analysis, the qualification status and development of over 7,500 VET teachers at 80 VET schools were evaluated. The findings reveal that approximately 40% of all active VET teachers still require further qualifications. This indicates that in the canton of Zurich alone, significantly more teachers at VET schools are still not sufficiently qualified compared to what was assumed in the context of the post-

qualification measures launched in 2010. For teachers with less than five years' teaching experience, this qualification requirement is inherent in the system and is therefore expected. However, it is surprising that approximately 83% of these new teachers fail to acquire the necessary qualifications within this initial five-year period. Moreover, 56% of all teachers who commenced teaching in 2014 were no longer employed at vocational schools within the canton five years later. This suggests that only a small fraction of new VET teachers pursue teacher training programmes and obtain the requisite teaching diplomas, and it indicates that teaching in VET is only a short-term activity that people engage in while pursuing a different career. This also means that around 30% of VET teachers who have been in the profession for more than five years are still not sufficiently qualified. Although empirical evidence is lacking, it is reasonable to assume that there are limited incentives and minimal pressure driving teachers towards the pursuit of academic qualification, as required by law. This observation raises concerns that the market-orientated rationality may be undermining legal mandates.

VET TT between academic drift and market rationale

In summary, the role of academic drift in VET TT within the Swiss context can be pictured as follows: The Swiss model of VET TT is characterised by an academisation of the few and by a workforce reservoir of the many. The extent of the academic drift appears to align with the rationale of the market for VET trainers. The 'Swiss model' is characterised by the possibility of teaching for a long period without full qualification and a high fluctuation of (partially) unqualified teachers. This flexibility serves to mitigate teacher shortages but does not necessarily enhance the quality of teaching or elevate the status of VET schools.

Looking ahead, the pace of academic development within VET TT appears to remain relatively moderate despite expectations of growth in apprenticeship training and vocational schools in the coming years in Zurich and in Switzerland as a whole (BFS, 2020; Imlig et al., 2021). In VET TT since 2004, qualification initiatives, institutional shifts, and market forces have significantly influenced the interpretation of academic drifts. If we compare the ideal-typical 'Swiss model' of VET TT with the actual status of qualification, we could speak of unfinished academisation on the ground. Empirically, the academic drift was effectively slowed down by the recruitment practices of the schools and the behaviours of the VET teachers.

Shifting dynamics in PET

Our second case examines academic drifts in and around PET. This section addresses several key aspects. First, it addresses the past developments regarding the number of qualifications at the tertiary level, comparing the four main types to each other. The second and third points consider the previous introduction of UASs and the FVB. The fourth point provides an outlook on the titles of PET degrees and on awarding PhDs.

Number of qualifications in tertiary education

As mentioned above, PET has lost its dominant position at the tertiary level compared to universities, while UASs have become more important, and the importance of traditional universities and universities of teacher education has remained stable. One measure of this trend is the number of qualifications at the tertiary level.[2] Although the absolute number of PET qualifications almost doubled (at a low level) between 2000 and 2010, it then grew only slightly until 2015 and has remained the same since then (BFS, 2022a). Importantly, the share of PET qualifications among all tertiary qualifications combined decreased from 60% in 2005 to 48% in 2019. On the contrary, the share of UAS qualifications almost doubled from 13% to 22% during the same period. Meanwhile, the share of traditional university and university of teacher education qualifications has remained relatively constant, at around 30%. Thus, while PET itself has not decreased, it has lost relative importance due to the expansion of all types of universities, particularly UASs (Kriesi et al., 2022).

The development would appear even less favourable for PET when considering foreign students who obtain their university entrance qualifications from general education schools abroad. They have been one of the primary, if not the single most important, driving forces for expansion at traditional universities. Their share of qualifications at universities has increased from 10–16% to 14–19% at the bachelor's level and has doubled from 12–15% to 28% at the master's level. However, their share in PET has remained at around 10% at both levels (bachelor's and master's), professional or equivalent (BFS, 2022a). Not even the COVID-19 pandemic could change this trend (BFS, 2022b).

According to official forecasts until 2029, the trends observed over the past two decades are expected to continue in the coming years, drawing a less favourable outlook for colleges of higher education (BFS, 2021). The academic drift described above has been facilitated by two key moments, which are explained in the following sections. A look at two ongoing debates then outlines future developments.

Introduction of UASs

Until the mid-1990s, VET graduates had limited options for pursuing further education at the tertiary level, primarily through colleges of higher education as part of PET, alongside the Federal PET Diploma and Advanced Federal PET Diploma examinations (Wettstein et al., 2017, p. 60). However, VET graduates were given another opportunity for continuing and academic learning (BBT, 2009). With the introduction of the new UAS Act in 1995, Switzerland underwent major reform at the tertiary level. This political reform united 58 — but not all — colleges of higher education and turned them into seven UASs, thereby transitioning them from professional education to university education (Wettstein, 2020, pp. 44–45). Consequently, many UASs that were once part of PET are now clearly well-established parts of university education. Presently, there are nine publicly funded UASs and one private UAS, with around 78,000 students enrolled at the bachelor's and master's levels combined (SCRE, 2023, p. 256). This contrasts with 27 universities (of teacher education), with an approximate total of 155,000 students enrolled (SCRE, 2023, pp. 233, 294).

In the early years of UASs, graduates were awarded the title 'Engineer UAS', similar to the previous titles at colleges of higher education. Due to the integration of UASs into the Bologna Process, the first bachelor's programmes were introduced in 2005, followed by the master's programmes in 2008.

Introduction of the FVB as an 'ideal route' to UASs

The development of UASs was significantly influenced by the decisive development at the upper secondary level. One crucial element of permeability between VET and tertiary education was the introduction of the FVB (Wettstein, 2020; Wettstein et al., 2017). The concept of the FVB has its roots in the 1960s (Criblez, 2001) and was designed to provide general education in addition to VET for high achievers (Wettstein et al., 2017, pp. 45–47). In Switzerland, it was officially implemented in 1993 (Wettstein, 2020, p. 16).

The FVB offers VET graduates direct access to UASs in the same field of study, eliminating the need for entrance exams. The number of FVB holders grew significantly in the two decades following the programme's introduction, stabilising at around 14,000 diplomas, accounting for 14% of all diplomas at the upper secondary level (BFS, 2021; Kriesi et al., 2022). Both types of FVB (alongside and after apprenticeship) have similar statistical importance, each responsible for 6% to 7% of all FVBs (Kriesi et al., 2022).

Data indicate that two-thirds of FVB holders seize the opportunity to transition from VET to universities, mainly to UASs (Trede et al., 2020, pp. 12–13). VET and FVB graduates remain the primary target group of UASs, although today there are also students with different backgrounds (SCRE, 2023, pp. 263–264). The established link between VET and UASs via the FVB has enhanced vertical and

horizontal permeability within the Swiss education system. This has facilitated an academic drift and has contributed to the growing significance of newly established UASs. It was one of the driving forces of the academic drift, apart from internationalisation trends and issues surrounding diploma recognition.

Outlook: Colleges of higher education awarding 'Professional Bachelor' and 'Professional Master' titles, UASs awarding PhDs

PET in Switzerland continues to receive widespread support. With the last law reform, it has been embedded at the tertiary level, the same level as university education. However, PET currently finds itself somewhat overshadowed and under pressure due to competition with growing UASs. The relative importance of PET, as evidenced by the number of graduates, has been declining and is unlikely to see an immediate reversal. To bolster PET, there has been ongoing discourse for over a decade regarding the introduction of additional titles, such as 'Professional Bachelor' and 'Professional Master' (SBFI, 2023a; Wettstein et al., 2017, pp. 268–270). This initiative is in line with Germany's introduction of these titles in 2020 (Schneider et al., 2023). The aim of these additional titles is to enhance the visibility, reputation, and comparability of professional education in an increasingly internationalised Switzerland. This reflects a strong orientation of PET towards universities and can be considered an academic drift because it mimics the Bologna titles of universities. However, this commitment to PET regarding the strengthening of its profile is met with some controversy (Euler, 2024). The consultation in the Swiss Parliament cannot begin until 2025, with measures not expected to be implemented until 2026 (SBFI, 2023b).

Regarding UASs, there has been a recent trend indicating a notable shift away from PET and towards traditional universities. Both UASs and universities of teacher education are striving to obtain the authority to confer doctoral degrees, a privilege currently exclusive to traditional universities (FH Schweiz, 2024; SGL-SSFE, 2023). There have been collaborative projects between UASs and universities of teacher education offering a select few UAS graduates the opportunity to pursue a PhD. This incremental process suggests a gradual rather than immediate transition towards full academisation. The ability to grant PhDs would afford UASs and universities of teacher education the opportunity to narrow the reputation gap with traditional universities. Moreover, it would represent a significant departure from their origins as colleges of higher education. While the potential introduction of titles such as 'Professional Bachelor' and 'Professional Master' may enhance the profile of PET, it is unlikely that these titles can match the level of recognition associated with a 'Professional PhD'. Consequently, UASs would hold a considerable advantage over colleges of higher education in terms of prestige and academic standing.

In summary, PET has historically undergone phases of tertiarisation, particularly with the transfer of colleges of higher education to UASs. Nowadays, PET suffers in the competition with its 'relative' UASs because of their remarkable rise and academic drift. Both colleges of higher education and UASs represent the vocational and academic aspects of the education system as well as the market value of qualification, which in turn constitutes a significant area of tension.

Academic drifts in CET at universities

In the third case, we examine academic drifts in CET, which is positioned outside the formal education system and encompasses non-formal and informal education (SCRE, 2023). At the same time, CET can be an institutional part of universities and therefore connected to the tertiary level of the education system. Our goal is to demonstrate that the mentioned aspects of tertiarisation, formalization, and marketisation also occur in CET at universities, and they are relevant for a multi-perspective picture of vocational education.

Internal and external tertiarisation

As mentioned earlier, we can distinguish between internal and external tertiarisation, with CET at universities being a very good example of the latter. CET programmes (not all CET activities) follow the outer tertiary structure of cycles, workload, ECTS points, Bologna Process, etc., which are characteristics of universities. While CET provided at universities is part of that institutional rationale, in terms of the education system, it is still outside the formal education system. Forneck (2011) stated the same for the newly founded UASs and universities of teacher education: founding was an act of external tertiarisation. Identifying fully as a university with its functions and staff is an act of internal tertiarisation, which takes much longer and involves processes and functions. For Switzerland, it could be affirmed that CET at universities has undergone some aspects of external tertiarisation, but not yet a systematisation towards initial higher education.

Formalisation and structuring of CET

All types of universities are broadening their offerings beyond traditional study programmes, such as bachelor's, master's and PhD programmes, to include non-formal CET programmes. These programmes, distinguished by titles such as Certificate of Advanced Studies (CAS), Diploma of Advanced Studies (DAS) and Master of Advanced Studies (MAS), are exclusively offered by universities and are recognised among them. They are institutionally and structurally part of the universities and refer to academic aspects of admission, curriculum and qualification. This relationship indicates a contradiction while widening conceptual

frameworks to encompass CET[3] and, at the same time, formalising CET in an academic way.

Admission to CET programmes typically necessitates a university degree or recognition of an equivalent qualification, initially at the master's level, although bachelor's degrees and *admission sur dossier* are increasingly accepted. The distinguishing characteristics of CAS, DAS, and MAS programmes lie in their specific workload requirements:

- CAS: programmes certified with a minimum of 10 credit points, with each 'ECTS credit' representing a workload of 25–30 hours.
- DAS: programmes with a workload equivalent to 30 credits, which are often a combination of several CASs.
- MAS and equivalent programmes: programmes with a workload of 60 credits. The intention is to eventually standardise extended CET degrees as MASs, with exceptions including the longer Master of Business Administration and Executive Master of Business Administration programmes (swissuniversities, 2020; Zimmermann, 2019).

CET at universities has been progressively formalising the CAS-DAS-MAS system. This is primarily due to the integration of ECTS into CET, although ECTS points from CET programmes typically cannot be credited towards a bachelor's, master's or PhD degree or vice versa. Therefore, there are two separate ways of accumulating credits: one for higher education and one for CET at universities. The structure with three cycles (CAS-DAS-MAS) mimics the internationally recognised university structure of bachelor's, master's, and PhD degrees. As a result, a formal programme such as the Master's in Higher Education programme may be easily confused with the non-formal Master of Advanced Studies in Continuing Education programme. Nevertheless, an MAS is not a graduate degree of universities and does not allow holders to continue with a PhD (unless they already graduated at university master's level).

The formalisation of CET at universities therefore represents a formal academic drift, such as with an ECTS credit system and three cycles of degrees and how this rationale supports the 'trade' in credits or continuing education as a service offering. CET at universities in Switzerland is institutionally and legally regulated, including specified teaching and instruction lessons, along with credits. Nevertheless, the regulations are far less than in the initial study programmes and follow different steering mechanisms. While universities typically adhere to institutional steering mechanisms within an interregional framework, CAS-DAS-MAS programmes are regulated internally by a programme board or the university board. This differs from PET programmes, which follow more structured accreditation processes at the national level. Thus, CET at universities

and PET also have tensions in terms of regulatory boundaries and market access, which in turn lead to different funding mechanisms and market rationales.

Market orientation or marketisation of CET

In addition to the trend towards formalisation, the academic drifts of CET at universities can also be characterised by a shift towards marketisation. This transition emphasises market-orientated aspects as a rationale for education, positioning universities — including CET programmes — as more customer-orientated and competitive and using academic degrees as unique selling propositions. This aligns the higher education system with vocational education by offering programmes relevant to the workforce and leveraging work experience as a valuable resource for academia. However, this intensifies competition with the traditional fields of VET and PET.

While the CET market has historically also considered economic aspects alongside educational goals, in the Swiss context, education at the tertiary level is primarily regarded as a public good and is not driven by market forces. Nevertheless, the trend of offering CET at universities — which has increased with the foundation of UASs and universities of teacher education — has led to a stronger emphasis on financial considerations, exerting pressure for a market-orientated focus in university-based CET.

From the perspective of the formal education system, Weil and Eugster (2019) proposed an alternative approach. They suggested that CET at universities could serve as an opportunity to open higher education at universities and make it flexible. By integrating CET programmes into university settings, 'academic drift' could be utilised as a dissemination strategy for research findings into professionally relevant settings rather than only addressing formal aspects of external tertiarisation. The roles of informal and non-formal learning are emphasised in this context as instruments to open doors to traditionally exclusive programmes in higher education. Unlike university degree programmes, which are closely linked to formal learning settings within the education system, CET can involve non-university environments, such as companies, where informal learning plays a significant role (Molzberger, 2008). However, the discussions around formalisation and flexibilisation have not led to a clear position; both 'drifts' occur simultaneously, while the formalisation trends seem to have been dominant in the last decades (Gonon & Weil, 2021).

In summary, CET at universities has the potential to open academia and promote flexibility within the education system. However, the described processes of formalisation and marketisation may hinder the realisation of these potentials. The example of CET at universities adds the dimensions of formalisation and marketisation to the discourse on academic drifts.

Areas of tension in academic drifts: A summary

Our exploration aimed to provide a comprehensive understanding of academic drifts within the Swiss (vocational) education system. Through an examination of various perspectives within the system, we have illustrated the presence of diverse and sometimes conflicting academic drifts across different educational domains.

In the following paragraphs, we identify three central areas of tension that encapsulate the complexities of academic drifts within vocational education, inspired by the findings outside the 'mainstream' perspectives on initial vocational education: first, external and internal academic drifts as tertiarisation; second, qualification and competence drifts as formalisation; and third, education and market forces as marketisation.

Nevertheless, the aforementioned areas of tension are, of course, related to the development of VET, as discussed in different ways (Bonoli & Eigenmann, 2021; Wettstein et al., 2017). When balanced, these tensions reflect the different and occasionally contradictory rationales inherent in discussions about academic drifts. It is crucial to recognise that these tendencies extend beyond the realm of VET and exert an influence over the broader educational landscape of vocational education, as indicated by the cases (VET TT, PET, and CET at universities).

Balancing external and internal academic drifts: Academic drifts as tertiarisation

In the Swiss education system since the 2000s, there has been a continuous process of structural and institutional adjustments influenced not only by national but also European dynamics. This external tertiarisation of institutions and systems has permeated various aspects of the educational landscape, leading to the establishment of UASs and universities of teacher education, the tertiarisation of VET teacher education and the incorporation of CET structures within universities. Tertiarisation – integrating parts of the education system into the university or higher education rationale – could be seen as an important aspect of academic drifts. As we have stated, external tertiarisation in structures and institutions differs from internal tertiarisation, which would also include the functions, identity, and culture of an educational area. However, this dynamic has introduced tensions with internal tertiarisation, particularly evident in the disparate temporal dimensions experienced by VET teaching staff. Despite the tertiarisation of VET TT, we find an unfinished academisation on the ground, with a considerable number of teachers remaining partially unqualified. The external academic drift of structures conflicts here with notions of the professionalism of teachers in the VET sector. Additionally, the role of traditional 'academic' privileges is being questioned, as evidenced by the absence of doctoral

rights for UASs and universities of teacher education. The ongoing discourse surrounding the 'Professional Bachelor' title awarded in PET or the MAS degree in CET underscores efforts to adjust to external tertiarisation. Nonetheless, discrepancies emerge. While the CET sector also aligns with external tertiarisation, it fails to fully clarify its position within the education system, hindering seamless integration with university programmes.

Balancing qualification and competence dynamics: Academic drifts as formalisation

Discussions at the macro and meso levels often overlook the question of competencies at various educational stages and the significance of understanding the capabilities of both learners and educators. Access to education typically follows a qualification logic, and although various methods of recognising prior learning (*admission sur dossier*, *validation des acquis de l'expérience*) aim to acknowledge informally or non-formally acquired competencies, permeability between PET, CET, and universities remains elusive (Baumeler et al., 2023; Maurer, 2023). This field of tension is connected to aspects of tertiarisation but focuses on the aspects of formalising qualifications. Formal recognition of degrees can be considered a second aspect of academic drifts, which, based on our analysis, seems to be crucial in institutional and political decision making.

The 'Swiss model' of VET TT can be understood as an implicit form of permeability; it allows access from different educational tracks and is itself categorised as continuing education rather than initial (higher) education. Nevertheless, this lack of seamless integration poses challenges for academic drift, potentially resulting in more academically orientated degrees and pathways. The role of academic competencies in this evolution, however, receives less attention in public discussions, which often lean towards emphasising vocational competencies and skills. A broader debate on professionalisation, professional development, and professionalism might yield more fruitful outcomes than a sole focus on academisation.

Balancing education and market forces: Academic drifts as marketisation

Market forces cannot be overlooked in the discourse surrounding academic drifts. Rooted in the Bologna Process's vision of European countries becoming the most competitive knowledge-based societies, a global context of marketisation has emerged. The primary focus is on securing a strong position in the competition. At the same time, we find a trend towards market-orientated vocationalisation and employability within university curricula (Kern, 2020), which can be observed internationally as well (Boffo, 2019). VET TT programmes are clear examples of demand-orientated regulations for training places at universities. The market for VET teachers defines the supply and creates

competition for potential employees and VET teacher students. A more candid perspective on VET TT in Switzerland might frame it as an academisation of the few and a workforce reservoir of the many. While the societal value of degrees, exemplified by CET, can be effectively marketed, it reflects the institutional logic of marketisation. Competition is also evident in the realm of CET at universities, extending to research funds and teaching, influenced by funding criteria tied to student enrolment numbers. Considering marketisation, the academic drift aims for 'more value for money' in the international market and serves as a 'cash cow' locally for universities, fostering investments and selling academic degrees.

Limitations and outlook

Our methodological approach towards academic drifts in vocational education in Switzerland has been primarily heuristic and exploratory. The three cases of VET TT, PET, and CET were not grounded in systematically comparable data collection methods. Instead, we recognise that the multifaceted nature of vocational education requires contextualisation and an awareness of the layers of argumentation. The presentation of our three cases of academic drifts could broaden the approach beyond initial VET and serve as a foundation for further research in vocational education.

Academic drifts inherently raise questions about society and social inequality. Understanding the extent to which social inequality is either reduced or reinforced through the education system requires methodical investigation. From the perspective of universities, these developments towards tertiarisation, formalization, and marketisation also have another side. The expansion of the entire higher education landscape with the formation of three different types of universities has created a competitive situation that is driving all types of universities to position themselves more strongly in terms of employability. This phenomenon should be taken into consideration when studying the complexity of academic drifts.

Beyond this, a focus on students' career paths could illuminate individual educational and vocational trajectories within the shifting landscapes, which could be another topic for further research. Thanks to panel studies that have been running since the Programme for International Student Assessment study, we are well informed about individual careers and transitions between school systems in Switzerland (see, for example, Gomensoro & Meyer, 2022). However, our knowledge is limited, for example, regarding the mobility of VET teachers or on CET.

Further investigation is warranted at the macro level to explore the political discourses and interests that drive accelerated or decelerated academic drifts in vocational education beyond VET. Understanding the roles of market rationales

and the statuses and responsibilities of stakeholders in vocational education is central to this investigation. Such drifts have historical roots, and they can hardly be understood without a theoretically embedded and empirically well-informed approach. Applying historical institutionalism to the process of academic drift has already been proven to be fruitful (Graf, 2017). After all, the question of what 'academic' is and how much 'general' or 'vocational' education it contains cannot be answered without reference to the temporal and spatial contexts.

Endnotes

[1] In theory, the Swiss education system is designed to facilitate both vertical and horizontal permeability across its levels and sectors: from upper secondary to tertiary education as well as between VET and general education or professional education and universities. However, in practice, not all available pathways are typically utilised (SERI, 2023, p. 7).

[2] The focus lies only on native learners, excluding students who acquired their university entrance qualification at general education schools abroad, because they mainly come to Switzerland to study at traditional universities and UASs, and they do not know much about the alternatives that PET offers.

[3] It is important to clarify that universities also provide shorter CET formats, including modules, courses, workshops, conferences, and other similar offerings. Additionally, CET at universities represents only one segment of continuing education, which can also be offered by other institutions. The example of CAS-DAS-MAS is used to demonstrate aspects of academic drifts.

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Notes on contributors

Jörg Neumann, M.A., is a scientific collaborator at the Swiss Observatory for VET at the Swiss Federal University for Vocational Education and Training (SFUVET). His research interests are VET, educational trends, empirical methods, and statistics.

Thomas Ruoss, PhD, is senior researcher and head of the bachelor degree programme at the Swiss Federal University for Vocational Education and Training (SFUVET). His research interests lie in (vocational) educational history, educational policy analysis, and economics education.

Markus Weil, PhD, works as Head of the Department for Higher and Adult Education at the Zurich University of Teacher Education (PH Zurich). He is interested in continuing higher education, internationalisation as well as in didactics of university teaching and learning.

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Academic drift of technical VET teacher education in Germany, Sweden, and other Nordic countries

Franz Kaiser
University of Rostock, Germany

(franz.kaiser@uni-rostock.de)

Abstract

The academisation of vocational education and training (VET) teacher pathways, often referred to as academic drift, is a relatively recent phenomenon in Europe, with significant implications for both teacher education and VET research. This article examines the historical development of VET teacher education in Germany and Sweden, using these countries as cases to explore how political decisions and academic models have influenced their education. The study highlights the resulting tensions between the demands of academic work and the practical competencies required of VET teachers. The emphasis is on the teachers in the technical VET domain, given the distinct developmental trajectories observed in disparate disciplines, such as commerce, agriculture, and others.

The research draws on document analysis, expert discussions, and workshops with VET teachers conducted during long-term research visits to Nordic countries, alongside findings from the Erasmus project 'VETteach.' After tracing the evolution of technical VET teacher education in Germany, the article explores the establishment of VET research as a discipline and its impact on teaching practices in the study programmes. It then shifts focus to Sweden, where the effects of academisation on VET research and teacher education are examined. A comparison with other Nordic countries provides additional context. The findings reveal that while academic drift has enhanced the theoretical underpinnings of VET, it has also created tensions between academic learning and vocational competencies, with significant implications for the future of VET teacher training and research in Europe.

Keywords: academisation, history, vocational teacher education, Germany, Sweden, Nordic countries

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Conceptual context of the comparison

Understanding historical developments is essential for comprehending current structures and explaining the variations between countries. Despite numerous similarities in societal values and developments, these do not necessarily lead to identical outcomes. This notion is clearly demonstrated by the extensive comparative study of the Nordic countries (Helms Jørgensen et al., 2018).

As is common in historical studies on VET (Gonon, 2020), this analysis does not rely on a specific theory of modernisation, unlike some German-speaking studies (Reinisch, 2011; Stratmann, 1993). The modernisation theories of Habermas and Van der Loo/Van Reijen, used in those studies, can be effective in explaining certain phenomena. For example, they illustrate differentiation, such as the diversification of VET teacher education content in Germany, rationalisation, such as the trend of 'academic drift' – the shift toward greater academic qualifications in VET – and individualisation, such as offering customised pathways for obtaining qualifications. However, applying a single theoretical framework can risk overlooking important phenomena that fall outside its scope (Kaiser, 2024). As a result, the findings of this study may appear eclectic in its explorative approach, but they aim to elucidate the institutionalisation of practices over the past century and to open a window for reformed perspectives by highlighting the strengths and weaknesses of these systems.

In analysing VET systems, various typological approaches can be applied, including examining the role of the state in steering VET (Busemeyer & Trampusch, 2012; Greinert, 2004), the role of occupations (Deißinger, 1998; Gonon & Bonoli, 2023), and the role of didactics (Pilz, 2016). However, these approaches often neglect the historical and cultural contexts, as well as the negotiation processes that have shaped these systems (Kaiser, 2020). Without a clear understanding of these contexts, it becomes difficult to discern the underlying reasons for observed differences. This is particularly relevant when the economic structures of different systems are strikingly similar (Hörner, 2004).

When comparing systems, it is crucial to ensure that the pathways to professions, such as becoming a technical VET teacher, are comparable. This can be done by using established frameworks to identify distinguishing characteristics. A clear understanding of the specific structures, requirements, and details is necessary. For example, if technical VET teachers are responsible for providing sector-specific opportunities for practical skill development and therefore also must have technical knowledge of the maintenance of machines and equipment, they are likely to require different qualifications than those who do not have this responsibility, because they are teaching the theoretical basics. Thus, VET teacher education often follows distinct paradigms, akin to the paradigms of educational systems and the level of abstraction required for

teaching. Grollmann and Rauner (2007) differentiate between the *trade paradigm*, which focuses on practical training in the tradition of the different trades, the *general teaching paradigm*, which emphasises broad educational foundations, related to academic teacher training, and the *technical paradigm*, which combines *theoretical knowledge with technical application*, more related to the training of engineers. These paradigms provide a framework for comparing VET teacher education in Sweden and Germany, as will be discussed later.

Educational systems are shaped by their political constitution, the economic conditions, societal values, and needs of each country, as well as by the resources available for investment in the educational system. These systems evolve in response to financial resources and the pursuit of particular interests. For instance, if the societal priority is to ensure equal opportunities and security for all, more or less regardless of financial contribution, a community school system and comprehensive social security will likely emerge. In contrast, meritocratic systems based on neoliberal principles focus on distributing opportunities according to performance, with family background, financial capital, and social capital significantly influencing the potential and social security of the next generation (Schmid, 2005). In the latter case, the task of the teachers is strongly focussed on imparting demanding knowledge and is far less oriented towards individual support than in the former case. As a result, the qualification focus of teacher training will also differ.

Given the interconnection between VET systems and the broader economic, cultural, and political contexts, as well as their close relationship with other educational systems, this study draws on an analysis of descriptions of system, historical sources, political decisions, and their implementation. These findings are reflected in scientific publications and national reports, but they are also informed by discussions with experts (teachers, school principals, policymakers), visits to vocational schools and further training institutions, and exchanges with researchers at numerous conferences and seminars in Scandinavian and German-speaking countries over the past decades. The findings were systematised according to the prescribed structure of a German-language handbook and revised several times before being published as the 2023 country study (Kaiser, 2023).

Moreover, collaboration in the EU-funded project VETteach with scientists in the field of VET teacher education provided valuable insights for comparing specific aspects, such as support for disadvantaged individuals, the integration of digital technologies, and the development of democratic competencies in VET teacher education through systematic international comparisons (Hoppe & Kaiser, 2021). It is important to note that the facts are limited to specific ways of VET systems and VET teacher education related to technical occupations and branches. For example, earlier study programmes for business and sales teachers

in Germany or VET in the field of forestry or household in the Nordic countries are not taken into account.

This study also incorporates findings from an early research project at the University of Darmstadt (Schapfel, 1994), which conducted a comprehensive review of the academisation of VET teacher education in Germany up until 1990. The next section of the article refers to this study, among others, and presents an illustration of the historical evolution of the academisation of VET teacher education in Germany.

History of VET teacher education in Germany and the current structures

The systematic training of technical teachers for vocational schools in Germany began in 1834 in Karlsruhe. Initially, the qualification was short and highly oriented toward teaching work and addressing the regional needs of the trades at the Polytechnic School, founded in 1825. This institution was the forerunner of today's Karlsruhe Institute of Technology (KIT) (Zimpelmann, 2019). The need for specialised schools arose from industrialisation and the growing challenges related to the development of technology in the workplace (Stratmann, 1999). It became increasingly difficult to visualise the complex production processes and, for example, to make corrections to workpieces by hand in the production process. As a result, it had to be possible to understand technical drawings and produce them in a simple form, even at skilled worker level. By the turn of the 20th century, systematic training structures for VET teachers had become established, varying between a stronger academic focus and independent vocational education institutions dominated by specific industries.

One early development was the 'State Seminar Course for Teachers of Technical Advanced Training Schools,' established in 1913 in Berlin. This programme trained craftspeople, skilled industrial workers, and primary school teachers as technical instructors within one year. In 1925, the duration of training was extended to two years, and the course was renamed the 'State Vocational Education Institute' (Rützel & Schapfel, 1994, p. 8). The pioneers of German vocational education theory Kerschensteiner, Litt, and Spranger, who resisted academic drift, feared that increasing the academic nature of vocational education would lead to an overly theoretical approach that disconnected vocational schools from the practical, hands-on training required in the workplace. They advocated for maintaining a balance between academic knowledge and vocational skills to ensure relevance to real-world job demands (Müllges, 1976).

During National Socialism, technical teacher training was standardised in 1942, with a course length of four semesters at vocational education institutions.

Following the Second World War, there was a shift in focus towards standardisation, with a greater emphasis on extended training programmes that were subject to federal state regulations (Mehnert, 2000). Pre-academic models were heavily oriented toward workplace practices, grounded in the Frankfurt Method and later experimental technical courses. The Frankfurt Method, developed to address workplace needs, focused on practical training that aligned with real-world work processes, whereas experimental technical courses explored innovative approaches to integrating technical skills into teaching methods. These models emphasised the development of educational missions tailored to the socioeconomic context, focusing on work processes (Brechmacher & Gerds, 1993).

In the 1960s, the demands from technical teacher associations for academic recognition and salary parity with commercial teachers and upper secondary-level teachers were finally met. Consequently, VET teacher education programmes were introduced with a state exam at general universities, followed by a second phase of 1 ½ years of internship at VET schools ending with the second state exam, similar to the teachers at baccalaureate school (Gymnasium). As VET teachers also taught at higher technical schools that awarded a university entrance qualification and also because of a shortage of well-trained VET teachers in almost all federal states at the time, the federal states agreed to these demands in the hope of making the profession more attractive and eliminating the shortage (Stratmann, 1994). Bauer (2007) provides an overview of the reasons behind this academic shift:

> To summarise, the ultimately successful implementation of the academic TVET teacher education is based on three motives: firstly, federal discussion about the modernisation of the education system and the expansion of the VET system based on the overall concept of scientific orientation of teaching and learning, with necessarily needs scientifically educated teachers. Secondly, the reduction of the shortage of VET teachers was due to a higher attractiveness of this profession, Thirdly, the interest of the TVET teachers association, who were primally aiming for professional advancement in terms of salary and thus equal footing to teachers of grammar schools. (Bauer, 2007, pp. 129–130)

In contrast to the developments in West Germany, the German Democratic Republic (GDR) introduced a nine-semester teacher training course in the 1950s, offered at universities in Dresden, Magdeburg, and Karl-Marx-Stadt (Chemnitz). This system involved a one-phase teacher training programme that integrated internships and concentrated on a single subject. In comparison to the two-phase training system in West Germany, which separated academic and practical elements, the GDR's one-phase model combined both components, potentially offering more immediate, integrated practical experience of teaching. After reunification, this model was transferred into the existing structures in West Germany (Thomas, 1992).

Both parts of Germany saw the academisation of VET teacher training, though this shift led to a strong alignment with engineering and natural sciences (Pätzold, 2011). This alignment moved the focus at most universities away from work-process orientation and teaching practice. Once established professorships for subject-orientated didactics in the technical faculties at the universities were replaced when they expired by professors from engineering fields, who operated by reducing engineering content into didactic elements without fully developing a work-process-oriented approach to teaching. This led to ongoing debates between proponents of work-process-oriented approaches and those favouring an engineering science focus. In 1998, this tension resulted in the founding of the Society for Technical Sciences and their Didactics (GTW), a part of the German Association of Work Sciences, which supported the work-process-oriented research, publications, and conferences (Hägele & Pangalos, 2012). This ongoing debate has practical implications for VET teacher education today, as the tension between focusing on engineering content versus work processes affects the balance of theory and practical training in curriculum development and the didactical design of learning. In the course of these debates, the importance of competencies for teaching and classroom management is sometimes overlooked (Brüchner et al., 2024).

In the current era, the Standing Conference of the Ministries of Education and Cultural Affairs (KMK) has established a national framework for all VET teacher study programmes at universities. While differences exist between the various Bachelor's, Master's, and state examination programmes, several similarities remain:

1. Admission requirements: Candidates must hold an Abitur qualification and complete at least 12 months of relevant work experience or an apprenticeship in the vocational subject area (work experience can be completed during the years of studying).
2. Study programme: The programme spans ten semesters and includes two subjects. The curriculum combines theoretical and practical elements in vocational pedagogy and didactics. Included are some weeks of internships in school, reflected on an academic level.
3. Practical training: An additional 18 to 24 months of practice in school is dedicated to a second stage of the programme, which includes supplementary seminars at state training institutions for teachers.

The structure of VET teacher education can be understood through three key stages: *input*, *process*, and *output*. As shown in Figure 1, the *input* includes the requirements for entering the programme, such as school-based or academic qualifications and work experience. The *process* refers to the components of the programme itself, including its duration, the provider (typically universities), the

content and methods used in teaching and learning, and the assessment tools employed. Finally, the *output* stage refers to job opportunities available for graduates, who primarily go on to teach in VET schools.

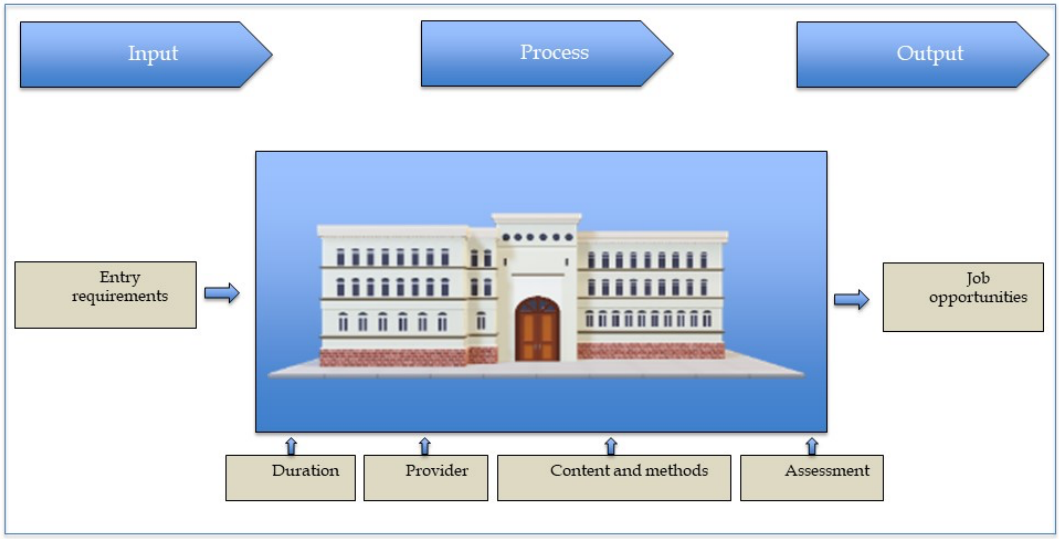

Figure 1. A conceptual model comparing VET teacher education in different countries (Hoppe & Kaiser, 2021, p. 167).

Table 1. Overview of VET teacher education and profession in Germany (based on Hoppe & Kaiser, 2021, p. 167).

Germany	
Entry requirements	University entrance certificate, 12 months practical experience or apprenticeship
Provider	Universities, sometimes supported until Bachelor level at Universities of applied science. Second Phase: State study seminar
Duration	Bachelor 3 years (180 ECTS) + Master 2 years (120 ECTS) or state exam 5 years (300 ECTS)
Content and methods	120 ECTS first subject, 90 ECTS second subject, 90 ECTS pedagogies and didactics Classical academic methods in the teaching subjects, project learning and critical reflective methods in educational science and practice
Assessment	Scientific term papers, Master Thesis, oral presentations at University level Teaching plans and teaching practice in the second phase
Job opportunities	VET school in the dual system, Technical or specified Gymnasium, adult education

To unfold these elements in the German context, Table 1 provides an overview of the key components of VET teacher education in Germany, including entry requirements, programme duration, content, methods, and job opportunities. This model will also serve as a reference point for comparison with Sweden, discussed below.

Academic education of VET teachers and the establishment of vocational education as a scientific discipline in Germany

The following section is dedicated to the effects of academisation with regard to the formation of a VET science. Influences from neighbouring disciplines, such as general pedagogy, industrial sociology, feminist sciences, psychology, and labour science, are not taken into further consideration. These influences also differed considerably depending on the period, the location of the universities, and the educational background of the academic staff.

In vocational disciplines, students predominantly study engineering sciences or specialised sciences, which often results in minimal connection to the occupations they will later teach and the associated work processes and activities. This disconnection can hinder the ability of VET teachers to address the practical needs of their students, as the academic training does not fully prepare them to offer real-world applications of technical skills. The foundation of the GTW (Society for Technical Sciences and Their Didactics) as part of the Association of Work Sciences in the 1980s, which reflects the dominance of the engineering paradigm in the German system, as categorised by Grollmann and Rauner (2007) was a reaction on this disconnection. However, as academic training for VET teachers was to be provided in almost all federal states, the number of students remained too low to establish specific professorships for didactics related to work and vocational fields at all locations. The orientation towards existing engineering degree programmes had to be maintained, especially since the requirements of the higher VET school forms, which do not prepare students for skilled work, also had to be taken into account. In addition, no solution had yet been developed for occupational fields that involve a certain breadth of professions, such as in the field of agriculture, which ranges from forestry and horticulture to fishing and animal husbandry (Kalisch & Kaiser, 2019).

Since 2000, there have been initial efforts to improve the regional structure of degree programmes, particularly in fields like nursing sciences and social work, by linking digital educational offerings and increasing cooperation with universities of applied sciences (Fahle et al., 2016). However, in such cases, transitions to universities for a master's degree must be guaranteed, as universities of applied sciences do not generally offer second subjects.

The establishment of vocational education research as an independent field of research is closely linked to the academisation of VET teacher education (Lipsmeier, 2010). This shift allowed the development of networks between professorships and the emergence of vocational pedagogy as a research field. These research efforts primarily focused on improving vocational curricula, developing teacher training methodologies, and the integrative effects of VET for socially disadvantaged groups of people at the beginning. For instance, the first appointments to economic pedagogic professorships occurred alongside the academisation of commercial teaching, and professorships in vocational education were similarly staffed as technical teaching became an academic profession (Zabeck, 1992).

In his study, Marschner (2018) traces the growth of VET research in Germany focusing on technical VET, noting that between 1930 and the late 1950s only six relevant professorships were appointed. However, this number increased significantly between 1960 and 1980, with 19 appointments made, 11 of which took place in the 1970s. The founding of the vocational, business, and economics education division (BWP) within the Deutsche Gesellschaft für Erziehungswissenschaft (German Association of Educational Science) in 1964 was also pivotal in establishing vocational education research in Germany. This period marked a renaissance in vocational education research, with contributions from various interdisciplinary fields, such as feminist research, adult education, labour market studies, and youth research. These interdisciplinary efforts were supported by state funding and research from both public and private research institutions, including the Bundesinstitut für Berufsbildung (Federal Institute for VET) and the Institut für Arbeitsmarkt- und Berufsforschung (Federal Institute for Employment Research) (IAB) in Nuremberg.

Today, vocational education research in Germany has become a well-established academic discipline, as evidenced by the existence of more than five specialised journals, each with distinct orientations and recognised peer-review processes. In addition to the specialised associations, the *International Journal for Research in Vocational Education and Training* (IJRVET), based in Bremen, further reinforces the field's academic standing. There are several scientific conferences with specific thematically focuses in the field of VET. These conferences and the discourse in the journals have been instrumental in shaping national VET policies, promoting collaboration between universities and vocational schools, and fostering the development of innovative teaching and research methodologies as well as the practice of VET in schools as in the companies.

The anthology published by Rauner (2018) on vocational education research demonstrates the diversity of the subject matter and methodologies used in the field. The anthology's 96 contributions reveal the breadth of vocational education research, encompassing curriculum development, vocational pedagogy, and

adult learning. In this context, VET science in Germany can now be described as an established science, as defined by Clark (1973), and as a direct consequence of the academic drift within VET teacher education (Götzl et al., 2019).

Although the BIBB (Federal Institute for Vocational Education Research) is responsible for private-sector VET policy, it also conducts research on structures, curriculum development, educational rules, adult education, and media across its five main departments (BIBB, 2010, p. 25). Federal and EU-funded pilot projects administrated by the BIBB have significantly stimulated research at universities, particularly in the field of VET. However, since the 1990s, university-based research has benefited less from these projects due to the rise of private research institutes and a shift towards 'high-quality' or 'non-practice-based' research at universities. This shift has aligned university research more closely with the Deutsche Forschungs-gemeinschaft (German Research Foundation), as vocational education researchers increasingly seek competitive research funding through more theoretical or fundamental research related to the global scientific competition.

VET systems and VET teacher education in Sweden and the Nordic countries

The objective of this section is to provide an overview of the evolution of VET teacher training in Sweden over the past century, situated within the broader context of VET development in the country. Sweden has been chosen as a case study for the Nordic countries due to two key factors: firstly, the shifting dominance between Sweden and Denmark among the five Nordic countries in history, accompanied by armed conflicts between the kingdoms (Øystein & Stråth, 1997), which leads to many similarities across these nations, and secondly, Sweden's status as the largest country in the region by population.

While Germany's dual system maintains a clear separation between general and vocational education, Sweden's model integrates both within a single institutional framework, allowing students to engage in VET within a general school setting at upper secondary schools. This system evolved differently across the Nordic countries but can be traced back to early developments, such as the creation of technical colleges. Nilsson (2008) notes that by the 1870s, Sunday and evening schools became the largest providers of technical education, although the level of technical training was still relatively basic. The expansion of adult education laid a foundation for broader access to technical education, which was further institutionalised with the establishment of VET schools in 1918.

The establishment of the VET School (yrkesskola) in 1918, followed by the creation of Verkstadskola for students without access to work placements, marked a significant shift in Swedish VET. The Verkstadskola, which used

productive work as a pedagogical tool, achieved remarkable success. By the late 1930s, economic difficulties had enabled this alternative model to become the core of Sweden's VET system, effectively replacing the traditional apprenticeship system (Kaiser, 2023). Michelsen and Stenström (2018, p. 14) observe, 'The state-led rise of the comprehensive school in Sweden meant that firm-based apprentice skill formation was threatened and eradicated.'

The interrelation of the similarities and differences in the structures and the historical development in the Nordic countries are described in a book series by Helms Jørgensen and colleagues (e.g., Helms Jørgensen et al., 2018; Michelsen & Stenström, 2018) through an extensive international comparative analysis including Finland, Denmark, Sweden, and Norway. The volume on historical development by Michelsen and Stenström (2018) in particular provides a comparison of the key political events in the countries; the liberalisation of VET (1850–1945), the social democratic regime (1945–1990), and the last phase, called again liberalisation (1990–2015). They also point out in the final reflections, bringing in a 'possible Nordic model', which is referring to the trade-off between VET and Higher Education, described a 'social democratic skill formation system' (Michelsen & Stenström, 2018, pp. 225–226).

It is therefore undisputed that the Swedish or Nordic model of 'integration' of VET into upper secondary schools has similarities in the Nordic countries, leading to the establishment of comprehensive vocational training workshops in Finland, Iceland, Denmark, and Norway. These facilities offer students practical training opportunities in fields such as construction and automotive engineering. For these workshops to function effectively, teachers must be experts in their respective trades or professions (Remember the trade paradigm in Grollmann & Rauner, 2007, mentioned before). Related to 'integration' Finland is an exception because vocational schools have continued as clearly separate institutions. Legislation and funding are also separate. The 2018 VET reform was a step towards merging VET for youth and adults (Virolainen, 2021).

The development of VET teacher education and its challenges in Sweden

The period from the late 19th century into the early 21st century marked significant transformations in the professionalisation of VET teachers in Sweden. This period was critical, as VET increasingly became a cornerstone of Sweden's industrial and economic development. However, several obstacles hindered the creation of a consistent system that could effectively link experience-based learning in the workplace with the development of pedagogical skills, knowledge, and competence needed to design vocational curricula. These obstacles included political resistance, financial constraints, and a shortage of instructors with both practical and pedagogical expertise.

In the late 19th century, the importance of teacher qualifications for technical education was often overlooked. For example, the Swedish physicist and head of the Institute for Technology Lars Johan Wallmark's 1850 proposal suggested that teachers from general technical schools should also work in evening schools to meet industrial needs, but no structured training system was established to support this idea. In 1907, the Technical Commission (Tekniska kommittén) recognised the need for VET teacher education; however, no formal programme was developed at the time (Hedman, 2001).

In 1918, the Swedish Parliament proposed the establishment of a State Normal School for Vocational Education (Statens normalskola för yrkesundervisning), but the government postponed its implementation, leading to ongoing uncertainty in the field of VET teacher education. It was not until 1920 that the National Centre for VET pedagogics (Yrkespedagogiska Centralanstalten) was founded, offering short pedagogical courses for both practising and future VET teachers. These courses, lasting between three and six weeks, covered subjects such as educational psychology, teaching methods, and practical exercises. Despite its limited size and direct government control, this institute played a critical role in the early years of VET teacher education. However, the institute faced significant challenges, including a shortage of qualified instructors and difficulty balancing practical expertise with teaching skills (Hedman, 2001).

Political opposition to centralised vocational teacher education led to budget cuts, with claims that there was insufficient demand to justify the existence of a specialised VET teacher training institution. As a result, the Yrkespedagogiska Centralanstalten closed in 1929 due to political and financial pressures, with its responsibilities transferred to the Vocational School Department (yrkeskole-avdelningen) in the ministry, weakening the focus on structured teacher education. The closure in 1929 represented a major setback in the effort to establish structured VET teacher education. The economic crises of the 1930s, combined with inconsistent government support, further hindered efforts to reform this kind of education until after World War II (Hedman, 2001).

From the 1940s onward, the demand for VET teacher education in Sweden increased significantly. By 1950, the training period had expanded from five to 15 weeks, and by 1960, it had reached 33 weeks. In 1973, training for teachers in industries and skilled trades was extended to 40 weeks (Dir. 2008:41). These incremental reforms laid the groundwork for the more comprehensive training programmes seen in the present day, with a stronger focus on pedagogy and the integration of practical teaching experience

Reforms to upper secondary and adult education in the early 1990s introduced new requirements for VET teacher education. A 1993 study led to the publication of the report *Höj ribban!* (Raise the Bar!), which recommended that VET teacher candidates complete at least 80 university credit points alongside their vocational

education and work experience (SOU 1994:101). At that time one full-time study year in Sweden was 40 credit points (40 weeks), but since the Bologna process with the new ECTS one year/40 weeks are 60 (ECTS) credit points. By 1996, additional changes required 40 credit points for VET teacher certification, and 60 credit points were necessary to teach a general subject (Dir. 2008:41). In 2011, teacher training was further consolidated under a new VET teacher degree (yrkeslärarexamen). The training now required 90 credit points; 1.5 years full time studies in pedagogy for VET teachers. The prior vocational education/ qualification is a requirement for admission (UHR, 2024).

But until the 1990s the VET teacher certificate remains under academic level measured in an institutional perspective. Vocational teacher training was offered at specialised institutions until the mid-1990s and typically lasted one year. Admission requirements included basic vocational training and at least seven years of professional experience. Then, the VET teacher students followed a general programme that was also for general subject teachers, and they had to write a bachelor's thesis within their programme. However, a 2008 study (Dir. 2008:41) revealed that from the mid-1990s to 2009, demand for trained VET teachers had tripled, while applications for VET teacher education had sharply declined (Prop. 2009/10:89).

In response, the government's 2009 proposal, *Bäst i klassen: En ny lärarutbildning* (Best in class: A new teacher training) (Prop. 2009/10:89), introduced four standardised teacher qualifications: preschool (förskollärar-examen), basic/primary school (grundskollärarexamen), subject (ämneslärar-examen), and VET teacher (yrkeslärarexamen), with a focus on pedagogy, didactics and subject knowledge for the three first mentioned teacher profiles.

Although recent reforms have increased the pedagogical requirements for VET teachers, they are still academically less qualified compared to the other teachers. VET teachers must now complete a university programme consisting of at least 90 ECTS credits, with 60 credits dedicated to pedagogy and didactics, and 30 to practical teaching experience, but no requirement for writing a thesis anymore. Those with prior teaching experience may be exempt from the practical component of their training.

Despite these formal requirements, a significant number of VET teachers in Sweden still lack full qualifications. For instance, in the automotive sector, the qualification rate remains below 50%. A 2016 Cedefop forecast predicts a shortage of 4,500 VET teachers by 2035 (Cedefop, 2016). This shortage is compounded by factors such as insufficient enrolment in teacher training programmes, competition from the private sector for skilled workers, and a lack of incentives for VET teachers to pursue further qualifications. Although the government aims to ensure that all of these teachers are fully qualified by the mid-2020s, achieving this goal remains a significant challenge. Given the current

rate of qualified VET teachers and the challenges in increasing enrolment in teacher education programmes, it remains uncertain whether this goal can be fully achieved without additional reforms or financial support.

Similarities and differences of VET teacher education to the other Nordic countries

Even though the systems in the individual countries differ considerably, general education subjects are taught by general education teachers in Sweden and the other Nordic countries. So it is not necessary for VET teachers to be trained in a second subject as in Germany. For example, Finland has implemented a competence-based approach for several years, enabling students to make their education more flexible. Legislation on pedagogical qualifications for teachers has since 1998 referred to comprehensive and gymnasium schools, vocational schools and universities of applied sciences, folk high schools etc. (excluding early childhood, primary schools, and universities). Thus the 'studies/certificate' of teachers' pedagogical qualification for all these institutes can be achieved in Åbo Akademi University for Swedish speaking parts of the country in Vasa and in several VET teacher training units of Universities of Applied Sciences (UAS) like in Hämeenlinna, Helsinki, and Oulu. This system allows students to shorten or lengthen their education according to their circumstances, extend it by incorporating longer periods of work and practice, or take individual qualification modules as adults to supplement their own qualifications as needed (Virolainen & Stenström, 2014).

In contrast, the structures in Sweden were much less flexible for a long time (Panican & Paul, 2019). Only in recent years has a system become established in which learning at the workplace plays a greater role, and the skills and knowledge acquired there are systematically integrated into school education (Skolverket, 2018). This shift has implications for VET teacher training, as teachers in Sweden now need to be adept not only in their subject matter but also in integrating workplace learning into formal education. It is therefore their responsibility to ensure that learning can take place at the workplaces in the companies in accordance with the school's curriculum. To this end, they also have to steer discussions between the practice, the trainees, and the school as a triangle and to control what happens at the workplaces (Lagström, 2012).

This form of practice orientation has long been developed in Icelandic VET, depending on the sector. The variation in the use of log book-journals or more rudimentary forms to follow up on what is happening at the workplaces is largely due to differences in sector-specific requirements, with more formal sectors like healthcare relying heavily on documentation and others, like agriculture, focusing more on hands-on training (Eiríksdóttir, 2020).

In Norway, students spend the first two years of their four-year training more or less at school, followed by two years of practical training in an apprenticeship. This creates more demanding requirements for VET teachers, who not only teach but also assist students in finding a company for their practical training (look at the contribution of Gjelstad in this special issue). Moreover, VET teachers are responsible for helping students develop systematic work habits and professional behaviour, often in collaboration with colleagues (Nore, 2015; Rapp et al., 2023). To equip VET teachers for this dual role, teacher education in Norway includes modules on career counselling and collaboration with industries to help students secure work placements. During a school visit in Arendal, Norway, a VET teacher commented: 'They have to learn what it means to work, first. That has to happen here in the workshop, before they can get a place in the working life' (Teacher in Arendal, Norway, 2023).

It is important to understand the differences between the various VET systems and the historical context that has led to these divergences. As mentioned earlier in the description of the VET teacher education in Germany, a conceptional model was developed in 2018/19 to simplify the comparison of pathways to becoming a VET teacher (Kaiser & Lindberg, 2019). This approach was applied to the data in Figure 1 and Table 1. Now Table 2 highlights key differences in VET teacher education pathways, including the varying emphasis on academic versus practical experience and the role of formal qualifications in different countries. This comparison reveals not only the diverse entry requirements but also the varying levels of importance placed on vocational experience versus formal education across these Nordic countries. The findings are based on original research and expert interviews during the VETteach-project conducted in 2023.

Looking at Table 2, it becomes clear that there is no single, typical pathway to becoming a VET teacher, either in international comparison or within the national context (Grollmann & Rauner, 2007). In Germany we have several pathways as well, but more or less only one official model, as shown in Table 1. Although the requirements for high-level vocational expertise are similar across the Nordic countries, there are notable differences in the pathways. For example, Finland requires significantly higher levels of academic expertise than Sweden, Norway, or Iceland for entry into the academic programme. In Iceland, a combination of vocational training and on-the-job experience is often sufficient, whereas in Finland, a more extensive academic background is required. These different pathways lead to varying levels of teacher preparedness, with more academically rigorous pathways potentially leading to more comprehensive training, while practice-based approaches can emphasise immediate, real-world applicability.

Table 2. VET teacher education and profession in four Nordic Countries.

	Input		Process			Output
Country	*Entry requirements*	*Provider*	*Duration*	*Content and methods*	*Assessment*	*Job opportunities*
Norway	Model A: trade certificate & 2 years work experience Model B: professionally oriented BA & 2 years work experience	Universi-ties or University colleges	Model A: 180 ECTS Model B: 60 ECTS	Teaching practice, working process analyses, competence orientation, democracy, personalised develop-ment, peer learning, self-assessment	Model A: Bachelor thesis Modell B: portfolio assessment Approval of pedagogical practice	Upper secondary school (VET pro-grammes)
Finland	Bachelor / Master and 3–5 years work experience	Universi-ties of Applied Science / Åbo Akademi University	60 ECTS	Similar to Norway	Formative portfolio, written papers	VET schools, adult education, advanced VET, Universities of Applied Science
Iceland	Model A: MA in professional field Model B: VET and experience	University of Iceland	Model A: 60 ECTS, 1 ½ year parttime Model B: 180 ECTS BA (seldom)	Teaching practice, goals of pedagogy, psycho-logical basics of learning	Modell A: Portfolio Modell B: BA thesis	VET schools
Sweden	Basic eligibility for higher education Vocational competence in vocational subject(s) EQF level 5	Universi-ties and University colleges	90 ECTS, typically 3 years, Credit for VET teaching expe-rience possible	General vocational pedagogy (didactics) Often distance education 30 ECTS practicum	University responsi-bility Varying models	VET schools, sometimes only in parts of VET programmes

In a small labour market like Iceland's, practical experience is often prioritised over formal education because it allows for greater flexibility and adaptability in response to the needs of local industries and it is much easier to get VET teachers and to offer them the flexibility to return in other jobs. The accumulation of professional experience across diverse organisational contexts and occupational

domains becomes a more significant factor. As a result, additional pedagogical qualifications acquired during university studies are often required, though these do not necessarily lead to accredited degrees like a Bachelor's or Master's in Sweden, Norway, or Iceland. This is largely because the qualifications do not reach the duration, required scientific depth and breadth for academic degrees.

Nevertheless, VET teachers are held in similar esteem as secondary-level teachers in other subjects, especially in the schools of Iceland and Finland, even though the latter have often undergone more extensive academic training. This parity is evidenced by comparable salaries and opportunities for advancement within educational institutions. One special aspect of Finland should also be mentioned, which certainly goes hand in hand with the particularly high reputation of VET teachers. A degree in this teaching profession for VET schools and three years' occupational experience is also a prerequisite for employment as a lecturer at a university of applied sciences when holding a MA or UAS degree as well.

Effects on research and the science of VET in Sweden and the Nordic countries

When attending vocational education research conferences in Sweden, it becomes clear that a large number of the next generation of researchers from Norway and Sweden in the field of VET focuses primarily on the didactics of their vocational specialisations, teaching practices, or exams (Lindberg et al., 2014). Their research rarely addresses systemic structures, the historical development of VET, international comparisons, or educational theories from fields like sociology, political science, or adult education. From a German perspective, many of these VET-related researchers come from initial VET backgrounds, often having spent extended periods working as VET teachers, which explains their focus on topics closely related to their professional experience they had before. As a result, their doctoral theses are seldom part of broader research projects or grounded in complex theoretical or methodological frameworks, which are more commonly seen in Germany. This 'distance' from foundational scientific research and theory-building can be attributed to the way vocational education and training and VET teacher education are structured in Sweden, as previously discussed.

The state of vocational education research in Sweden was systematically analysed for the first time by Lindberg (2004). Lindberg noted that, aside from some historically oriented dissertations, most research on VET and its culture has been conducted by researchers with backgrounds in sociology or macro-economics. This pattern is evident in larger studies such as 'Nordvet', the Scandinavian research project, mentioned before (Helms Jørgensen et al., 2018).

Researchers with direct vocational education backgrounds, who study teaching concepts, didactics, disadvantaged groups, teacher training, or the political objectives of VET, and who publish internationally, have remained relatively scarce until the early 2000s (Lindberg, 2004). In the last decade, two doctoral programmes in Sweden funded by the Swedish Research Council (Vetenskaps-rådet) have played a vital role in promoting international exchange and contributing to the professionalisation of Swedish vocational education research.

In Sweden, the shift of VET teacher training to universities (Asghari & Berglund, 2020) has increased research capacity, with new professorships established at universities and university colleges such as in Karlstad, Växjö (Linnæus University), Kristianstad, and Falun (Dalarna University). The increase in professorships has contributed to a greater emphasis on vocational education research, leading to more research output and enhancing the academic foundations of the field.

Neither Sweden nor any other Nordic countries have a state-run research institution explicitly dedicated to VET, similar to the BIBB in Germany. Instead, oversight of vocational education is embedded within central school authorities, such as Skolverket in Sweden, with similar setups in other Nordic countries. Small studies are sometimes commissioned by these authorities and conducted by the scientific staff at the universities. Besides the growing output of research on VET in the Nordic countries, there are still no private research institutes specialising in VET, or a VET specific research association in Sweden, like the BWP-section in the National association of Educational research founded 50 years ago in Germany (Kaiser, 2023).

However, in Iceland, where there is only one university with a VET research focus and one professorship responsible for VET teacher programmes, the implementation of larger research projects and broader cross-regional cooperation remains a significant challenge.

In Finland, VET teacher education takes place at five universities of applied sciences and one Swedish-speaking university, the Åbo Akademi University with the campus in Vasa. However, most of the lecturers at the UAS do not hold full professorships, which limits their ability to supervise PhD students as primary supervisors for a long time. This restriction hampers their research capacities, meaning lecturers must go to traditional universities to obtain their doctoral degrees.

There are a few journals in the Nordic countries dedicated to VET research. A Finnish-language journal on VET (https://akakk.fi/) is published by the Finnish Vocational Educational Research Association (OTTU) and the Foundation for Teaching, Education and Personal Development (OKKA), while publication of the Nordic Journal of Vocational Education and Training with a Nordic editorial board has been supported by the Swedish Research Council. In recent years,

there has been an increase in professorships for vocational pedagogy at Swedish universities. Similarly, Norway has seen the establishment of VET-related professorships at universities in Trondheim, Bergen, Kristiansand, Tromsø, and Oslo. Until a few years ago, most of these were universities of applied sciences with a strong focus on subject didactics in their degree programmes.

The NORDYRK conference has played a key role in facilitating the exchange of methods and ideas in vocational education research in the Nordic countries as well. This international conference allows presentations in Swedish, Danish, Norwegian, and English, offering young researchers opportunities to build international collaborations and gain deeper insights into developments across the Nordic countries. NORDYRK held its first conference in Umeå in 2009 and has since held annual conferences in different Nordic countries. Another important conference, held annually in English since 2012 in Stockholm, provides an additional forum for international engagement (Moreno Herrera et al., 2019). Currently, vocational education research in the Nordic region is transitioning from 'amateurish science' to 'emerging academic science,' as described by Clark (1973).

In conclusion, there is a clear link between the academisation of VET teacher education and the establishment of VET research as a scientific field. The longer academic programmes become, the more researchers and lecturers are needed, which in turn leads to the creation of more professorships at universities. This increase in research manpower generates more publications, journals, and conferences, further establishing the field of VET research (Götzl et al., 2019; Kaiser, 2021). From the perspective of young researchers looking to establish themselves in the field, these factors support the case for further academic drift in vocational education research.

The following section will explore the side effects and broader implications of this trend.

Caught between the demands of academic and vocational education

VET aims to equip individuals with the skills and knowledge necessary for employment while remaining adaptable to changes in the future. At the same time, the democratic constitutions of the countries analysed, demand that learners develop skills for active citizenship, as well as the ability to confront contemporary global challenges, such as the planetary crisis (Alam et al., 2023). For instance, in Iceland, these demands are reflected in the six pillars of education (see Figure 3). These six pillars – literacy, sustainability, creativity, health, democracy, and equality – serve as guiding principles for Iceland's education system. They emphasise not only academic competence but also the importance of preparing students for active participation in society, which aligns with

vocational education's broader goal of developing adaptable, responsible professionals.

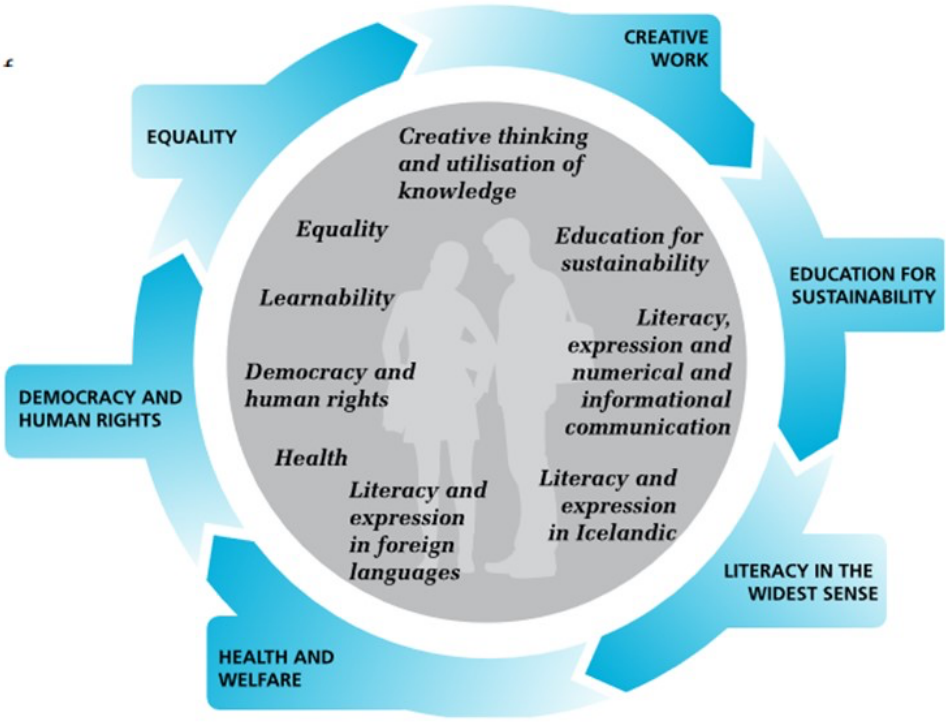

Figure 3. The six pillars of education in Iceland (Ministry of Education, Science and Culture, 2014, p. 14).

This requires learners in initial VET to not only master technical skills but also develop the capacity for critical thinking, social awareness, and responsible professional action. They must be encouraged to express contradictions, which fosters a stable sense of self-worth and a deep understanding of social contexts, including workplace dynamics such as unions (Kaiser, 2024). Professional competence involves interacting appropriately with customers and colleagues and making decisions aligned with sustainability goals.

Volanen from Finland captures the dilemma many professionals face:

> As professionals we all find ourselves confronted with a conflict between our own work and the basic problems of our era: how should I solve the problems I face in my own work if I look at them as, for instance, as a parent, a citizen or a human being, not just an employee. What solution emerge for my examination when I consider my professional problems from all these various angles? (Volanen, 1999, p. 172)

This tension, between the demands of professional expertise and the broader responsibilities to society, shapes the reality of VET in every country.

However, an overemphasis on general skills and educational goals can have detrimental effects, as seen in the Nordic countries. For example, in Sweden, placing focus on non-vocational content in upper secondary schools – aiming at preparing students for university entry – led to higher dropout rates in VET programmes and increased youth unemployment (Kaiser, 2023). Similar trends are observed in Norway, where greater motivation stems from practical, hands-on learning (Nyen & Tønder, 2018). On the other hand, it is important to note that participation rates in VET programmes in Sweden tend to decline when access to university from these programmes becomes more difficult. As a result, both parents and students increasingly favour educational pathways that provide broader opportunities and flexibility for the future. This may be one reason why participation rates in Norway are higher in the VET programmes compared to Sweden – it is an easy way to gain access to university with an extra year of schooling.

Lindberg (2014) argues that VET must prioritise practical workplace competence. Vocational knowledge is a form of situated judgment, combining the language of the trade – tools, materials, methods, techniques, planning, and ethics – with hands-on experience. Tacit knowledge, or the unspoken understanding gained through practice, plays a vital role in the interaction between these elements. For example, a VET teacher in the automotive field may struggle with the tension between teaching the theoretical foundations of engineering and ensuring students can perform hands-on tasks like engine diagnostics. The teacher must not only convey the theoretical principles behind car mechanics but also ensure that students can apply this knowledge in a real-world setting – an approach that integrates both academic rigour and occupational skill development. Recognising the distinctions between VET and academic learning is crucial, as these differences create the tension that defines the education and teaching of VET teachers.

The goal of VET is to master practical skills and tools while joining a community of practice, a setting that supports further development through collective learning. Competence is developed through practice, observation, and experimentation. Professionalism is achieved by refining routines that allow practitioners to focus on the finer details of their work, as the foundational processes become second nature. Quality is assessed through measurable comparisons to set objectives, whether they relate to product specifications or meeting customer expectations. As one student describes in a Norwegian study of Marit Lensø:

> To become an expert craftsman, it is not enough to do a bit of screwing and carpentry on your own; there is so much more behind it. Our vocational teacher's professional

> pride shaped us positively. Because of him, it was important for us students to do our best. It was clear to us that he performed his craft with deep respect. Through him, we understood that it was important to be exact and concentrated. We worked hard to learn and to show him that we were serious too. (Carl) (Lensjø, 2024, pp. 341–342)

In contrast, academic learning seeks to understand and master the thinking and methods of scientific disciplines, with the goal of contributing new knowledge. Rather than focusing on practical competence and solutions, academic learning emphasises understanding, theory, and analysis.

Academic education, however, is traditionally rarely designed to prepare students for real-world work, except in the context of academic or research careers. As a result, exploring the processes involved in performing tasks and the associated trial work is rarely part of the academic curriculum, with the exception of some practical courses in engineering and medicine. Prospective VET teachers often find themselves disappointed because their university studies do not directly align with the aims of VET, where practical skills are emphasised (Carnein et al., 2023). This disconnect can cause frustration when students expect their studies to lead to better teaching through repetition and practice.

Finland's competence-based approach in higher education offers an interesting model that bridges vocational and academic learning. By focusing on the development of both practical skills and theoretical understanding, Finland allows students to pursue higher education without losing the hands-on, applied aspects of VET. Here, students refine their ability to present and develop their own ideas, contributing to scientific discourse. Quality assurance comes through engagement with established research, logical procedures, evidence-based work, and transparent, ethical approaches. This integration could serve as a model for other countries, where vocational and academic education often remain more separate.

To bridge the gap between academic and vocational learning, it is essential to make prospective teachers aware of the difference between acting according to instructions and developing innovative, creative professional practices. As professionals, they must influence the structure of VET systems and design teaching and assessments that encourage active learning. Vocational teaching is not merely about applying knowledge or didactic methods but requires critical reflection and social imagination (Kaiser, 2024). Teaching, in this context, becomes a creative art, requiring more than adherence to routines or methods – it requires the ability to shape a learning community that reflects broader societal and professional contexts (Rasmussen, 2021).

Conclusion and limitations

In order to provide insights into the similarities and differences in the development of VET teacher education in several countries, it is necessary to reduce complexity and find a middle ground between showing relevant details and creating an overview of the main tendencies. This approach is limited in its stringent use of elaborate research methods like systematic literature reviews for summarised insights into the structures of the various Nordic countries and Sweden in particular. The valuable and complementary insights in practice at schools and the talks with stakeholders used here are not based on a systematic concept or on previously defined categories. Rather, the order followed opportunities and the willingness of school administrators and colleagues on site to grant access and be prepared to engage in dialogue.

This could be significantly improved for future research through specific questions, hypotheses, and appropriately developed research methods. But still, the study draws on surveys from the previous EU project 'VETteach' which have been reported on in more detail elsewhere.

Nevertheless, the evolution of VET teacher education in Germany, Sweden, and the broader Nordic countries reveals ongoing tensions between the academic demands placed on teachers and the practical skills required for VET. The increasing academisation of VET teacher pathways, while advancing theoretical foundations and enhancing professional status, has also introduced challenges, particularly in balancing academic and vocational competencies.

The shift towards more academically oriented teacher education programmes has undoubtedly elevated the status of vocational education, aligning VET teachers with their counterparts in general education. This development has led to a stronger focus on pedagogical theory, critical thinking, and research-based methods, especially in countries like Germany and other German-speaking countries, where vocational education has become a well-established field of academic inquiry. However, this trend also raises concerns about the possible disconnect between academic learning and the hands-on, work-process-oriented skills that vocational teachers need to impart to their students. One bitter consequence of the associated increasing distance between academic research and teaching, on the one hand, and the knowledge and analytical tools actually required in the everyday work of teachers at vocational schools in Germany, on the other hand, is the almost complete non-involvement of universities in the second and third phases of teacher training.

In Sweden and the Nordic countries, the effects of this academic drift are particularly pronounced, as VET systems that once prioritised practical skills now emphasise more academic qualifications. While this shift offers VET teachers greater professional recognition, because they are part of the upper

secondary school, it also risks alienating vocational education from its roots in practical, workplace-based learning.

To address these challenges, VET teacher education systems must find ways to integrate academic rigour with practical competence. Strengthening practice-based learning within VET teacher programmes is essential to ensure that teachers not only excel in pedagogical theory but also retain the ability to guide students in developing essential technical and practical skills. Moreover, fostering interdisciplinary research that draws on insights from sociology, political science, and education theory could enrich the study of VET, allowing for a more comprehensive understanding of its role within society and the economy.

In this context, international collaboration and knowledge exchange will also play a key role in shaping the future of VET teacher education. Conferences such as NORDYRK have already created valuable platforms for dialogue, helping to align vocational education research across the Nordic countries and beyond. These forums will be critical in continuing to refine VET systems, ensuring they remain responsive to the evolving demands of the labour market and global challenges, such as sustainable development and digital transformation.

At the same time, however, study circles, meetings, and conferences would also be necessary at which active VET teachers could discuss and exchange information on trends and solutions in everyday teaching work, as was the case in its origins and is still partly the case today in the 'Hochschultage berufliche Bildung' (Academic Days for Vocational Education and Training) in Germany, at which there are specific sub-conferences on vocational specialisms and general education subjects were practitioners in school meet researchers.

Ultimately, the academisation of VET teacher education has brought significant benefits, but it also presents critical challenges that need to be carefully navigated. Ensuring that VET retains its practical focus while embracing academic advancements will be key to its ongoing success. By fostering a more integrated approach, where both theory and practice coexist harmoniously, it is recommended that learning methods from VET be utilised in order to ensure adequate preparation for VET teachers. This is needed to cope with the complexities of modern work and society, ensuring its relevance and impact in an ever-changing world. In this context, the sustainable development goals and their increasing importance in educational discourses can lead to a practice-orientated expansion of the understanding of vocational education and training (Schütt-Sayed et al., 2021).

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Notes on contributor

Franz Kaiser is Professor and founder of the Institute for Vocational Education, Faculty of Philosophy, University of Rostock, Germany. His research interests are VET teacher education, comparison of VET in Nordic Countries, history of VET, critical theory and Bildung, TCI and sustainability goals in VET.

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The unmet potential of higher education graduates as boundary crossers to vocational education and training

Liana Roos & Karmen Trasberg
University of Tartu, Estonia

(liana.roos@ut.ee)

Abstract

This article delves into a unique form of potential academic drift in Estonian vocational education and training (VET) institutions, where many VET entrants already hold higher education degrees. While there is extensive research on transitions from vocational education to higher education, the reverse transition from higher education to VET needs to be explored. The study aimed to identify the life transitions that bring higher education graduates to VET, the boundaries they experience during their transition and how they manage these in terms of boundary crossing. Findings from 12 semi-structured in-depth interviews with VET students holding university diplomas revealed that these students enter VET driven by career-related life-transitions. However, their transformative potential as boundary crossers still needs to be met, as there was evidence of a predominant trend of unilateral adaptation to the norms and practices of the vocational context, sidelining the potential for negotiation and hybridisation of practices.

Keywords: reverse educational transition, vocational education, boundary crossing, life transition, experienced learner

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Introduction

There is an increasing emphasis on flexible educational pathways (Council of the European Union, 2016; Harris & Ramos, 2012), where learners from different educational sectors and levels can combine choices according to their needs and abilities. The linear learning pathways and transitions, such as the transition from vocational education (VET) to higher education (HE), have been extensively researched (e.g., Biemans et al., 2016; Catterall et al., 2014; Frawley et al., 2017; Haltia et al., 2022; Vanderburg et al., 2023). However, not all learning pathways are linear, especially when people need to develop new skills throughout their lives (Curtis, 2009). Learning trajectories can be contradictory and volatile and go into reverse (Crossan et al., 2003).

Estonian VET faces a unique challenge: a fifth of the individuals entering VET have already acquired higher education degrees (Estonian Educational Database, n.d.). In the context of the trend for overlearning (Zhu & Chen, 2016), and overskilling, especially among people with higher degrees (Mavromaras & McGuinness, 2012), this situation raises many concerns for policymakers and VET institutions about the potential impact on curriculum design, learning and teaching cultures, and whether graduates of higher education will repel those expected to enter VET. Furthermore, the influx of academically trained individuals into VET might accelerate the process of academisation within vocational institutions.

The educational paths people take can be viewed through two different lenses: the status maintenance approach and the cumulative dis/advantage approach. The former highlights the stability in an individual's achieved status over their life course and assumes that people work to maintain their status in the face of changing labour market conditions. On the other hand, the latter emphasises how initial advantages or disadvantages can accumulate over time and lead to divergent trajectories, ultimately resulting in greater inequality in opportunity and outcomes (Pallas, 2003). While reducing inequalities is one of the reasons for the recent focus on creating pathways from VET to HE (e.g., Martin & Furiv, 2022), the road from HE to VET is 'less travelled', and far less is known about it (Harris & Ramos, 2012). There has been far less consideration and research on learner's motives and experiences of these reverse transitions. Taking up VET can be a proactive step to maintain one's skillsets, ensuring they remain relevant and competitive in the job market. However, this move can further enhance their already advantageous position by diversifying their skills and competencies. Therefore, this paper aims to address the existing gap in the understanding of reverse educational paths by examining the experiences of Estonian higher education graduates in VET.

Given that adults frequently return to formal education during life transitions (Merriam, 2005; Varmecky, 2012), and considering the significant differences in

educational philosophies and practices between academic and vocational education (Sych, 2016), we will delve into the concepts of life transitions and boundary crossing in the upcoming section.

Life transitions and boundary-crossing in the context of reversed learning-pathways

In the mid-20th century, the traditional 'tripartite' life course model was widely accepted. This model was characterised by predictability and distinct stages of education, work, and retirement (Walther et al., 2022). Life course transitions were largely uniform, experienced collectively by vast numbers of people within similar age brackets and in a predictable sequence (Field, 2010). However, this model has disintegrated, resulting in increased individuality (Field, 2010), unpredictability, insecurity, and challenges (Walther et al., 2022). The life courses of individuals are now marked by a greater diversity and array of pathways (Walther et al., 2022), becoming increasingly non-linear (Field, 2010). Furthermore, according to Field (2013), lifelong learning policies have contributed to the destandardisation and restructuring of the adult life course by encouraging more flexible and intensified transitions.

Learning often occurs in adults' life-transitions, which represent phases of change in our lives that appear to alternate with periods of stability (Merriam, 2005). Several adults re-enter formal learning environments, driven by the transitional phases in their lives marked by the necessity to address real-life challenges (Varmecky, 2012). Transitions usually occur when the structure of a person's life no longer aligns with their goals and aspirations. Transitions can be anticipated and planned for (e.g., career change), happening in a socially prescribed timetable or off-time, they can occur gradually, unexpectedly (e.g., job loss) or be expected but not occurring (Merriam, 2005).

People in modern societies can be seen as 'constantly learning beings' who inevitably shape transitions for themselves and others while also experiencing them (Tønseth, 2018). Transitions are recognised as instances in individuals' lives that generate or perpetuate social disparities and the potential for social exclusion (Walther et al., 2022). Each transition brings a person change in relationships, roles, routines, and expectations (Merriam, 2005). Successfully navigating these transitions is an important measure of an individual's personal and professional development. The ability to adapt to changing circumstances in their personal, workplace, or societal life is an essential aspect of this development (Billett et al., 2021).

Transitions are inherently dynamic and complex, not rigid, or linear. Often, external factors that individuals typically have limited control over influence life changes (Field & Lynch, 2015). Educational transitions are essential for

facilitating change and development, and therefore, institutions dedicated to supporting the learning and development of individuals should carefully consider how they enable or hinder transition processes within, into, and out of their frameworks (Zittoun, 2008). Researchers have focused mainly on the transitions of young people, especially into adulthood and the labour market (Field, 2012), however, research on adult life transitions is still rare (Field, 2013).

As previously mentioned, the trajectories of individuals' lives are increasingly complex and non-linear. This diversity is similarly evident in the various educational routes people pursue. As the pathway from HE to VET is less known, it may seem counter-intuitive to move backwards on your educational journey due to societal pressures and status differences (Harris & Ramos, 2012). There is some research indicating that individuals who have completed a university degree may choose to pursue vocational education and training due to dissatisfaction with the theoretical nature of university education (Golding & Vallence, 1999), or because they intend to change their career path and require new skills and qualifications (Golding & Vallence, 1999; Harris & Ramos, 2012; Yang, 2006). However, adults may engage in self-improvement in VET for personal interest, which is often referred to as hobby learning (Harris & Ramos, 2012).

As the educational philosophy and practices of higher and vocational education differ, moving from HE to VET can be interpreted as boundary-crossing (Harris & Ramos, 2012). A boundary is considered as a socio-cultural distinction that causes a disruption in action or interaction; however, it simultaneously implies sameness and continuity by indicating that within this disruption, two or more sites maintain a relevant connection to each other (Akkerman & Bakker, 2011). As Wenger (2000) states, boundaries play two important roles in learning systems: connecting communities and offering diverse learning opportunities, which allow individuals to be exposed to different competencies and experiences. Boundaries can either lead to separation, fragmentation, disconnection, and misunderstandings or they can provide new insights and perspectives. People at boundaries get an opportunity to broaden their views. Although it can be unsettling and humbling, it is also exciting and attractive to encounter the unknown and the mystery of 'otherness.' According to Wenger (2000), such encounters provide a chance to explore the limits of one's competence, learn something completely new, re-examine one's assumptions, and possibly expand one's horizons.

The term 'boundary crossing' refers to the continuous and mutually influential actions and interactions that take place between different contexts, which affect both individual and social practices (Akkerman & Bakker, 2011). Boundary crossing is understood as a dynamic learning process marked by the negotiation of meanings, diminishing the ambiguity surrounding boundaries, thereby

enhancing the quality and depth of interactions among individuals across diverse settings (Bakker & Akkerman, 2019).

According to Akkerman and Bakker (2011), there are four primary mechanisms through which the process of boundary crossing triggers learning: identification, coordination, reflection, and transformation. Identification involves understanding various practices by recognising their unique characteristics. This process can occur by comparing one practice against another (also referred to as 'otherness') or by analysing how different practices interact and possibly conflict with each other, enabling a deeper exploration and coexistence of these practices (legitimate coexistence). Coordination involves mastering the art of simultaneously engaging diverse practices effectively. This entails enhancing communication among varying perspectives, investing in translating different practices to make them understandable to everyone involved, developing, or using objects or procedures to create or maintain effective collaboration across different practices. Reflection involves the process of recognising and articulating the disparities between various practices. This can lead to a shared understanding and the merging of different types of knowledge. Boundary crossing will result in transformation – existing practices change and new ones emerge. Transformation begins by addressing shortcomings in current methods, leading to the development of innovative solutions that transcend traditional limits. The process peaks when these new approaches are integrated into existing practices, enhancing their distinctiveness and mutual value (Akkerman & Bakker, 2011; Bakker & Akkerman, 2019).

Despite efforts to bridge different contexts, research indicates that continuity is not guaranteed. People may encounter differences in their participations and perspectives, leading to discontinuities. What is learned or experienced in one context may not translate to, or may even conflict with, experiences in another context. Boundary crossing needs support, and there are several ways to do that, including brokering and boundary interactions (Bronkhorst & Akkerman, 2016). Brokers are individuals who act as intermediaries between different communities. They can facilitate the introduction of elements from one practice into another (Wenger, 2000). For example, in vocational education, a teacher can act as a broker between the world of work and school (Akkerman & Bakker, 2012). Boundary interactions can take the form of visits and discussions (Wenger, 2010). In addition, Bronkhorst and Akkerman (2016) emphasise the importance of degrees of freedom, like programme flexibility, as a foundational condition for supporting boundary crossing, suggesting that validating prior learning is one way to expand this freedom.

Moving from HE to VET can be seen as boundary-crossing on different levels: experienced differences in organisational design, and procedures at the structural level; experienced differences in learners and teaching stuff at the

social level (Koeglreiter et al., 2006). The rare research on these reverse learning pathways indicates, that those with a higher education perceive the transition from HE to VET as relatively easy. However, compared to HE, VET is perceived as being different in terms of assessment, course structure, teaching methods and styles, as well as the general learning environment (Harris & Ramos, 2012). As indicated above, there are mutual impacts when crossing boundaries. In this line, there is some evidence, that VET students with higher education degrees can positively impact other vocational students and institutions. For example, Yang (2006) stated, that VET institutions that take up students with higher education degrees are more likely to increase enrolment, improve the quality of teaching and learning, and diversify the student population by increasing the proportion of successful students among the student population. There is also evidence that students who have completed higher education and returned to VET enhance classroom interaction, assist fellow students academically and socially, and help lecturers improve teaching (Townsend & Lambert, 1999). In addition, they can stimulate vocational schools to develop more innovative solutions (Yang, 2006).

With the prevalent focus on the transition from VET to HE, there is a notable gap in understanding the reverse educational pathway, where individuals with higher education degrees opt for vocational education. Trends like overlearning (Zhu & Chen, 2016), and overskilling (Mavromaras & McGuinness, 2012), and possibility of cumulating advantages (Pallas, 2003) underline the importance of understanding the phenomena on a deeper level. Therefore, this study aimed to identify the life transitions that bring higher education graduates to VET, the boundaries they experience during their transition, and how they manage these in terms of boundary crossing. More precisely, the article seeks answers to the following research questions: 1) which life transitions lead individuals with higher education into VET, and 2) how do VET students with university degrees experience their boundary crossing from HE to VET?

Context of the study: Estonian VET

Before discussing the research methodology, we briefly outline the current state of vocational education in Estonia.

After completing compulsory basic education (grades 1–9), young people in Estonia have the option to pursue further studies in general or vocational upper-secondary education. Estonia is characterised by culturally ingrained beliefs and perceptions that view vocational education as inferior to general education (Loogma et al., 2019). Despite government efforts to highlight the value of vocational education as a competitive alternative to general upper-secondary education, only one-third of young people are certain about their future careers after basic school, and just a quarter of basic school graduates enrol in VET

programmes (Cedefop, 2017). Furthermore, only 12% of 8th-grade students consider vocational education, and just 14% of parents recommend their children to pursue studies in vocational school (Accaro Solutions, 2018). Boys, individuals from lower socio-economic backgrounds, and students with special educational needs show a higher inclination towards pursuing VET (Räis et al., 2016). It has been observed that almost 40% of VET learners are adult learners (over 25 years old) (Estonian Educational Database, n.d.), although VET appears to be less popular among adults with lower educational attainment (Räis et al., 2014). One-fifth of the individuals enrolling in VET already hold higher education degrees (Estonian Educational Database, n.d.). The dropout rate is notable, with nearly one-fifth of VET students leaving in their first year of study. Moreover, only slightly over half (53%) of VET students manage to complete their studies within the anticipated timeframe (Ministry of Education and Research, 2017).

The Standard of Vocational Education (2013) lays out consistent requirements for formal VET, including guidelines for creating and updating curricula, recognising prior learning and professional experience, and classifying curricula. In the 2013–15 VET reform, a more hands-on approach to studies was introduced, and efforts were made to align the curriculum system with the needs of the labour market. VET curricula became outcome-based and were connected to the levels of the Estonian Qualifications Framework, which is referenced to the European Qualifications Framework. VET programmes are available at EQF levels 2–5. The current VET reform (see European Commission, 2025) will raise the age of compulsory schooling to 18, beginning in the 2025/2026 academic year. It will also reintroduce four-year vocational upper secondary education curricula, increasing the focus on general education within VET. This aims to strengthen basic skills and improve access to further studies.

Vocational education and training are offered by 37 different institutions, catering to over 26,000 students (Statistics Estonia, n.d.). The majority of VET institutions are state-owned, and education has been free for learners of all ages, including adults (Ministry of Education and Research, 2022). However, starting September 1, 2025, vocational education in Estonia will introduce tuition fees for individuals who completed higher education within the past then years or graduated from vocational school within the last five years (Eurydice, 2025).

The demand for vocational education is influenced by several factors. According to Estonian Labor Market Review (Eesti Pank, 2024) there is a mismatch between skills and the demands – 39% of the people in employment in Estonia are working in an occupation that does not match the highest level of education that they have achieved. Graduates may find that their academic training does not align with current job market needs, especially in times of economic instability. In contrast, vocational education programmes are often more directly aligned with specific job markets, providing targeted training that

meets the immediate needs of employers. The demand for vocational education is also influenced by the fact that the employment rate of graduates is very high. In example, the percentage of unemployed among VET graduates was only 7% in 2022 (Murasov, 2024).

Methods

Participants

To meet the aim of the study, and to provide relevant, and diverse data pertinent to the research questions, we utilised the purposeful sampling method. As suggested by Etikan et al. (2016), subjects were selected based on the specific objectives of the study, with the anticipation that each participant would contribute distinctive and valuable information pertinent to the research. The selection criteria for the study stipulated that participants must be currently or recently enrolled in a vocational education programme and possess a prior degree from a higher education institution.

Students were invited to take part in the study through our contacts in vocational schools. Additionally, further respondents were suggested by interviewees. The final sample comprised 12 VET students who already have a university diploma (see Table 1).

Table 1. Characteristics of interview participants.

Pseudonym	Age	HE specialty	VET specialty
Oskar	28	Cultural theory and semiotics	Water operator
Sofia	31	Food technology	Business management
Eva	32	Political science	Business management
Sebastian	37	Vocational education teacher	Chef
Mia	35	Nature conservation	Water operator
Marta	29	Vocational education teacher	Cleaning services management
Amelia	38	Service management	Bakery
Elli	28	Photography	Designer-artist
Mark	55	Finance	Potter
Hugo	61	Mechanisation of agriculture	Horticulture
Maria	44	Food technology	Chef
Saskia	32	Pedagogy of religion	IT specialist

As is apparent from Table 1, the specialties varied in terms of students' previous academic education background, with only two of the respondents having a link between their higher education specialisation and their vocational training (e.g., the respondent had studied food technology at higher education and went to vocational school to become a chef), while in other cases there was no such link. The interviewees ranged in age from 28 to 61, eight of them were women, four of them men.

Data collection

For data collection, we chose the in-depth semi-structured interview approach as it is an effective qualitative method for getting participants to talk about their personal opinions, experiences and share how they interpret the topic (Milena et al., 2008). The interview guide was drawn up based on the purpose of the study and the knowledge from previous literature about the experiences of higher education graduates in VET. The open interview questions addressed learner's motives for taking up studying at VET school (e.g., Please explain in more detail how you came to the decision to enrol in VET), as well as the expectations, and experiences of their learning journey (e.g., Please describe your learning experience in VET). They were also asked to reflect on the VET studies in the light of their previous study-experiences at HE.

The data were collected during 2020–2023. Half of the interviews were conducted face-to-face, the rest via Zoom due to COVID restrictions at the time. In all cases, the purpose of the study and the use of the results were explained to the participants, as well as the principles of confidentiality. Informed consent was obtained from all participants to take part in the study. All interviews were recorded, the length of the interviews varied between 30 and 70 minutes.

Data analysis

For data analysis, we implemented inductive thematic analysis, which, according to Clarke and Braun (2017), provides accessible and systematic procedures for generating codes and themes from qualitative data. Thematic analysis makes it possible to reveal insights and nuances within the data, offering a comprehensive understanding of participants' experiences and viewpoints (Nowell et al., 2017). In our research, we adopted the thematic analysis approach as described by Braun and Clarke in 2006. Our first step involved transcribing all the interviews we conducted and then thoroughly reading through these transcripts multiple times. This deep dive into the data allowed us to note down initial thoughts that were relevant to our study's goals.

Next, we moved on to what is known as open coding. During this stage, we looked for parts of the text that answered our research questions in some way. Both authors worked on this coding independently for each interview to ensure

thoroughness. After coding, we came together to discuss the initial codes. This step was crucial because it helped us agree on the most important parts of the data and how they related to our research questions. This way we aimed interpretive rigour by researcher triangulation (Kitto et al., 2008). By talking through the individual interpretations, we were able to create broader themes based on similar codes. This part of the process required back-and-forth discussions but was essential for refining the themes and making sure they accurately represented the data. Throughout the data analysis process, we utilised QCAmap, a qualitative analysis software that simplified the technical aspects of coding, inter-coding, and theme creation. The data analysis culminated in creating a final thematic overview and the following detailed overview of our findings.

Findings

In the following section, we provide an overview of the research findings, emphasising the central themes (italicised) that we identified during the data analysis process.

Life transitions leading to VET

Regarding our first research question on which life transitions lead individuals with higher education into VET, the findings reveal that students with higher education degrees are attracted to VET due to life changes such as planned or occurring career changes, or a sense of the need for change. We will now examine these in greater depth.

An occurred career change. The interview data indicate that individuals who enrolled in VET may have previously changed careers. Some had been working in their new profession for a shorter period, like six months, while others had more experience. They expressed the need to acquire theoretical knowledge and practical experience in their field and wanted to become competent professionals in their area of work. Hugo (61) said:

> My spouse is a biologist, and then we decided to set up a plant nursery together. At the beginning, it was more about growing and selling flower bulbs, but later other plants came along. So, I felt that to be a real player in this field, I needed to learn more about gardening, and so I started…

Broadening their professional network was also important to the interviewees. While some individuals felt the need to study on their own initiative, others were encouraged by their employers. They were motivated by a lack of professional knowledge and skills and a need for confirmation of what they had learned at their workplace. Those who had been working in their new field for a longer time

before entering VET wanted to gain new ideas, theoretical knowledge, and general skills to cope with their profession.

The complementarity between work and studies was considered important, as there was a need for a quick way of acquiring professional skills. Obtaining a qualification was also vital for those working in certain fields.

A planned career change was another theme in the interviews. Some individuals expressed their desire for a career change due to dissatisfaction or exhaustion from their current profession. Others shared their interest in returning to a previous profession, such as one interviewee who decided to pursue their passion for the food service industry by studying to become a chef in vocational school. For some interviewees, the idea of a career change became more concrete during their vocational training, as they realised the potential for improved career choices and opportunities through the acquisition of a practical profession.

A desire for change. A further theme that emerged from the interviews was the desire for change and diversity. For example, it was pointed out by some of the interviewees that the field studied at university was not satisfying or that there was dissatisfaction with the existing job, which was felt to have been worn out over the years. However, there were also some who were satisfied with their current job but said they were looking for a change, something new in their lives. An example was Sofia (32) with a master's degree in food technology:

> I had no immediate need to learn something new. I had a qualified job, and I was happy with it. But as usual, the working days were very long, there was no reason to leave work at the right time and to have a change, I started to look for different possibilities, different vocational schools, courses and so on.

The search for change of scenery as well as hobby-based interests also came up in the interviews. Some interviewees admitted that the studied vocation would not necessarily lead to employment after completing the studies. They saw the opportunity to add a practical vocational hobby as an alternative to the existing, and sometimes not so practical working life. There were interviewees who had studied several subjects at vocational school and one interviewee described themself as a serial-learner.

Boundary crossing experiences

Regarding the second research question, with focus on how VET students with university degrees experience their boundary crossing from HE to VET, our findings indicate that individuals with a higher education background who were enrolled in VET experienced boundaries at both the social (students and teachers) and structural (curriculum and the organisation of studies) levels. In addition, themes of the ease of transition and learning, and transformation of professional practices for career changers were evident in the data.

Social level boundaries

The findings suggest that a notable dimension of the boundaries encountered at the social level were associated with *student related differences*. The interviewees mentioned that they experienced a significant difference in the diversity of co-learners during their vocational learning compared to their university studies. They studied with professionals already working in the field, as well as with young people who had just left secondary school. The motivation levels of fellow students also varied in their experience, with adult fellow students being perceived as significantly more motivated compared to young students. Some interviewees experienced the group as being less academically capable than university students, with younger fellow students being more likely to drop out due to less consideration of their choice of profession.

Despite the diversity, the heterogeneity of the students created a platform for mutual learning, exchange of experiences, and discussions. Studying pottery, Mark (55) stated:

> It suited me, of course, that the learners' levels and previous experiences were quite different, so there was a lot to learn from each other, and the amount of peer learning turned out to be very high.

Some interviewees experienced a strong group spirit because of the small groups, despite the diversity of learners. This was seen as a contrast to the university experience: at university, individuals often felt like minor components within a vast machinery, surrounded by numerous students during lectures, creating a sense of anonymity and detachment.

The vocational learning environment was perceived as safe and non-competitive compared to university studies. The interviewees developed friendships with their peers and stayed in touch with them even after the end of their studies.

Another social level boundary was percieved in the form of the *teacher related differences*. Higher and degree-educated learners had different perceptions of teachers' attitudes and teaching practices. The interviews revealed that the professionalism of vocational education and training teachers varied greatly, and the students' learning experience depended largely on the teacher's professionalism. Some teachers lacked extensive knowledge of their subject, or their teaching practices were outdated, as reported by Mark (55) who said 'I can't say there were too many star teachers'.

It was noted that outdated knowledge was sometimes taught using materials from decades ago, and some teachers had more practical experience than explanatory skills. In some cases, vocational teachers did not take the time to identify the specific needs of their students, as noted by Saskia (32), the former religion pedagogue:

> Teachers did not seem to pay much attention to who was learning; they came in, delivered their lesson or practicum, and left. It seemed like many of the teachers probably did not work there full-time, and their main workload was somewhere else, so they didn't make much effort to find out who these students were and why they were there.

On the other hand, some interviewees appreciated the professionalism of vocational teachers and the fact that they worked in the field simultaneously. Their practical experience and ability to give examples from everyday life and to consider the needs of different learners were appreciated. Hugo (61), the plant nursery owner said:

> The teachers were the absolute best in their field, always with their heart and soul in the matter, and knew how to teach. They made space for you and made very different learners develop together.

Structural level boundaries

On the structural level, boundaries related to *curricular and organisational differences* were experienced. In terms of curricula, interviewees experienced some confusion, especially in the case of newly opened curricula. One interviewee, Oskar (28), felt that university degree courses had several advantages such as seamless coursework, efficient communication channels, consistent classrooms, centralised materials, and easy online tracking of progress and completion. In contrast, they found the organisational side of vocational training to be lacking.

Other interviewees felt that curriculum delivery could have been more flexible, as some were required to repeat certain subjects and were not credited for their prior learning experiences.

The interviewees pointed out that vocational training is more practical and focused on vocational skills compared to academic studies. They appreciated the fact that theory and practice go hand in hand in vocational training. They expressed their preference for practical learning compared to reading textbooks in university. Acknowledging the value of practical learning they did not rule out the possibility of attending a vocational school again in the future.

The organisation of the training, communication between the school and the training company, and joint discussions were also appreciated by the interviewees. They considered all the subjects reasonable, and even theoretical knowledge was immediately put into practice in everyday work.

Navigating boundary crossing

The interviewees expressed the *ease of transition and learning*. People with higher education found it easier to get into vocational training, but for fields like IT, there was still competition for admission. The interviewees believed that studies at vocational schools were relatively easy, and that more effort was needed in

universities. They also noted that vocational schools had a more lenient attitude towards students, which might be due to a desire to reduce the number of dropouts. Sofia (31), described her observations as follows:

> The attitude of the vocational school had a slight undertone: you cannot throw someone out because otherwise, you have a terrible dropout rate; everyone who wanted to was 'pulled' through.

In contrast, universities aimed to get the best possible results, and the underachievers were eliminated relatively quickly.

The interviewees remarked that in vocational education and training, students were expected to have a much lower level of independence. For example, Saskia (32), the IT specialist with a master's degree in religion pedagogy, stated that the major difference between these two levels of education was whether you lead yourself as expected at university or expect someone else to lead and take the initiative as in vocational school. While at university, you have a lot of independence and responsibility, in vocational school, the focus is on acquiring a specific trade skill, and no independent thinking is expected. Saskia continued that they found it suitable as they had gone to vocational education to learn a particular skill.

During the interviews, some respondents mentioned that the learning content in VET seemed trivial at times. However, they also admitted that starting from the basics was necessary for younger students to develop study skills. While there was a comparison made between the learning experiences in higher education and VET, it was not considered a major problem.

They noticed that there were fewer independent assignments and homework in VET, and the assignments were academically not challenging. For instance, when it came to written assignments, the experience differed between higher education and VET. In higher education, it was necessary to cite, and rephrase ideas, whereas in VET, participants were doing more copy-pasting without any references. Some interviewees found this transition a bit challenging, as they had to adjust to the new writing practices. They felt that if they had presented their university-level work in VET, it would have been difficult for others to understand and interpret. Marta (29), holding a bachelor's degree as vocational teacher, stated:

> Presenting the kind of work I did at university would have been difficult to read for them and I think they would have thought I had gone mad.

The assessment was also perceived as more effortless in vocational school. In the interviewees' experiences, there were no exams or tests at the end of the subjects; there was only one at the end of the studies. Furthermore, they had to work hard

at university for good grades, while the vocational school had a non-differentiating assessment.

Moreover, the interviewees found that VET was less strict about deadlines and content requirements. Therefore, transitioning from one level of education to another was academically easy and did not require much effort. However, they did not bring with them practices of higher education, such as academic writing.

The last theme identified in the data was related to the *transforming professional practices*. There were experiences where practices from one field influenced the other. Some interviewees who recently changed careers mentioned that they actively influenced the learning content to suit their professional interests and needs. Hugo (61) explained his experience as follows:

> I also influenced the learning content through my questions because many topics came up because I or someone else raised them. So, our group contributed to developing the horticulture curriculum by providing a clear understanding of what we need to know to be a good practitioner in our field.

For instance, some homework tasks were redesigned together to make them more relevant to the students' needs and worth their effort.

During the interviews, it was revealed that vocational education had a significant impact on the working practices of the interviewees. Learners not only acquired practical skills and knowledge that could be directly applied to their job. Furthermore, they started to take apprentices to their companies. By doing so, they contributed to the development of the next generation of skilled workers.

Some interviewees felt that academic and vocational education complemented each other. Academic education provided them with a broader perspective and helped them understand themselves better, while vocational education provided them with a valuable profession in the job market. As a result, they believed that a combination of both types of education was ideal. Saskia (32) even mentioned that a broad academic background education followed by a well-targeted professionalisation is the right approach for her. Her employer also appreciated her skills and expertise, as she was like a two-in-one, as mentioned in the feedback received.

Discussion

The study focused on a distinctive issue in vocational education and training in Estonia: the growing number of students with higher education degrees. This trend could lead to a more academic approach, potentially resulting in changes to curriculum design, learning and teaching cultures, and possibly diminishing the number of students initially expected to enter VET – young people graduating from compulsory or upper-secondary education or low-educated adults. The study drew on the concepts of life transitions as known in the field of adult

education and boundary crossing to gain a deeper insight into this phenomenon, assuming that adults re-engage in formal education during significant life changes (Field, 2013; Merriam, 2005; Varmecky, 2012) and noting the differences between academic and vocational educational practices (Sych, 2016). More precisely, we aimed to understand the life transitions that prompted higher education graduates to enrol in VET, and how they perceived the transition from higher education to vocational education in the framework of boundary crossing.

Our findings suggest that in terms of life transitions, individuals with HE background are drawn to VET during career changes and the reasons therefore appear to be primarily pragmatic. As individuals go through transitional phases in their lives, they often return to formal learning environments to address real-life challenges (Varmecky, 2012) and there is evidence that more adults are enrolling in VET programmes as career changers (Masdonati et al., 2017), requiring new skills and qualifications (Golding & Vallence, 1999; Yang, 2006). Career changes, both those that had taken place and those that were planned, were emphasised during the interviews, highlighting a resulting need to quickly acquire new skills. VET programmes offer a structured pathway to navigate these challenges by providing practical skills and theoretical knowledge that can increase the chances of success in a new career. However, our interviewees were not only seeking to gain specific vocational skills but also to validate their professional experiences, expand their professional networks, and enhance their employability in a new field. In the framework of Merriam's (2005) concept of life transitions, our findings of desired and actual career changes can be interpreted as highly anticipated transitions carried out by adults as active agents in their professional lives.

Nevertheless, according to Harris and Ramos (2012), individuals who hold higher education degrees often pursue vocational education and training for their personal interests and hobbies. Our present research supports this observation, as some of the interviewees identified themselves as 'serial learners' who did not have any plans to apply their studies in the professional world. They started studying at vocational school when there was an inner unrest and dissatisfaction with the status quo, representing a shift in the perception of their current situation and their aspirations for the future. In the light of Merriam's (2005) life transitions concept, the dissatisfaction and sense of unease acted as catalysts, encouraging them to seek new opportunities for fulfilment.

While adults may take up learning undergoing both personal and structural anticipated and unforeseen transitions (Merriam, 2005; Tønseth, 2018), our findings suggest that higher education graduates did not take up studies in vocational education because a life transition had happened; they went to study because they consciously shape their transitions. Therefore, for higher education graduates in VET, it seems to be what Field (2013) stated: learning has become an

active force for change, allowing individuals to anticipate events and actively shape their future.

Secondly, we were interested in which boundaries the VET students with higher education degrees experience and how they undergo the transition from HE to VET in terms of boundary crossing. Boundaries can either create division or provide new opportunities for learning, connecting communities and exposing individuals to diverse experiences and competencies (Wenger, 2000). According to our findings, higher education graduates encountered boundaries at both the social and structural levels within vocational education and training. First, at the social level, differences in co-learners' background, motivation, academic abilities, as well as group dynamics were experienced in deep contrast with university studies and can be intricately linked to the idea of 'otherness.' In boundary crossing, 'otherness' refers to the recognition and encounter of differences that exist between distinct communities or practices with different knowledge and cultural norms (Wenger, 2000). The significant heterogeneity among co-learners in vocational settings, as described by the interviewees, and the blend of professionals already working in their field and young individuals fresh from secondary education, creates a rich tapestry of experiences and knowledge bases. Learning is enhanced through interaction between different domains (Akkerman & Bakker, 2011) and our interviewees emphasised mutual learning and the exchange of experiences among learners with varied levels of knowledge and experience. Nevertheless, the learning that occurred in such cases took place between vocational school and the world of work, not between the practices of vocational and higher education.

Variations in VET teachers' vocational and pedagogical professionalism were experienced as another social level boundary by VET students with higher education degrees. In the context of educational boundary crossing, the crucial role of teachers as mediators between different practices and contexts is emphasised (Akkerman & Bakker, 2012). In the current study, VET teachers who were praised for their practical experience, engagement with the field, and for bringing real-world examples into the classroom, effectively facilitated the crossing of boundaries between the vocational education and professional field. However, the professionals with extensive work experience as well as the teachers who lacked understanding of their subject matter and didn't attempt to comprehend their learners' diversity did not act as mediators between vocational and academic worlds, thus missing an opportunity for boundary-crossing and learning.

At the structural level, curricular and organisational otherness was experienced. The comparison between the seamless organisation of university courses and the less structured but practically oriented nature of vocational training reflects the different aims, norms, and practices in academic and

vocational education. Boundary crossing theory explores learning opportunities that arise when individuals navigate between diverse educational contexts and practices and emphasises the potential for innovation and knowledge exchange (Akkerman & Bakker, 2011). However, since the interviews only touched upon different ways of identification and coexistence, it cannot be concluded that higher education learners crossed boundaries in these aspects.

Successful boundary crossing often involves negotiation and hybridisation of practices from both sides of the boundary (Akkerman & Bakker, 2011). It will result in transformation – existing practices change, and new ones emerge (Bakker & Akkerman, 2019). However, our findings suggest that in the transition from HE to VET, there is less negotiation of practices from different educational fields and more unilateral adjustment to the norms of the vocational context. The fact that our interviewees utilised an adaptation strategy where the originating context (higher education) practices were set aside to conform to the new context without attempting to merge the two sets of practices suggests VET's resistance to academic drift in Estonia.

However, previous research indicates that boundary-crossers can positively impact VET institutions, pushing them to more innovative solutions and improving the quality of teaching and learning (Yang, 2006). For example, applying critical thinking and academic writing skills developed in higher education could enrich the learning experience in VET. This can be particularly meaningful in developing a curriculum that not only meets current industry standards by providing marketable skills but also anticipates future trends and prepares students to be not just workers but thinkers and innovators in their fields and societal contexts (Nylund et al., 2017; van Houten, 2020). Therefore, the failure to negotiate vocational and academic practices can also be seen as the unrealised potential of higher education graduates in vocational schools.

To conclude, our findings indicate that higher education graduates are drawn to VET through career-related life-transitions and that VET programmes offer a structured pathway to navigate these challenges, providing practical skills and theoretical knowledge. Based on the results, they seem to be pragmatically oriented individuals with a clear understanding of the tangible benefits they will gain from vocational education and training. Therefore, our research emphasises the importance of VET programmes in providing the practical skills necessary for successful career transitions and facilitating personal development, lifelong learning, and broadening of professional and social networks. However, we found a predominant trend of unilateral adaptation by individuals with higher education backgrounds to the norms and practices of the vocational context, often sidelining the potential for negotiation and hybridisation of practices. This approach, that was evident in our research, limits the transformative potential that these boundary-crossers could bring to vocational education and training

institutions. Hence, the findings underscore the importance of creating an educational environment in VET that encourages and fosters the negotiation and hybridisation of practices, skills, and knowledge.

Limitations and further research

Given that this study was conducted on a small scale within the Estonian context, it is essential to expand research to include larger sample sizes and explore its applicability across different cultural settings. As the phenomena of reverse educational pathways is evident internationally and research on the topic is scarce, our findings could inspire researchers, teachers, and policymakers to reflect on their experiences. Building on our findings, it would be critical to delve deeper into understanding the barriers that hinder the negotiation and transformation of educational practices. Equally important is identifying the enablers that could facilitate these processes within the framework of reverse educational transitions. This research direction promises to unveil valuable strategies for enhancing educational practices in vocational education and training in the context of lifelong learning.

Notes on contributors

Liana Roos, M.A., is a PhD candidate and junior lecturer in vocational education at the Institute of Education, University of Tartu, Estonia. Her research interests are VET, transitional programmes to VET, and adult learners in VET.

Karmen Trasberg, PhD, works as lecturer in educational management at the Institute of Education, University of Tartu, Estonia. Her research interests are history of education, multicultural education, and VET.

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Countering academisation of VET through local collaboration: A situational analysis from Western Norway

Lars Gjelstad
Western Norway University of Applied Sciences, Norway
(legj@hvl.no)

Abstract

The article aims to demonstrate that although the academisation of vocational education and training (VET) is embedded in larger formations of symbolic power, it is a complex and non-linear process. One unfortunate aspect of academisation is the regulation of VET by external authorities (Billett, 2014), and one way to remedy it is to involve VET actors in shaping vocational education's purposes (Billett, 2010). The article argues that ethnographic research is essential to understanding the meanings of the academisation of VET. Although taking a particular empirical case as the point of departure, the article will primarily develop a conceptual and methodological framework for dealing with the complexity of the actors, social practices, and institutions involved in shaping the purposes of vocational knowledge practices. The case informing my theoretical reflections is a network of relationships between school leaders, teachers, instructors in companies, a business association, and others who collaborate to provide vocational students with an apprenticeship in a region in Western Norway. The aim is to motivate local youth to choose vocational education, build better connections between schools and workplaces, and thus strengthen VET's relevance, quality, attractiveness, and social status in the region. I argue for the importance of contextualising academisation processes and the multiple and contradictory ways they influence vocational education. It is important to identify local manifestations and consequences of academisation and the diverse ways local actors in the field of VET deal with them.

Keywords: academisation, educational reforms, local VET systems, school-to-work transitions, youth culture, ethnography, situational analysis

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Introduction

In Norway, the integration of a diversity of local, trade-specific training practices into a national upper-secondary education system was part of more extensive modernisation processes, entailing, among others, bureaucratisation, standardisation, and systematisation (Olsen, 2011). This historical encounter between different institutional logics, different traditions of knowledge, and different principles of socialisation is embedded in larger formations of social class and symbolic power (Jørgensen, 2018a; Mjelde, 2006; Tarrou Høstmark, 1995). The processes of integrating vocational knowledge and learning practices into dominant educational structures are commonly (and often derogatory) analysed in terms of academisation. Thus, academisation is a concept with multiple meanings, including the subordination of vocational forms of knowledge and learning to academic ones and the integration of vocational education and training (VET) in management models not primarily designed to meet VET's specific needs. One critical dimension of academisation is the control and regulation of the vocational field by external authorities – by 'privileged others' (Billett, 2014). According to Billett (2014), the way to remedy these unfortunate aspects of academisation is to involve practitioners of the occupations as well as teachers, students, and others with a close interest in the field, in 'shaping vocational education's purposes and practices' (Billett, 2010, p. 2). In any form of education, including VET, there is always a 'struggle between those with the power to define what constitutes legitimate knowledge and those excluded from educational decision-making' (Brown et al., 1997, p. 13).

In this article, I will emphasise the importance of looking at the 'localisations' of these structural conditions. I argue that an ethnographic and situational approach is essential for mapping the cultural, social, geographical, and material situatedness of the persons, practices, places, and policies making up the fields of VET in a particular regional area. I build on a case study focusing on a series of initiatives introduced by a network of VET actors to provide more vocational students in a Western Norway region with relevant apprenticeships. An ethnographic, bottom-up approach may reveal the wide variety of ordinary, unremarkable work done by actors at the ground level to maintain and strengthen local VET systems. The purpose of this article is to develop some theoretical perspectives, extending from the analysis of the case, rather than summarising its empirical findings. Initiatives to strengthen local VET systems and counteract unfortunate aspects of current academic drifts must be analysed in relation to the complex circuits within which they operate. The meanings and consequences of academisation must be studied across contexts and at different scales. This 'ecological' perspective invites a situational analysis (Clarke, 2005, pp. 10, 18). As with all local VET systems, the case I refer to above relates to overlapping social fields and networks with distinct scales and organisational

dynamics. At one level of analysis, vocational education practices are shaped by national VET systems. On other levels of scale, these practices are simultaneously shaped by global trends in education, work and youth culture, and local particularities.

Therefore, I conceptualise the case from Western Norway as a dynamically changing network of networks with no fixed boundaries. I follow Bartlett and Vavrus' (2017) approach to case study research and their emphasis on the importance of attending to how historical, social, and economic developments of various scales shape the case. They describe the 'tracing of relevant factors, actors, and features' as an ongoing, iterative process (Bartlett & Vavrus, 2017, p. 37).

In the next section, I will briefly outline the Norwegian VET system, focusing on the 1994 VET reform that fundamentally institutionalised the current main VET model. Although the 2+2 model (see below) may appear quite simple initially, it is full of contradictions, gaps, and partial connections. Ball, a prominent researcher in educational sociology, has emphasised how policies move through assemblages of actors 'in bits and pieces' (in Bartlett and Vavrus 2017, p. 73). This means it is essential to trace the 'localisations' of the Norwegian VET system ethnographically, that is, as an ongoing process of discovery and theorisation.

Localising the Norwegian VET

The Norwegian main model consists of 2 years of school-based learning followed by 2 years of apprenticeship. This model was established as part of a comprehensive educational reform implemented in 1994, which for VET meant that vocational courses were integrated with general studies education into a comprehensive upper secondary education system. More than one hundred trades were streamlined into twelve broad educational paths. Another significant change was the revitalisation and modernisation of the apprenticeship system. The apprenticeship system in Norway is based on a tripartite collaboration between the state and the labour market organisations, where local training agencies (*opplæringskontor*) play a central role in coordinating supply and demand (Jørgensen & Tønder, 2018, pp. 32–34). The Education Act regulates training in a company, and the county municipality must approve the company as a training company to have apprentices. It also meant that VET became subjected to a more centralised, bureaucratic control (Høst, 2009; Olsen, 2013). The comprehensive reform implemented in 1994 has been described as a turning point in the academisation of VET in Norway (Høst, 2009; Jørgensen, 2018b, p. 12; Olsen, 2013). This model was continued in the *Knowledge Promotion Reform* (Kunnskapsløftet) in 2006 (Olsen et al., 2018, p. 143).

An essential characteristic of the Norwegian VET system is an institutional gap between school-based and work-based learning (Jørgensen, 2018b). Michelsen and Høst (2015) provide a precise description of the Norwegian VET system that is worth quoting in its entirety:

> The Norwegian system for vocational education and training is difficult to place in international, comparative classifications. It combines features from dual systems with state school-based systems, it combines state involvement with company involvement in the form of organised company training, and it combines a separate system for vocational training with full integration in a comprehensive system for upper secondary education. It combines young people's right to upper secondary education with the company's right to take on apprentices. All 16–19-year-olds have an individual right to upper secondary education, but not to vocational training. The right to adequate training here applies when the student has first been accepted as an apprentice by an apprenticeship company. (Michelsen & Høst, 2015, p. 33, translation by author)

This paragraph summarises the intricate compromises set between academic and vocational interests in the Norwegian VET model. Since these institutional features always have to be played out in local contexts, it creates great space for shaping 'vocational education's purposes and practices' (cf. Billett, 2010), and it virtually *presupposes* a systematic, bottom-up collaborative work across institutions.

Because of the broad entrances into VET, *The Knowledge Promotion Reform* (2006) introduced a new subject called 'vocational in-depth subject'. Although it is part of the school-based training and teachers are responsible, the purpose is to give students a specialisation in a specific trade and relevant vocational practice (Nore, 2015, p. 185). In addition, teachers and trainers have to develop local plans adapted to the students' preconceptions and local conditions (Nore, 2015, p. 183). In line with the argument I develop in this article, Nore emphasises that the subject cuts across 'the institutional division of school and work, and […] can be seen as a compromise that carries *inherent tensions and dilemmas which must be resolved at the local level by vocational teachers and trainers*' (Nore, 2015, p. 184, italics by author). The 2006 reform thus creates even more space for local initiatives.

The Subject Renewal Reform (2020) introduced more specialised occupations. It also introduced new regulations for the mentioned in-depth subjects (YFF), effective from the 2021–22 school year. The reform provided new tools and guidelines and increased documentation requirements. The new regulation from the Norwegian Directorate of Education requires school owners to create 'local curricula' that detail which national competence objectives underpin the training in YFF (Utdanningsdirektoratet, 2020). In Norway, county councils are the formal owners of secondary schools. The county administration in Western Norway (Vestland) has developed guidelines that clarify the responsibilities of contact teachers. The fifteen tasks outlined in these guidelines for YFF indicate that

teachers have a wide range of duties, many of which are ambiguous. Additionally, there is increasing documentary work (Vestland Fylkeskommune, 2024). When discussing the county administration's role with teachers and others, they often maintain that the administrative practices are too far removed from the everyday life of teaching and that the bureaucrats have little knowledge about the realities that students and apprentices are up to.

In the regional case mentioned in the introduction, I follow the different practical work performed within the network of collaborating actors to examine some of the local dynamics involved in materialising the national VET system described by Michelsen and Høst (2015). Local circumstances enable and constrain the actors in distinct ways. One central part of my case study is to explore what this localised institutional complex means for the tracks available to youth and how it shapes young people's navigations (cf. Biggart, 2009; Heinz, 2009; Wyn, 2009).

An essential element of the 1994 VET reform was that all young people between 16 and 19 were legally entitled to upper secondary education. Older applicants were pushed out, and VET became more or less a youth-specific education (Høst, 2009; Vogt, 2018). Vocational learning sites have become important youth cultural arenas, and youth cultural practices are thus integral to vocational learning situations (Gjelstad, 2015). The integration of vocational and general studies programmes into a common system (Reform 94) occurred in conjunction with new global moments of youth cultural formations emerging in the 1990s. These ongoing, dynamic interactions between students' youth cultural identity formations and vocational learning practices are an unintended consequence of the Reform 94 policy.

A critical goal of the regional collaborative project in Western Norway is to strengthen and customise specific pathways between students, vocational sites, and local workplaces. This collaborative project's initiatives involve building education systems from the bottom up: bringing together schools, companies, and authorities and developing VET practices that match students' interests, teacher competencies, and employer needs (cf. Billett, 2014).

In this section, I have emphasised, with references to Michelsen and Høst (2015), that the dominant VET system in Norway consists of complex and multi-layered connections. In the next section, I will outline the spatiality and socio-materiality of the complex relations between youth, VET, and working life. I will trace some of the connections relevant to how school-to-work transitions are played out in an area in Western Norway. The construction of such a case, based on an existing regional collaborative network, is necessarily a selective process, both empirically and theoretically. The specific relationships that the actors create and recreate as part of the ongoing collaborative project also shape the 'case' and the alternative analytical lines that a researcher can pursue.

Constructing a case: Methods and ethnographic contexts

The case study builds on in-depth interviews and field research focusing on the transition of young people from school to work-based vocational education. It examines a region that has experienced remarkable industrial growth since the early 1970s, beginning with the construction of one of Europe's most advanced oil refineries in a remote area. In this region, people traditionally earned their living through activities such as sheep farming, fishing, and craftwork (Eltvik & Dyrnes, 2010). Field research is carried out at three upper secondary schools that together have fourteen classes of upper secondary level 2 students. The fourteen classes are divided into seven different occupations (Child care and youth work, Health work, Carpentry, Electrical power, Motor vehicles, Chemical processing and laboratory technician, and Industrial technology). Focus group interviews were carried out with students, and individual semi-structured in-depth interviews with teachers responsible for in-depth projects and the apprenticeship placement process. I also interviewed career counsellors, school leaders, training instructors in companies, and the head of a local training agency. The interviews took place, mainly during the spring of 2022, at schools and companies, and were followed by short observations of workshops, classrooms, staff rooms, canteens, and the like. Analytical notes after each interview session summarised key empirical findings and linked them to some tentative, preliminary theoretical concepts. Although the material is largely based on interviews, the overall methodological approach and analytical design are shaped by a situational analysis framework (Clarke, 2005) and my training as an ethnographic fieldworker. As mentioned, the purpose of this article is to present some of these overarching perspectives rather than summarise the study's empirical findings.

The region has a small population (50,000) and is characterised by a hierarchical city–country relationship. It was formerly a peasant and craft-oriented economy but is today deeply integrated into capitalist modes of production and circulation: petroleum industry, aquaculture, mechanical industry, and so forth. It is also a centre of 'green' industrialisation (Grøn region Vestland, n.d.). Moreover, it has become part of an ambitious welfare state. In this sense, the transformation of the region mirrors the more general development of the Nordic countries from poor to rich nation-states (Jørgensen, 2018b, p. 8).

The district centre has a population of 6,000. In addition, the district includes approximately twenty towns, each with populations ranging from 300 to 3,000. The growth of public administration and welfare institutions, such as nursing homes, kindergartens, schools, and police services, is also creating a demand for new categories of skilled work. There has been a massive development of transportation infrastructure (roads, bridges, and tunnels). The towns are located differently in relation to schools, shopping centres, restaurants, salons, factories,

etc. In the morning, teenagers travel to school from their hometowns by bus, boat, car, or motorbike. The schools thus become important gathering points where youth cultural orientations and identities are created, shared, and contested. At the same time, vocational students are, through internships, directed away from school and towards specific companies spread out across the region. The workplaces vary from small local craft businesses to large mechanical or installation companies. The industrial centre is a massive oil refinery in the northern part of the region. The oil refinery area is fascinating as it serves as a global hub for industrial production while remaining a truly peripheral zone regarding consumer and leisure facilities, lacking shopping centres, bars, or cafes. In this sense, it materialises the cultural contradictions of late-capitalist society (Bell, 1972). Youth orientations towards this place accentuate the hybrid identities of VET students, compelling them to negotiate between their vocational interests and their identifications with popular youth culture.

These spatial transformations profoundly shape how school-to-work relationships unfold in this area. With the massive building of transportation infrastructure, the county capital Bergen has come 'closer', and many youths, especially in occupations other than industry, want to study and work in the city. I will refer to the fourteen classes, divided into three schools and seven trades or occupations, as distinct 'vocational learning sites' to highlight that they are made up of different people, places, and practices (cf. James & Biesta, 2007). In this context, the concept refers to the central learning arenas at school where core elements of the occupation are being taught. Each learning site is influenced by several overlapping fields (James & Biesta, 2007, p. 26), each with its specific dynamics. The vocational learning sites are influenced by their location at a particular school, with their particular management, geographical location, and their relations to different 'employment fields' (James & Biesta, 2007, p. 27). Each vocational learning site is also different because it recruits different types of young people with their distinct school experiences, skills, attitudes, and identities. The teachers also bring their specific identities, knowledge, and pedagogical traditions (cf. James & Biesta, 2007).

In this region, vocational youths enter working life in a historical situation different from their parents. Today, the working life in the region is oriented towards aquaculture, oil and gas, wind farms, maritime sectors, and so forth, and this certainly shapes the aspirations of vocational students, especially in technology and industry programmes. Large companies in the area increasingly marketise their apprenticeship places as a springboard to a future-oriented career in global occupational fields. Technological programmes thus experience an increase in status and attractiveness. This is partly a result of systematic collaborative work to raise the quality of VET locally, to provide students with attractive placements and apprenticeship places, and to convince young people

that there are exciting career opportunities ahead for those choosing to take a trade certificate.

The 'situational map' (Clarke, 2005) sketched above shows that teachers, instructors, and learners take many factors into account when negotiating choices related to education, occupation, and apprenticeship. It also indicates the constructed nature of the case study. It is impossible to draw fixed boundaries around it. A multiplicity of shifting contexts shapes the everyday practices of students, teachers, and other VET actors.

VET actors' encounters with structures of academisation

VET actors are not passive victims of academisation. We may certainly analyse academic drift as part of a dominant culture, but it is not a homogeneous structure; rather

> It is layered, […] containing different traces from the past […], as well as emergent elements in the present. Subordinate cultures will not always be in open conflict with it. They may, for long periods coexist with it, negotiate the spaces and gaps in it, make inroads into it […]'. (Clarke et al., 1993, p. 12)

This quotation from 'Resistance through rituals' provides an apt conceptual framework for analysing VET's hierarchical yet complex relationship to the forces of academisation. The book has been essential for developing a 'conjunctural analysis' (Clarke et al., 1993, p. 10), which examines the convergence of various social dynamics at a specific historical moment. This analytical approach has inspired the situational analysis presented in this article.

The emergence of youth culture was centrally linked to the education system, especially the development of 'secondary education for all' and the 'massive extension of higher education' (Clarke et al., 1993, p. 20). This meant that young people were spending a large part of their youth 'in age-specific educational institutions' (Clarke et al., 1993) and that they became incorporated in what Coleman, in an American context, termed an 'adolescent society'. According to Coleman, the high school student 'is 'cut off' from the rest of society, forced inwards towards his own age-group […] and maintains only a few threads of connections with the outside adult society' (Coleman, 1961, p. 3, in Clarke et al., 1993, p. 20).

This situation, where young people are placed outside of productive life and socialised into an educational structure based on the cultural hegemony of a growing middle class, may aptly be described as a process of academisation. Norway's class structure, shaped by a long history of egalitarian movements (Bendixsen et al., 2018), is distinct from that of Britain and North America. However, there are similar dynamic structures of conjuncture between educational expansion and youth cultural formations. As mentioned, the most

significant break occurred in the mid-1990s, with a comprehensive reform that transformed a heterogeneity of training courses with a wide age range into an age-homogeneous structure (Jørgensen, 2018b, p. 14; Vogt, 2018).

Both teachers and instructors in companies remark in the interviews that youths' attitudes are a main 'barrier' to recruitment and training in VET. The youth I interviewed were simultaneously participating in various social networks that, in shifting contexts, shaped their identities, aspirations, and occupational orientations. The interview data and field observations also reveal fascinating interactions between young people's lives and their vocational identities and orientations. Different vocational learning sites receive different types of youth, with different identities and attitudes to academic work. It is therefore safe to argue that the academisation of vocational learning environments has various consequences for different students. In certain contexts, elements of academic knowledge can serve as valuable cultural tools that expand opportunities for vocational learning. However, in other settings, these same elements may restrict learning and contribute to feelings of alienation and subordination (Gjelstad, 2015, 2016).

Therefore, I argue for the necessity of analysing processes of academisation in the context of youth cultural orientations. To many youths who have experienced 'academic failure,' vocational education has offered an alternative, legitimate route to a respectable social position. A 'subcultural' attitude often characterises the learning cultures of vocational programmes. In industrial programmes, for instance, a technical vocabulary, tools, overalls, protection boots, and other elements associated with an occupational field may develop into a subcultural 'style' (Clarke et al., 1993, pp. 52–57) that may function as a form of resistance to academic schooling (Gjelstad, 2015, 2016). Youth cultural practices thus mediate the meanings and consequences of academisation.

Vocational youths must be recognised as vital cultural actors (Amit-Talai & Wulff, 1995). They develop 'hybrid identities' and participate in 'plural worlds' (Nilan & Feixa, 2006). In short, vocational students occupy ambiguous spaces between national ideologies, global markets, and local culture (Maira & Soep, 2005).

Although vocational students have become integrated into a school-oriented youth culture, or 'high school culture', with its internal status hierarchies (Milner, 2015), complex lines of similarity and difference may develop between vocational and general studies students. The school architecture also embodies the hierarchical relationship between vocational and academic studies. At the three schools part of my case study, the classrooms of general studies students are located on the upper floors of the main buildings, whereas vocational learning places are situated on the lower floors and often in adjacent buildings. This creates a situation where vocational and academic students are institutionally

'segregated'. Some vocational students told me that, at their school, there is a kind of 'mental fence' between themselves and general studies specialisation students. This suggests that class differences still exist, also at the level of culture, in Norwegian upper secondary education.

The consequences of policies and institutional structures differ significantly depending on the local educational and cultural contexts. In the geographical area of the case study, VET appeals to many young people, who often possess extensive knowledge of local work life through relations to family and others. VET students also interact with vocational cultures at school and familiarise themselves with various occupational environments through internships in companies. As a result, VET students find themselves positioned both 'inside' and 'outside' of an academically focused school culture. In other words, the processes of academisation are unevenly distributed.

In Western Norway, the Green Industrialisation has increased the status of VET. It has created a discourse that figures industrial work as exciting, advanced, and well-paid. This message is conveyed by vocational teachers and parents who work in the industry, as well as through job advertisements and company visits. Brockmann and Laurie (2016) argue that the category of 'the vocational' changes with dominant discourses, and in many parts of Western Norway, the focus on 'Green transition' leads to a re-framing of VET students' identities and orientations. Industrial occupations are increasingly being associated with 'advanced' technology in addition to demanding, proper work. The head of the vocational programmes at the largest school in the area notes that career counsellors sometimes think those who are 'weak' in theory should choose VET. However, they must understand that extracting oil from the North Sea is advanced. Therefore, he often had to inform the counsellors that students will encounter complicated mathematics in these VET courses. 'How will anyone build platforms in the North Sea without mathematics?' Parents must also recognise that a clever son or daughter might choose a technology or construction programme without experiencing it as a defeat.

High-tech companies in the region see skilled workers as central to their business. One of the managers was proud that most of their leaders came from the 'floor' and held a vocational trade certificate. These companies actively cooperate with vocational schools to get hold of high-performing vocational students. Vocational students are in high demand, and the most prestigious employers can attract the 'best' students. This situation changes the relative status between academic and vocational education and may lead to a broader understanding of what counts as legitimate knowledge in the education system.

Facilitating school-to-work transitions

In Norway, a primary challenge for students in the vocational programmes is that they cannot be sure whether they will manage to obtain an apprenticeship. Many students lack apprenticeships after their second year in school (Rapp et al., 2023). A collaborative network in the described region wants to convey a clear message to youth that schools and businesses are making a persistent effort to offer an apprenticeship to anyone starting a vocational programme at one of the local schools. What makes the network unique is that it covers not only a particular trade or industry but the whole range of occupations described before.

In 2023–24, 98% of those second-year students at the three upper secondary schools in this region who applied were offered an apprenticeship by the end of the school year. This is unique in Norway, where the average for 2022 was 80.6% (Utdanningsdirektoratet, 2023). Four factors may explain the success: First, the schools in the region have a long tradition of extensive cooperation with companies and working life. This vast network of collaboration has been strengthened and systematised in recent years. Second, an extended and more considered use of internships. Third, to give all students information and practical advice on applying for apprenticeships, which is challenging for many students. Lastly, an early follow-up of students who struggle at school or otherwise.

At the outset, the network obtained an overview of the schools and the companies' needs for apprentices. The steering group of the network also wanted to raise awareness among politicians and other stakeholders about the importance of apprenticeships for the region's development. They also put an effort into informing politicians, at the local and county levels, about the opportunities and challenges associated with carrying out such an ambitious goal. These activities are essential in negotiating the interests of VET vis-à-vis external authorities (cf. Billett, 2014).

The coordinator leading the network is based in a local business organisation, but the county administration and three municipalities finance the position in part. Whereas companies often organise local training agencies in Norway within a specific cluster of occupations (Jørgensen, 2018a), the training agency covers this region's main occupations. The VET system here shares similarities with the one described by Rapp et al. (2023, p. 514), where the head of a cross-disciplinary training agency 'follows the students from ninth grade in secondary school all the way to earning their certificates as apprentices'. The coordinator mentioned above focuses on the school part of the training, while the local (cross-disciplinary) training agency is responsible for the apprenticeship period.

In Norway, the application process is rather complicated. All applicants must register and upload several documents on a common digital platform (vigo.no) within a specific deadline. The county administration will then send information

about the students to various approved apprenticeship companies. Students should also apply directly to companies that often have other deadlines. Another channel for the provision of apprenticeships is the local training agency. A student may also be contacted directly by companies. Therefore, a young person can receive several offers through different channels, creating a confusing situation. Students who take the initiative, quickly send emails, and are not anxious about making phone calls will often win the competition for the best apprenticeship contracts. Students also have varying degrees of knowledge about what companies are looking for, and they have different skills in handling meetings with potential employers.

The coordinator acts as an 'entrepreneur' by connecting people and channelling resources across institutional boundaries. The coordinator's role is 'to check that we are on track towards the goal', and an annual plan is made for when different actors will do which activities. The coordinator visits every fourteen level 2 classes at the three schools, informing students about the application process. The coordinator tells them, for instance, how to find companies on the online application platform and supports them in detail: 'Go in there, press that button there.' The coordinator repeatedly tells students, teachers, and school managers that none of the level 2 students should have their internships in companies that will not have apprentices the following year. The students are made aware that internship periods are a place 'where they write their CVs', and that 'you must be aware that you are being observed' and 'you must play your cards right'. The internship period, part of the mentioned mandatory 'vocational in-depth subject', is crucial for students and companies to get to know each other.

The business association has established a resource group, consisting mostly of retired business leaders with a good knowledge of local companies who visit VET classes and provide advice, motivation, and knowledge regarding the application process. For instance, they explain how to write an application text and a CV, perform correctly during a job interview, and so forth. This helps these young people overcome practical barriers.

The lengthy transition process of becoming an apprentice is a complex one. We may therefore consider the application process as an extensive learning and socialisation process. VET students gradually develop their vocational interests and ideas about where they want their apprenticeship. They also acquire specific 'biographies' consisting of grades, attitudes, skills, and social networks that make them more or less attractive to different employers. The differences in the students' opportunities to get attractive apprenticeships become increasingly visible throughout the application period. Some students get good marks early on, are motivated, know where they are heading, can exploit social relations and other learning resources around them, and get valuable internships and, in turn,

an apprenticeship that meets their aspirations. Others have little motivation, do not know what they want, have limited knowledge about available opportunities, get weak grades, and end up with less attractive apprenticeship places. Some also find themselves in a situation where they risk dropping out of the training course.

Young people facing these risks are closely monitored. The network has created an intervention model that involves close and flexible follow-up of individual students to discover early on who has challenges. They put teachers, career counsellors, welfare offices (NAV), and follow-up services (OT) in teams to find possible measures. The aim is that everyone should get into work, even if they are not ready for an apprenticeship. Through the collaboration, NAV can also provide more tailored guidance for those who drop out (many due to unfortunate forms of academisation). Previously, NAV received those students who struggled after the schools had given up on providing them with an apprenticeship. 'It is between the systems students fall through,' the coordinator emphasised. Now, schools and the welfare office work in parallel, trying to find an alternative pathway before the school year ends. In this way, they avoid these young people spending the whole summer holiday feeling miserable about themselves and having no plans about what to do when their friends start school or work in the autumn. In their article on a local VET system in Inner Norway, Rapp and her colleagues argue that: 'Building strong relationships among counsellors, students, and teachers enhances networks and knowledge in VET, bridging gaps between different systems' (Rapp et al., 2023, p. 506). In my case, NAV is also a part of the circuit.

Vocational teachers on the frontline between schools and workplaces

In most vocational sites, the contact teachers are at the forefront of providing apprenticeships, although their responsibilities and roles are unclear. The ambiguous role of teachers in the transition process is also understandable in light of the Norwegian VET system described by Michelsen and Høst (2015). According to the formal VET model, the teachers' responsibilities stop when the students finish their two school years. On the other hand, new regulations at the county level have strengthened the schools' responsibilities for preparing students for an apprenticeship and for using internship periods to connect students and companies. As mentioned, the Norwegian Directorate of Education decided that from the 2021–22 school year, schools and companies must collaborate to develop 'local curricula' for the 'vocational in-depth subject' (YFF). A dedicated vocational teacher who is well-acquainted with the local job market understands which students are suited to different companies' social and professional

expectations. Throughout the school year, the teacher gains valuable insights into students' motivations, skills, and maturity. They often know which companies are experienced in supporting students and which may require additional attention.

In the region, as elsewhere in Norway, there is a tendency for school managers to cut teachers' resources to follow up on students' internships. Although specified contact teachers are most often provided with the responsibility, there is a tendency for the administration to standardise and digitalise cooperation with companies to make things more predictable. Teachers themselves think they should be responsible for the placement of students. Cuts of resources for 'in-depth studies' (YFF) are a main source of frustration. Several teachers stated in the interviews that they do a lot of 'invisible' work that is difficult to describe. 'Those practices that can be formalised,' one teacher says, 'are not necessarily those that will bring success'. These statements indicate the underlying dynamics of successful partnerships between schools and companies. The extensive work that many teachers do daily to negotiate the expectations of students, school management, and companies is reminiscent of the situation Lipsky (1983) describes for so-called street-level bureaucrats. Anthropologist Vike claims that recent neoliberal reforms of the Norwegian welfare state have expanded the gap between ambitious political goals and a lack of resources. This means that prioritising and negotiating conflicting interests is left to those on the front line, leading to what he aptly describes as a 'decentralization of dilemmas' (Vike, 2018, p. 143).

The teachers often feel that they are excluded from decisions relating to the follow-up of students in the subject YFF. Some teachers see fixed agreements and dissemination plans as part of a larger trend of management and control of their work. In a community where they are familiar with some of the students, parents, and employees in companies, some teachers feel an additional moral pressure to go the extra mile to secure apprenticeships. Some also experience competition to achieve the goal of providing all students with an apprenticeship, and this has personal costs, such as increased stress.

The tendency to cut teachers' resources for following up on students' internships may be considered part of an academic drift arising from an abstraction of routines performed by administrators, disconnected from the enactments of occupational practice (Billett, 2014, p. 3). The administrative staff often do not know the concepts, norms, and cultures of the specific learning practices of the trade (cf. Billett, 2010). As Billett (2014, p. 18) also emphasises, developing a functioning network 'requires building relations, confidence and shared understandings and decision-making locally.' This requires knowledge, I argue, about the particularities of local circumstances.

The need for situational analysis

A situational analysis maps and analyses the complexities of unfolding social life (Clarke, 2005). The theoretical premises and potentials of situated analysis are inspired by recent turns in the social sciences towards socio-material complexity, situated knowledge practices, and the need for grounded, empirical research (Clarke, 2005). The anthropologist Tsing argues that 'seemingly universalizing systems […] operate in specific material and social contexts' and that these systems 'can only be charged and enacted in the sticky materiality of practical encounters' (in Bartlett & Vavris, 2017, p. 40). This perspective shapes my understanding of modernisation processes such as bureaucratisation, standardisation, and systematisation, which, according to Olsen (2011), characterise the development of VET.

Jørgensen outlines four challenges faced by the Norwegian VET system, all of which are relevant to my case study. The first is to offer students high-quality placements. The second is to increase the social inclusion of marginal youth. The third is to raise its current low esteem. The fourth is to ensure that students complete and obtain a trade certificate (Jørgensen, 2018b, pp. 7–8). The collaborative project relates to all these, at times conflicting, challenges. Jørgensen and Tønder (2018) highlight the complexity of VET systems in the Nordic countries, and they point out that trade-offs between different interests and goals will occur in any system. They conclude that it is difficult to generalise 'best practices' across contexts (Jørgensen & Tønder, 2018, p. 46). The case indicates that it is easier to achieve precise and tailored compromises at a local level and that a situational analysis can help map and identify spaces of action.

So far, the article has emphasised that various measures for countering the unfortunate standardisation of VET, such as those coordinated through the regional collaborative project, have different meanings for different teachers, students, and companies. It has pointed out the diversity and complexity of vocational students, the differences across vocational programmes, and the socio-geographical situatedness of students, schools, teachers, and workplaces. An important reason for the success of the collaborative project is that they work organically from the bottom up, learn along the way, and correct for changes and unintended consequences. The actors engage in ongoing dialogue to find solutions and clarify their roles, interests, and responsibilities.

One central question is what insights can be generalised beyond this case study. It is important to note that this case is located in a relatively small-scale community. The relations between scale and organisational dynamics of social interaction are essential. For example, which measures can be transferred from a semi-rural to an urban context? The article offers an alternative to a 'positivist' tendency to evaluate different measures separately. Some research projects adopt an instrumentalist or technocratic understanding of learning and teaching,

aspiring to identify a set of 'best practices' to be transferred to all schools (James & Biesta, 2007, p. 102). Like certain forms of evidence-based research, this approach is grounded in the belief that one can reach general claims about educational means and aims (James & Biesta, 2007, p. 119). Perhaps the most important lesson from James and Biesta is to create a 'maximum space for localised initiatives, creativity and professional judgement, and creating more synergistic cultures to support and reward such initiatives' (James & Biesta, 2007, p. 126). An important task for VET researchers is to explore and critically examine the shifting and multiple contexts of local initiatives by directing our analysis to their preconditions and consequences. Bartlett and Vavrus (2017, pp. 15, 38) argue in favour of a process-oriented approach to comparison rather than looking for isolated variables. One has to look for the elementary processes since 'similar processes lead to different outcomes in some situations' and 'different influences lead to similar outcomes in others' (Bartlett & Vavrus, 2017, p. 15).

I follow Bartlett and Vavrus' (2017) approach to case study research and their emphasis on the importance of attending to how historical, social and economic developments of various scales shape the 'cases'. Since all measures will have unintended consequences, the most important thing is understanding the specific cultural and social contexts in which the interventions occur.

Summary: Countering academisation through local collaboration

The conceptual starting point for this article is a case study of a network of VET actors located in a region in Western Norway collaborating to motivate local youth to choose vocational education, to build better connections between schools and workplaces, and thus to strengthen the relevance, quality, appeal and recognition of VET in the region. Collaborative work is, therefore, central to counteracting the unfortunate aspects of academisation. The goal is to continuously support students in developing their vocational identities, expanding their knowledge, building careers, and creating networks. Additionally, the collaborative network helps students overcome the most immediate social, cognitive, and affective barriers they encounter when moving from two years of school-based education to apprenticeships. The application process is a critical first step in helping students break away from school peer groups and move into the adult world of work.

The transitions are organisationally complicated because young people have an individual right to education but not to an apprenticeship. After integrating VET into a comprehensive upper secondary school system in the mid-1990s, the two years at school combine academic subjects and subjects based on relatively autonomous VET knowledge traditions. The last two educational reforms have met some of these challenges, but have not altered this structural situation.

The ways these organisational features are being localised differ from VET programme to VET programme, depending on local occupational structures but also on students' attachments to their places of growing up, access to local schools, peer networks, vocational aspirations, and lifestyle orientations. This means that young people not only have to navigate the labyrinths of localised VET systems but also reflexively find their way through social and geographical landscapes. An ethnographic, bottom-up approach makes visible the practical barriers and considerations of students, the day-to-day work of teachers, and the dilemmas and costs associated with maintaining institutional orders and political objectives.

Since we are dealing with complex and open systems, the significance of particular measures cannot be derived in advance but must be empirically explored and described. The heterogeneous structure of the Norwegian VET model has an inherent room for manoeuvre, which regional VET actors expand further. This article has emphasised the non-linearity and the multi-directionality of academic drift. I have therefore argued that contextualising academisation processes is crucial due to the various and sometimes contradictory ways they influence vocational education. It is important to identify local manifestations and consequences of these extensive processes and the diverse ways local actors in the field of VET deal with them. Therefore, a situational analysis is essential to assess specific measures for facilitating school-to-work transitions.

The most important way to counteract the negative aspects of academisation is probably to help young people create a focus by relating students' social worlds to vocational matters and by providing recognition, a sense of mastery, and practical help to overcome various barriers that they encounter in everyday life (Mahler et al., 2023).

An essential consequence of the 1994 Educational Reform was the creation of age-homogeneous school classes, which transformed VET into a 'youth education,' meaning that VET students, in many respects, became part of a school-centred youth culture. Young people's relationships with peers are crucial for forming vocational learning cultures and school-to-work transitions. Although an unintended consequence of the mid-1990s Reform policy, it is an important and under-researched aspect of the academisation of VET in Norway.

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Notes on contributor

Lars Gjelstad, PhD in social anthropology, is an associate professor of sociology at the Western Norway University of Applied Sciences. His research focuses on youth and vocational education and ethnographic, comparative perspectives on vocational learning and knowledge practices. Gjelstad has also conducted extensive anthropological fieldwork on youth, education, and urban culture in Indonesia.

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Vocational education in the academic drift or arrogance of academia in front of planetary crisis

Mohammed Asaduzzaman[1], Anja Heikkinen[2], Santeri Sorsa[2] & Pamela Wadende[3]

[1] Islamic University of Bangladesh, Bangladesh; [2] Tampere University, Finland
[3] Kisii University, Kenya

(asaduzzaman.mohammed@gmail.com)

Abstract

The article questions the feasibility of the universalist discourse on academic drift in vocational education from the perspective of the Global North-South configuration. We will discuss examples from Finland, Bangladesh, and Kenya, aiming to understand the relationship between vocational and academic education within a planetary environmental framework. The conceptual frame is the planetary crisis understood as work-mediated disrupted metabolic relations between human and nonhuman nature; epistemic rift as an indicator of the crisis; and the responsibility of academia in addressing the crisis as both researcher and educator.

We start with mainstream interpretations of vocational and academic education in the Global North and South, then discuss a study of conceptions and expectations of university curricula in promoting sustainable livelihoods through vocational and adult education. We continue by reflecting on another study that questioned the possibility of connecting environmental care with social progress in adult, vocational, and higher education. Reflections lead us to conclude that knowledge production and education in academia remain disconnected from vocational education and work-life realities and ignore asymmetric power relations between the Global North and South. In tackling disrupted social metabolism and epistemic rift, we suspect the arrogance and ignorance of academia are more problematic than the academic drift in vocational education.

Keywords: academic drift, planetary crisis, social metabolism, epistemic rift, global north and south

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Introduction and background

The article is based on the presentation in the Academic Drift in Vocational Education of Vocational Education and Culture Research Network, aiming at widening and extending the perspective to planetary crises and colonial relations between the Global North and South. Despite individual initiatives (e.g., chapters in Heikkinen & Lassnigg, 2015; Heikkinen et al., 2017; Heikkinen, 2021), this has remained marginal in network discussions. The universalist discourse on the academic drift in vocational education – functioning through supranational organisations such as the European Union and the OECD – is dominated by scholars and policymakers of the Global North. Though academisation is an old phenomenon, this discourse can be interpreted as a continuation of academic and economic colonisation. Academic drift became a major issue in the political and research discourse of the North since the establishment of the non-university higher education sector – polytechnics, later called universities of applied sciences – during the 1960s (Silver & Brennan, 1988).

Along with the marketisation and globalisation of higher education, this discourse has also gained momentum in the Global South (e.g., Ishengoma, 2023). Academic drift in vocational education has become a prevalent issue in the Global North, reflecting wider concerns about the quality of expanding higher education and the decline of vocational qualifications, particularly in countries with a strong tradition of distinctive vocational education (e.g., Markowitch et al., 2022). The drift is typically analysed as an organisational or institutional struggle about status and resources in educational markets, or as a reaction to technological competition in industries, promoted by neoliberal Research–Development–Innovation (RDI) policies (Markowitch et al., 2022).

It seems that the universalist academic drift discourse considers academic and vocational education as given subsystems of nation-state societies (cf. Luhmann, 2012). Such an approach is highly problematic for analysing the Global South where over 80% of employment is in the informal economy (ILOSTAT, n.d.; Kiaga & Leung, 2020). More importantly, with its level of abstraction, the discourse does not recognise how much of a global village Earth is in the current environmental, economic, and social crises (e.g., Rockström et al., 2024). Therefore, we find it vital to recognise the historical and geopolitical diversity in the meanings and status of 'academic' and 'vocational' in education (despite the increasing impact of supranational policies), which connects to their contribution to local, national, and global divisions of work and industries. Since acknowledging the interconnectedness of human activities is key to addressing the crises, academia as a supranational research and education actor has an exceptional role in equipping citizens and workers with knowledge and skills to tackle these challenges.

According to our materialist assumption, in the era of the Anthropocene, the most urgent task is tackling the environmental crises, which require a radical planetary change in metabolic relations between human and nonhuman nature. Metabolism can shortly be defined as the flow of energy and materials in and between human and nonhuman entities and systems. Social metabolism refers to the flows through human societies that are embedded in the earth metabolism of the Planet Earth. Relations between entities and systems in metabolic processes can be called metabolic relations (e.g., González de Molina & Toledo, 2014.) While the academic drift discourse seems committed to given definitions of academic and vocational education as separate societal subsystems, we find it critical to perceive them as ontologically embedded in the Earth's metabolic system. This implies that relations between their functions and institutions should be analysed more broadly by conceiving their contribution to human and nonhuman work as mediators of social metabolism (cf. Hickel et al., 2022; Moore, 2017a). The global organisation – division and integration – of work, economic chains, and cycles are reflected in structures and hierarchies of education, and relations between vocational and academic education. Although we recognise that the Global North and South are not monoliths but consist of diverse internal contradictions, we focus on their economic and power inequalities in this article. Yet, many social metabolic processes connected to education have been experienced and are subject to internal political struggle in the North and South.

Our article is motivated by concern about the ignorance and arrogance of academia in facing the planetary crisis, despite official alignment with sustainable development and missions to mitigate environmental degradation. Since the planetary crisis is complex and multi-scalar, implications for the local and global organisation of work easily remain abstract when academic and vocational education are seen as distinct institutions. We find the 'epistemic rift' concept by Jason W. Moore (e.g., Moore, 2017b) more useful than academic drift for understanding how they shape the relations between academic and vocational education. The concept builds on his criticism towards the adoption of the geological concept of the Anthropocene and the dualism of social and earth metabolism in analysing the planetary crisis. In scientific and political discourses, the era has been characterised as the great acceleration (Steffen et al., 2015) or fossil capitalism (Malm, 2016), with reactions varying from ecomodernism or green growth to environmental justice, degrowth, posthumanism, and anarchism (IPBES, 2022; Kothari et al., 2019) Alternatively, Moore has formulated a 'world-ecological' framework of Capitalocene, where the transformation of capitalism is analysed through contradictions between human and nonhuman nature inside singular 'natural' metabolism. Accordingly, the epistemological separation of Nature, including unhumanised humans, and Society has emerged alongside the

material process of capital accumulation and exploitative class relations, appropriating the Cheaps of Nature: food, labour, energy, and raw materials.[1] Better than the Anthropocene, the Capitalocene captures what kind of human action creates rifts and conventions that lead to conceiving Nature as a 'gift shop of resources'. While the concept of the epistemic rift is critical for identifying the metabolic rift in the local and global organisation of work, we find it fruitful in understanding how academic and vocational education contribute to the Capitalocene.

Consequently, in problematising the discourse on academic drift in vocational education, we question the role of universities in articulating metabolic practices with workers, civil society, and vocational education, in confronting local stakeholders and governance, and national and supranational agencies. Does the academic drift discourse indicate the arrogance and ignorance of academia about ground realities in vocational education and work-life, and disinterest in analysing the diverse and contradictory interpretations of 'academic' and 'vocational' in education? Instead of certain individuals or groups, we refer to the structural quality of academia, indicating arrogance as 'an attitude of superiority manifested in an overbearing manner or presumptuous claims or assumptions' and ignorance perceived as a 'lack of knowledge, education, or awareness' (cf. Merriam Webster, n.d.). Though 'academia' is a contested concept, we understand it here as a community or environment – typically a university – committed to pursuing research and research-based education. Due to our backgrounds, we primarily think about social, political, and educational sciences that are directly in charge of interpreting academic and vocational education. Based on our studies and experiences we assume that our reflections can be extended to other disciplines, since academia controls knowledge and expertise in all areas of society, including vocational education.

To formulate and substantiate the above assumption and argument, we first briefly describe mainstream interpretations of vocational education and academic education in research, and political and practical discussions in the Global North and South. Second, we highlight findings from an empirical study that explored conceptions and expectations towards curriculum development in universities of the Global North and South in promoting sustainable livelihoods in vocational and adult education. Third, we widen reflections to perspectives of research on development, environment, and sustainability. They are backed by another study that questioned the possibility of connecting environmental care and social progress in adult, vocational, and higher education, and governance, especially from the perspective of the Global North-South divide. Since both studies were motivated by ethical concerns about the responsibility of universities in tackling the planetary crisis, in the concluding section of the article

we use joint discussions during the previous studies, we ask if a more critical issue than the academic drift in vocational education – as it is currently understood – might be the arrogance and self-inflicted ignorance of academia in front of the planetary crisis. This implies revisiting vocational and academic education and reaching out from their universalist institutional interpretations toward dialectical analysis of their functions in local and planetary politics and economy. Besides being good examples of the Global North-South configuration, the reason for taking Finland, Bangladesh, and Kenya as the focus is the authors' expertise and lived experiences from these contexts and sharing them in previous studies.

Mainstream interpretations of vocational (VET, TVET) and academic education

To reflect on the feasibility of the universalist discourse on academic drift in vocational education about our metabolism framework, it is vital to consider interpretations of vocational and academic education in diverse contexts. In the following, we characterise mainstream interpretations in the Global North (esp. Finland) and South (esp. Bangladesh and Kenya).

In the Global North, Vocational Education and Training (VET) is defined as occupation-specific education and training of workers at the secondary level. In the EU-Europe, VET is interpreted as learning that aims to acquire knowledge, know-how, information, values, skills, and competencies – either job-specific or transversal – required in specific occupations or more broadly in the labour market. It covers initial vocational education and training and continuing vocational education and training at secondary, post-secondary, and (vocational and professional) higher levels; it should play an increasing role in retraining and upskilling adults and take place in a broad range of settings and sectors. (Cedefop, n.d.) According to the OECD, VET includes education and training programmes designed for and typically leading to a particular job or a type of job. It should normally involve practical training as well as the learning of relevant theory. It is distinct from (academic) education, which is relevant to a wide range of jobs. In the United States, the term for vocational education and training is career and technical education (CTE). Education and training for some high-level professions such as medicine and law meet the definition but are not normally described as VET (OECD, n.d.).

In Finland, as in most of the Global North, interpretations and solutions of vocational and academic education have emerged gradually, connected to the building of nation-states and national industries. It has benefited from the heritage of a broad concept of 'autonomous' and distinctive vocationally oriented

education, whose development is intricately connected with the creating industries and political independence. During the 1960s–70s, vocational and academic education at the secondary level became an integral element of the policy of equal opportunity and open pathways. (e.g., Heikkinen et al., 1999). Furthermore, since the 1990s, vocational education has increasingly adjusted to the employment and social policies, and educational structures of the European Union and the OECD. On the other hand, academic and higher education, especially in universities of applied sciences, have become distinctive for their relevance to developing industrial and welfare clusters in society. More critically they can be considered as reproducers of elites for the capitalist world system, which is responsible for the accelerating planetary crisis (Ruuska, 2017). During the 1980s–2010s, enhancing programmes and policies to raise the status of work-related routes in education systems were prominent in the Global North. Recently, they have promoted lifelong – or rather continuous – learning and mobility, digitalisation and innovation, key competencies, and STEAM (science, technology, engineering, arts, and mathematics). This implies expanding higher education and increasing 'exposure to work-based learning' in vocational education. (EC, 2020, 2023; OECD, 2023). In the latest reform policies in Finland, academia and higher education are seen as knowledge hubs for industry, producing and reproducing experts and leaders for work-life, vocational and adult education and governance. Vocational education should get even closer to work-life, with an emphasis on workplace learning and training. However, vocational education is increasingly expected to function as social work and employment training in promoting the integration and employability of diverse groups of youth and adults with special needs. Since Finnish vocational and academic education reflects the global division of work and economy, their autonomy in addressing challenges of sustainable livelihoods is quite limited. This implies aiming at global competitiveness in the green transition, 'pure' energy and industry. Vocational and adult education institutions are aligned with the goals and pressure from industry and economic policies, which undermines their autonomy in challenging the hegemonic order and practices that reproduce environmental degradation.

In the Global South, the concept of Technical and Vocational Education and Training (TVET) was introduced by supranational development agencies, such as UNESCO, World Bank, and IMF, in the 1960s. In contrast to the North, during the 1980s–2000s the South experienced a shift in the policies of supranational development agencies, which moved their support from TVET to primary and higher education. (e.g., Maclean & Wilson, 2009). Since promoting TVET did not lead to economic growth or create jobs and enterprises, the focus moved to building human capacity in general and modernising governance and policy.

Currently, UNESCO defines TVET as education, training, and skills development relating to occupational fields, production, services, and livelihoods. It can take place at secondary, post-secondary, and tertiary levels and include work-based learning, continuing training, and professional development which may lead to qualifications. Learning to learn, developing literacy and numeracy, transversal skills, and citizenship skills should be integral components of TVET (UNESCO, n.d.). According to the World Bank (2018), TVET is an integrated educational approach that equips individuals for various roles in different sectors, aligning education with the practical requirements of industries and promoting employability. In the current development discourse, TVET has become increasingly important, due to globalisation, technological advancements, and environmental challenges. It is reshaping populations into skilled labour forces for the global market and advancing sustainable development. Current policies focus on employability, entrepreneurship, and industry-relevant lifelong learning to maintain competitiveness. Yet, ironically, despite recognising TVET's essential role in education and skill development, many governments and NGOs have not fully incorporated it into their strategic plans and actions. Even when countries have aligned their strategic development vision to an expanded TVET to generate a workforce needed (Ngure, 2022; Nyamai, 2022), high-achieving students still prefer universities and teaching staff to be employed in universities.

Out of Bangladesh's population, merely 5% of workers have received vocational education, and only 1% of the population has had technical or vocational training (BANBEIS, 2021), which is preventing them from securing quality jobs and causing the country to fall behind in literacy, education, and skills. Though the government recognises the potential of TVET for economic growth by creating a skilled workforce, annually 2–2.5 million mostly unskilled youth enter the job market, where there is a notable shift from agriculture towards export-oriented manufacturing and services. Therefore, the government policy promotes overseas employment due to substantial unemployment and underemployment and has an ambitious plan to reach middle-income status by 2024 (Khan, 2019). Despite attempts and efforts made through initiatives and policies, the status and clarity of TVET remain ambiguous and unclear, and it hasn't been highlighted much in discussions and planning. As a result, TVET is not recognised within the overall education system. Even within academic circles, there is a notable deficiency in promoting TVET as a vital means of empowering the workforce. Academia has failed on two fronts: in neglecting to promote careers within TVET for its members, and in not advocating for its significance in policy making.

In Kenya, 58% of the population is below the age of 24, with a 67% unemployment rate for those under 35 years (Ngure, 2022; UNDP, 2013). In

government policy, TVET has been seen as a good route to make the youth employable and to achieve the vision of being an industrialising middle-income country, providing a good quality of life to all its citizens (Government of Kenya, 2008). Yet there is no defined practical route to achieving the vision, thus relegating it to a mere slogan. The lack is exemplified by the fact that despite the interest and financial support of the government, TVET has met a lukewarm reception from the population that still prefers university degrees and leaves TVET certificates for poor-performing youth (Ngure, 2022). This emanates from the reality that a degree from a university increases one's chances of getting a higher-paying white-collar job. Academia and higher education have used curricula as an instrument for new skills, to enhance the economy and reduce unemployment, based on development policies in line with the World Bank concept of TVET. However, it has retained the colonial legacy of the academic route in the education system and failed to connect different actors in sustainable consumption locally and globally.

The academic drift discourse is presented as interconnecting the Global North and South with the same goals. Yet, the prevailing interpretations of vocational and academic education are deeply rooted in historical, political, cultural, and economic contexts, evolving over centuries to cater to diverse needs and interests. What is common to interpretations of VET, is their insistence on 'work-life realities' or 'industrial relevance', meaning the needs of companies and employers in competition on global markets, to which the goals and contents should adjust. In the Global South, the demand by supranational agencies that TVET should directly satisfy the needs of the labour market, instead of challenging the hegemony of the academic route in educational systems, is a prescription rather than preparing the field for TVET. The strategies have failed to undermine the long-standing dominance of the academic pathway within educational systems, a dominance deeply entrenched due to historical colonial legacies. The Global North has traditionally incorporated VET into their education systems, considering it vital to provide the skills and knowledge required for specific occupations, trades, or industries. The South has not received the same priority in their academic discourse. The Global South countries' strategic plans (e.g., Plans of Governments of Kenya, Tanzania, and Uganda; Khan, 2019) aim to make them globally competitive by adopting TVET to prepare their workforce. To respond to current global challenges including climate change, strategies include statements about promoting lifelong learning, digitalisation, and innovation. Still, according to dominant development discourse, TVET is hardly the vehicle on which the Global South ascends to a world platform that the North occupies.

The universalist academic drift discourse ignores the contradictions of the mainstream policies demanding academic and vocational education to enhance economic growth in the Global North and South, despite huge differences in their industrial and employment profiles. It remains silent how responding to given 'work-life realities' leads to disturbing the earth's metabolism in a complex combination of local and planetary events (see Rockström et al., 2024). Consequently, the mainstream interpretations of vocational and academic education adopted in the academic drift discourse show ignorance about the intertwinement of the global division of work with planetary boundaries and local conditions of sustainable livelihoods.

Findings from 'Mediators'-study

In this section, we discuss views in the Global North and South about relations between vocational and academic education, and whether they recognise academic drift in vocational education. Our notions build on a small-scale empirical study, which was conducted between Tampere University, Kisii University, Mzumbe University, Kyambogo University, Baoji University of Arts and Science, and South China Normal University (Heikkinen et al., 2022). The study implemented surveys and interviews among university staff and students; staff, and students in vocational and adult education; industry or employer and employee organisations; and governance. Respondents were asked about their conceptions and expectations towards university curricula and curriculum development in promoting sustainable livelihoods through vocational and adult education.

In the study, vocational education was understood as activities and practices contributing to prevailing forms of social metabolism, mediated by human and nonhuman labour, formally or informally delegated to institutions and practitioners in public and private sectors of societies. A loose pre-understanding was that vocational education aims to enable student-learners to participate in work-life. Governance of vocational education was considered guidance by policies, practices, and institutions, executed by formally or informally authorised policymakers, administrators, leaders, and planners (designers) in public and private sectors of society, materialising in the interaction between the governors and governed. Universities and higher education institutions were understood as formally authorised but autonomous institutions, responsible for research-based knowledge-creation and education of professionals and experts, with societal interaction and impact. Their mission of training people who drive production and consumption in society materialises in strategies and practices in the development and design of degree programmes and curricula – aims,

contents, and implementation – in the engagement of various categories of staff, students, and non-university actors in both public and private sectors.

Respondents from all contexts found horizontal and vertical siloing of industry, education, and governance and tensions between local, national, and global contexts to constitute the biggest obstacles to collaboration between actors, especially in developing university curricula and programmes related to vocational education. However, the rift between academic actors from communities, work-life, and vocational and adult education institutions and actors rather than the academisation of vocational education was considered a major problem. Instead of complaints about academisation, they requested more collaboration in research and development. Yet, it was controversial whether the expectations referred to promoting a democratic work-life or competitiveness in the local and global economy. Furthermore, findings indicate that the action space of all kinds of educational institutions is constrained by the financial steering of governments and competitive and short-term project funding, which decreases autonomy and resources for collaboration. As expected, the findings also show the persistence of stereotypical views about the opposition between theory and practice, both in and outside academia.

To illustrate the need for a contextual approach to promoting sustainable livelihoods, we emphasise findings that were more typical in the Global North (Finland) and South (Kenya). In Finland, the respondents showed the most holistic approach to developing mediating expertise for sustainable livelihoods. They emphasised perspectives across industrial sectors, production chains, and cycles and stages of education. Yet, they mostly referred to vocational education and work-life institutions, instead of universities, except for some notions about universities of applied sciences. Although many recognised that tackling unsustainability requires long-term action and collaboration, there were minor references to wider conceptual frameworks and historical-causal links between global economic and environmental interconnections. In Kenya, it was most striking that craft people feel they are not recognised and included in curriculum development processes in higher education. Still, they would have experiential knowledge about local livelihoods and could communicate the needs of local industries and communities to universities. The respondents emphasised the necessity to engage workers, employees, craft, and local communities in collaboration with universities and higher education in curriculum development. In promoting expertise for sustainable livelihoods, they found it important to focus on self-employment and a sectoral approach.

Despite political, economic, and social diversity, the transnationally and nationally dominating eco-modernist policies and discourses of vocational education and sustainable development were visible in the responses from all

contexts. The aims of continuing economic growth and competition by developing large-scale high-technological solutions in production, distribution, and consumption, were commonly taken for granted or problematised only indirectly, yet hinting at environmental justice and degrowth ideas. Many respondents followed dominant discourses, where vocational education would promote the global transformation to a 'green economy' by providing green skills and competencies. Yet, the universalism of eco-modernist solutions is confronted by the diversity of political, economic, and social traditions and geo-ecological realities. The dominant solutions are developed in individualist, highly regulated and monetised, and high socio-metabolic countries of the Global North, such as Finland. They can be implemented in the lavish economies of the Global North, but hardly in the subsumed economies of the South.

The study's main finding was that combatting the environmental, social, and political crises requires new mediating expertise and knowledge, which enables interaction between vocational and adult education, academia, and local livelihoods. New expertise should recognise existing qualification frameworks, occupational structures, curriculum, and programme structures, and integrate the knowledge of and competencies for the world of vocational and adult education, and their local, national, and planetary interdependencies and governance. Yet, being dominant in the education of experts in governance, work-life, civil society, and education, universities were seen in a key position. While the current detached methodological and ethical approaches of academia were criticised, co-creative, experimental, and self-critical development and implementation of curricula were expected between universities, vocational and adult education, work life, and communities. Collaboration across the Global North and South was considered necessary since sustainable livelihoods cannot build on the global scaling of the exploitative solutions from the North.

As an interim conclusion, we suggest that the notions about the persistent institutional and practical siloing reflect the epistemic rift between academia, vocational and adult education, work life, and policymakers. For us, this indicates the structural arrogance of academia in front of its responsibility to address the planetary crisis. The detachment of theoretical and methodological frameworks in academia hinders analysing the relations between vocational education, the economy, and the environment. Most respondents in our study considered academia ignorant about the ground realities of vocational education and work-life. Yet, they expected academia, due to its autonomy, to be able to conduct self-critical evaluation and development of its programmes with non-university actors to address the planetary crisis.

Reflections on findings from a wider perspective

There is wide research discussion around academic capitalism as a global phenomenon, and vocational education and training (systems) as enacting varieties of capitalist (national) economies (e.g., Busemeyer & Trampusch, 2011; Jessop, 2017). However, it tends to disconnect academia and vocational education and ignore their entwined function in disrupting planetary metabolic relations. Therefore, in our attempt to find reasons for previous findings, we reflect them from a wider perspective of development, environmental, and sustainability research. It is backed by a study by scholars from the Universities of Tampere and Jyväskylä, Stamford and Islamic Universities of Bangladesh, Duhok University, Finnish Association of Education of Adults, University of Wuppertal, Austria Institute of Advanced Studies in Vienna, and Tallinn University. The study questioned the possibility of connecting the idea of social progress with environmental care, building on previous research by the project team. It focused on the contradictions of sustainable development in adult, vocational, and higher education, and their link to governance, especially from the perspective of the Global North-South configuration (Heikkinen & Jinia, 2023). These reflections are concretised by portraits from the Finnish forest industry, Bangladeshi tea and garment industry, and Kenyan tea industry as exemplary for the global division of work and industries, and planetary social metabolism.

Based on reviews on development policies, sustainable development agendas, and environmental degradation, the 'Environmental Care and Social Progress'-study showed how the influential development agencies (UN, World Bank, EU, OECD, development aid organisations) classify countries and regions as 'developing' according to income levels and fund aid projects according to standards of the Global North, applying models of linear economic growth (Heikkinen et al., 2022; Heikkinen & Jinia, 2023). Thus, the Global South is considered to need and receive aid from the North, though it dominates global production, commodity, and financial chains. Despite the North being in historical debt for appropriating the South and the root cause of the planetary crisis, the dominant concepts of development remain blind to 'maldevelopment' in the North (Hickel et al., 2022; Kothari et al., 2019).

Furthermore, the study showed the failure of UN sustainable development goals (SDGs) to downscale the aggregate level targets and measures to the diversity of political, economic, and social contexts, which indicates a gap between conceptions about SDGs at ground realities and levels of supranational policymaking (Collste et al., 2021; Hickel, 2019; Martens, 2019; van Vuuren, 2022). While the focus on the growth in GDP contradicts environmental and social goals, the disconnection of goals and disregard for power relations, governance, and institutions make their implementation problematic. Research also shows

that GDP growth has led to more emissions and using natural resources (Collste et al., 2021; Hickel, 2019; Hickel et al., 2022). Yet, to receive support from supranational agencies, the countries in the Global South must commit to implementing the SDGs. Despite foreign aid, consultation, and reform initiatives, the target countries seem never to emerge from the eternal prison of 'underachievement' due to their weak, contextless, and corrupt governance (Asaduzzaman et al., 2016; Farazmand, 2013; Haque, 1996).

Our study recognised recommendations by critical researchers to holistic and contextualised, bottom-up approaches to environmental crises and vesting power to local communities. Yet their concepts and visions tend to remain abstract and hesitating how to proceed (Laine et al., 2023; Martens, 2019). We agreed with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services that sustainability and development research ignores connections between SDGs, governance, and economy with ethics, values, and virtues (IPBES, 2022). In the 'great acceleration' (cf. Steffen et al., 2015), work, education, and governance have become standardised and technologised, losing their roots in local livelihoods and ethics. Though the intertwinement of 'nature work' with 'human work' has increasingly gained attention, ethical interpretations of the linkage vary from the ecomodernist instrumental view of nature as 'services/capital', to degrowth and earth stewardship, and to prioritising the intrinsic value of nature over humans (IPBES, 2022; Kothari et al., 2019). However, due to the responsibility for educating leaders, professionals, and managers in work life, educational institutions, and governance our study considered that most critical are the values, virtues, and wisdom adopted by academia. We requested relational ethics of care with concrete dialectical wisdom about relations between local and planetary. This implies recognising links between linguistic, socio-cultural, and biodiversity, and the diverse ways to organise human and nonhuman work, that is, social metabolism, on the planet (Heikkinen et al., 2023).

The 'Mediators'-study concluded that promoting sustainable livelihoods through vocational and academic education across localities requires concrete research-based collaboration, which focuses on realities of work-life and industries, and interconnections between global production and commodity chains and their local manifestations (Heikkinen et al., 2022). The Finnish forest industry, the Bangladeshi tea and garment industry, and the Kenyan tea industry seem good candidates for this purpose. For example, the packaging products from Finland are exported directly or indirectly to cheap export countries, such as Bangladesh and Kenya. From there low-cost products, such as garments and tea, are exported in packages back to high-income countries, such as Finland.

The Finnish territory is mostly covered by forest; thus, the forest industry has been critical for the formation of the Finnish nation-state society and national economy, linked to its history of being part of Sweden and the Russian Empire until 1917 (Heikkinen et al., 1999; Kuisma, 1993). Since early on, it has been intricately linked to global trade, benefiting from largely self-sustaining cheap labour, cheap (water and wood) energy, and raw materials. However, since the early 20th century, land and forest ownership have been dispersed, balancing capital accumulation. This was reinforced through universal voting rights and parliamentary democracy at state and municipal levels which enabled civic control and involvement in economic policy. Since the 1960s, with rapid 'modernisation', closures of small farms, and urbanisation Finland built a welfare state on the equality of opportunity principle. It integrated into the economic and political framework of the Global North, through investments in technologically advanced exports and profiting from the import of cheap fossil energy and consumer goods (see Koivunen et al., 2021). In education for the forest and wood processing industry, the focus shifted from academic or higher vocational education of foresters, engineers, and supervisors, and experiential learning of workers, to qualifying factory workers and owners and workers in forestry (Heikkinen et al., 2001). The Finnish forest industry currently operates at the forefront of the EU's 'green deal' policy (Finnish Forest Industry, 2022; see Heikkinen et al., 2022). This means striving alongside the whole technology industrial sector ('pure' energy and metal production) to be winners in the global 'green transition'. It follows the eco-modernist agenda, exploiting 'national' advantages, such as political and social stability, in the EU and the global markets. However, the position builds on the hegemony of the Global North due to unequal relations in production, industry, financing, and technology.

In education policy, academic and vocational education continue subsumption to economic growth and competitiveness of national industries, as prerequisites for maintaining a welfare society (Heikkinen et al., 1999; Koivunen et al., 2021). Thus, academia and higher education are developed as the RDI-cluster and vocational education as a servant in the competition for industrial and economic leadership in global green transition. However, forests as planetary commons are critical carbon sinks and maintainers of biodiversity, and the replacement of fossil fuel with wood and peat is problematic due to emissions and land use, thus academic and vocational education should study together how to tackle the challenges. Despite the rhetoric of human rights and corporate responsibility, there is silence about the inequalities of global production and commodity chains in the forest industry. Consequently, its success and educational policy supporting it can be blamed on the lack of good governance

and being exemplary of nationalist closure and hypocrisy without genuine planetary solidarity.

The garment industry makes up 80% of Bangladesh's exports, but only a few of its mostly female workers have any vocational training. Another major export sector is the tea industry, which dates to colonial times. Both industries face criticism for labour exploitation, including low wages, poor working conditions, and environmental degradation. Their struggle to recruit skilled labour despite their economic significance can be attributed to the educational context that affects both. Bangladesh lacks a unified education policy since post-independence, leading to disparities in education quality and access. Historical factors, including colonial rule, traditional and cultural influences, and ongoing political instability, contribute to this absence. This legacy perpetuates issues like hegemony, patronage, corruption, and brain drain, hindering governance and exacerbating educational challenges. Consequently, vocational education lacks clear strategy and recognition in academic discourse. The massive garment industry fuels the planetary crisis through excessive water use, chemical pollution, and labour exploitation, and the tea industry contributes to deforestation, biodiversity loss, and pesticide runoff, undermining global sustainability efforts. While Western buyers prioritise cost over labour rights and environmental concerns, industry proprietors holding political positions perpetuate exploitation despite global demand for inexpensive products. Meanwhile, academics show reluctance to engage with vocational education due to their perceived inferior status in society. The epistemic rift is evident in the intertwined vocational education and industrial landscapes, shaped by historical legacies and contemporary challenges, demanding systemic change and heightened academic involvement.

In Kenya, tea planting was introduced by the British in 1903, and most plantations continue to be owned by multinational tea companies. The Tea Board of Kenya estimates that tea accounts for about 70% of export earnings and employs many mostly unskilled women. The global tea industry has always perpetrated a dark legacy replete with forced labour and slavery. Currently, most low-level workers, who make up the majority, are trapped in perpetual poverty and abuse among other human rights violations (International Labor Rights Forum, 2021). The BBC uncovered current evidence of massive sexual exploitation in tea plantations (Africa Eye and Panorama teams, 2023). The tea sector has shown an abnormal inability and resistance to change despite membership in international trade organisations such as Fairtrade International which tries to address the poor wages for workers. Local governments, private sector actors, and civil society have also made efforts to improve the conditions of workers in the sector. The withdrawal of big multinationals, such as Unilever,

only compounds this inability as they are focused on making a profit before investing in workers' welfare. Additionally, global warming threatens the monoculture tea industry with increasing droughts and poor yields, endangering livelihoods.

While the tea industry needs workers, ready to work when they come from training, it also needs workers who can think critically, challenge hegemonic forces, and make up an empowered workforce to achieve economic visions sustainably. This would help the country be less dependent on foreign aid to meet obligations to its citizenry and chart its future. However, its economic development and stability depend on market forces and are vulnerable to trends in the Global North. Multinational businesses control the supply chain and most of their policies are designed to maintain the top status in the hierarchy. The government that depends on multinationals for technical and financial support does not have the muscle to design visions to improve the lives of the citizens if these upset their status. When new policies and practices in academic and vocational education are tied to 'aid' and economic support from the Global North, the South must accept them. This results in graduates from vocational education getting jobs in multinational corporations while not equipped with the capacity to think critically and challenge practices that maintain the power relations with the North. These include keeping low-paid workers producing tea that enriches multinationals and keeping the workers in global headquarters relatively highly paid.

The request for multi-scalar, planetary governance to care for planetary commons against the disruption of the biophysical Earth System is widening (e.g., Bennett & Reyers, 2022; Rockström et al., 2024). However, the high-technological and costly solutions from the Global North are not scalable and feasible for the South. In addressing the planetary crisis, the North should radically revise social metabolism and use less energy and material flows in production and consumption. The nonrecognition of the interconnectedness of the capitalist world system perpetuates the planetary crisis and poor governance equally in the North and South. Universities and academia that could intervene and engage in the crisis seem unwilling or incapable due to historical and structural constraints, and the rest of the population lacks the power and resources to do so. Yet, the extraordinary economic growth and technologised way of life in the Global North are the results of the world-ecological history of capitalism, building on the exploitation of the 'Cheaps of Nature', especially fossil fuels. To combat the Capitalocene and reduce fossil fuels would require very alternative ways of organising social metabolism and work in the Global North-South configuration. By shaping work, economy and governance,

academic and vocational education are critical for promoting work- and economy-related planetary ethics, values, and virtues.

Arrogance and self-inflicted ignorance of the academia

Our previous studies shared an ethical concern about the potential and responsibility of universities to connect academic and vocational education in confronting planetary crises. We showed how this is hindered by the siloing of industries, governance, and education locally and globally, and avoiding addressing historical epistemological, ontological, and ethical hierarchies between the Global North and South. The lack of a planetary approach seems to lead to the epistemic rift – the detachment of knowledge creation and educational practices between vocational and academic education and disregard of inequalities in the division of work, industries, and governance – as the root cause of the planetary crisis. To concretise our statement of discourse on the academic drift in vocational education as manifesting arrogance and self-inflected ignorance of academia in front of the planetary crisis, we draw on discussions among participants of the studies mentioned above, concerning their experiences about academia and its relations to vocational education. The participants came from thirteen universities in ten countries, most seniors with an extensive background in collaboration with researchers and non-university actors in and across the Global North and South (for details, see Heikkinen et al., 2022; Heikkinen & Jinia, 2023). Based on our notes and joint memorising, we raise issues that emerge most frequently and intensely in face-to-face and online meetings, email correspondence, and virtual platforms. However, our focus remains on Finland, Bangladesh, and Kenya.

In Finland, the rhetoric of the relevance of research and collaboration with vocational education and work life is common in academia. However, this mainly happens in vocational teacher education units of universities of applied sciences and focuses on improving their pedagogies and practices. One cause of ignorance and arrogance is that research and collaboration depend on individual expertise and experience, with narrow methodological approaches, and the lack of cooperation between institutions, which seems to lead to the siloing of actors. This hinders the cumulation of vocational education research that connects to concrete realities and builds on a wider critical-political framework. The staff seems to consider structures of funding and governance, conditioned by global academic capitalism, to force them to feed performance indicators, compete for project funding, and publish in ranked international (i.e., English language) journals. Yet, this can be interpreted as an escape into exclusive discourse about their theoretical economic, and political autonomy, which should not be spoiled

or corrupted by collaboration with non-university actors, especially work-life and vocational education. With an academic background, few risk their careers and reputations with unrewarding and laborious familiarisation with such complex fields. This leads to a vicious circle, where the lack of theoretical and empirical research implies their absence from curricula and supervision and reproduces ignorance and arrogance among future academic generations. Although Finnish universities emphasise their progressive role in solving wicked problems of the world, there is hardly any criticism about being part of the economic, industrial, and educational hegemony of the Global North, which came out in our example of the Finnish forest industry. In institutional practices, the emphasis is on pooling excellence from the Global South, and collaboration with institutes and individuals with similar backgrounds and profiles as in the North. The attitudes and behaviour towards different conceptual and cultural backgrounds and academic practices remain rather exclusive and even racist. Such adoption of double standards to planetary crisis and inequalities as arrogance, and avoidance of self-criticism as self-inflicted ignorance.

In Bangladesh, despite government rhetoric, the significance of vocational education has not been given due priority in discussions within the education and industry sectors. vocational education struggles to attract high-achieving students due to societal biases favouring traditional academics, leading to stigma and misconceptions about vocational education. The lack of prestige and recognition for successful graduates further deter students and reinforces the belief in the inferiority of vocational education. Academics are hesitant to pursue careers or research in vocational education due to the perception it has a lower status in society. The influence of colonialism, and longstanding traditions, affect decisions individuals make regarding their professions or research areas, leading academics to prefer fields seen as more prestigious. There is a gap between academia and industry while universities prioritise financial gains for research endeavours, overlooking active involvement from work-life. Their unwillingness and ignorance to promote vocational education through teaching or research, its diminished status is hindering collaboration in addressing environmental and social crises, exemplary in the garment and tea industries.

In Kenya, academia is involved in a delicate balancing act. Through its programs, it should guide the country by interpreting and supporting global trends and scenes while maintaining cultural values that have held the local communities together. Yet, vocational education does not have strong links to universities, though universities are training their staff. The disconnect between academic and vocational education results in university-trained graduates not being equipped to teach in vocational education, and vocational education graduates being retrained before they are 'job ready.' Additionally, graduates are

not equipped to challenge the hegemonic structures in the community. These include both local elites from the university, superior to them and not ready to relinquish their position because of Vision 2030, and the Global North players who keep them as low-paid supply workers in industries. Academia is expected to lead the engagement with the global community while helping the citizenry keep their values and culture, but there is a gap between it and the population. The question is, who is included and how in a way that does not upset the existing balance? Vocational education could bridge the gap, considered an arm of academia that is practical and closer to the community, but cannot because being hardly ever included in processes such as developing its curriculum, done by academia. Players in academia are often elites who occupy top positions in social hierarchies and do not welcome opening their place in society by developing curricula and training in a way that empowers vocational education graduates to push back against enslaving labour policies and practices. Our example from the tea industry indicates that academia seems not to have the muscles to resist policies and practices received from the multinationals, since their curricula are developed on blueprints from supranational agencies, such as the World Bank. It seems to stubbornly hold onto abstractions given from them at the expense of programs that acknowledge and include local epistemologies, enabling communities to address the planetary crisis.

Based on our experiences, academia in the Global North and South seems hesitant to recognise their impact on vocational education in the planetary organisation of human and nonhuman work. Their role as reproducers of the capitalogenic economic order remains hidden in the arrogant rhetoric of being an autonomous science hub and in the collective apology about the necessity to adapt to financial and career norms, rules, and demands of global academic capitalism. As we highlight elsewhere, this connects to the dominant methodological and educational principles in academia, which prioritise abstract theorisation and empirical measuring, ideally with standardised tools in a controlled, artificial laboratory-like setting (e.g., Heikkinen & Jinia, 2023). While seemingly effective for managing and appropriating the planet, this increasingly disconnects from material interaction and concrete and experiential knowledge about metabolic relations between human and nonhuman nature. Paradoxically, endless abstraction and standardisation miss contextual and specific realities critical for understanding and coping with the multi-scalar, interdependent social and biophysical processes. Despite emphasising the distinctiveness of 'academic' knowledge and methodological skills, they seem just as instrumental as 'vocational' education in sustaining colonial economic and political power relations underlying planetary environmental crises. Consequently, the popular 'academic drift' discourse in the Global North seems rather obscure the widening

of the epistemic rift by conceptually expanding the working class through instrumentalised 'academic' skills, knowledge, and competencies, thus worsening the disruption of metabolic relations between human and nonhuman nature.

Since all forms and stages of education contribute to the global organisation of work, economic chains, and cycles, sustaining the disturbed social metabolism and Earth System, their response to planetary crises should be holistic. However, due to the complexity of the crises and lack of democratic planetary governance, our studies suggested that changes must start by recognising the current diversity – and hierarchies – of actors, institutions, and contexts. Instead of focusing on 'academic drift in vocational education', bridging the 'epistemic rift' between academic and vocational education could start by recognising their dialectic relationship and functions in planetary metabolism. Yet, as a supranational research and education actor, academia has a distinctive dialectical position. It can either remain blind and irresponsible about its role in producing and reproducing social metabolism (organising – dividing and integrating human and nonhuman work), arrogant and ignorant towards vocational education, or it can build on its autonomy and mobilise (self)critical collaboration with other actors to find alternatives to the fatal economist growth doctrine. According to the 'Mediators'-study, academics could facilitate bridging the epistemic rift by confronting conceptions, experiences, and expectations between actors in work, education, and governance, locally, nationally, and across localities. Vocational education could provide indispensable concrete and experiential knowledge about the realities of work and people's livelihoods in metabolic relations in local industries and communities but may not grasp the extent of their impact on the planetary condition. Collaborative research and teaching methodologies between university and non-university actors, co-research with self-critical analysis of the status quo, require mutual learning and knowledge-creation with concrete meaning. It could be promoted through dialogues and encounters across linguistic and socio-cultural diversity in work, governance, and education (Heikkinen et al., 2022; Heikkinen & Jinia, 2023).

Surpassing the 'epistemic rift' requires bridging actors and institutions across contexts and localities, as concluded in the 'Environmental Care and Social Progress'-study. Since the dominant discourses and institutional definitions of 'academic' and 'vocational' are shaped by epistemic, economic, and political disparities in education and work, influenced by supranational financial institutions, donor agencies, and consultants, it is vital to examine how global dynamics and local realities intersect. The embedding of colonial culture, concepts, and education within the frameworks of universities in the Global North and South force them to align policies and practices with the dominant

global actors, marginalising local voices and priorities. Consequently, academics, development activists, and policymakers adhere to the hegemonic recommendations of the North overlooking their ground realities and contexts. They prioritise theories, methodologies, and educational paradigms originating in Northern contexts. Therefore, academics in the Global North and South should decolonise their thinking and facilitate contextualised, self-critical analysis of 'academic' and 'vocational' in education, and their dominant discourses and institutional definitions.

We are aware that our article is limited and preliminary in confronting epistemic rift and planetary crises in academia. However, we believe that actors with such an academic and ethical mission as the VET and Culture Research Network could support more concrete and detailed action in the future.

Endnote

[1] Using a capital letter means that cheapness is a monetary interpretation of these entities, prevalent in the dominant capitalogenic epistemology and material practices.

Notes on contributors

Mohammed Asaduzzaman is a professor of Public Administration at Islamic University, Kushtia, Bangladesh. His academic interests and research span various facets of public administration, focusing on governance, public administration, NGOs, public-private partnerships, citizen participation and higher education. Through his research and teaching, he aims to contribute to more inclusive and effective governance by fostering an environment that emphasises community involvement and sustainable development.

Anja Heikkinen is an emeritus professor of Education at Tampere University (TAU), Finland. Her research, teaching, and publications focus on relations between education, work and politics, from historical, cultural, and gender perspectives. She has been active in national and international research networks, associations, and projects in vocational and adult education, and history of education, as well as leading the research group Equality and Planetary Justice in Vocational, Adult and Higher Education in TAU.

Santeri Sorsa is a doctoral researcher at the Faculty of Education and Culture at Tampere University (TAU), Finland. His dissertation focuses on the politics, culture, and discourses surrounding Finnish vocational education and its reform

politics. His other activities have been in ecology, environmental politics, and questions of growth and degrowth.

Pamela Wadende is a lecturer at Kisii University, Kenya. Her research and teaching centre on education, human flourishing, and societal transitions including those caused by climate change. She is an executive committee member of the international networks, Developmental Scientists for Climate Action (DevSCA) and the International Society for the Study of Behavioural Development (ISSBD).

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