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The Initial Teacher Education of Vocational Education and Training Upper Secondary Teachers in Norway and Finland - Lessons for Australia I K. L. O'Reilly-Briggs, 2023

COVER PHOTO: The Maiden of Finland wears a bear skin and holds a laurel wreath in the Esplanadi Park, Helsinki, Finland. She represents 'art' and leans against a tablet that contains the Swedish lyrics to Finland's national anthem "Vårt land" (Finnish: Maamme). The sculpture is a dedication to the Finland-Swedish author, poet, and priest Johan Ludvig Runeberg (1804–1877), and made by his son, Walter Runeberg (1838–1920). The sculpture was unveiled in 1885.

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Executive summary

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To become a secondary school teacher in Australia, candidates are required to study for an accredited Initial Teacher Education (ITE) higher education qualification. However, Australia has been unable to sustain suitable programs to generate a supply of Vocational Education and Training (VET) secondary teachers to teach the nation's 251,200 VET in Schools students (NCVER, 2022). Hence, there is today a chronic shortage of VET school teachers, and rapidly diminishing opportunities for industry experienced professionals, such as tradespeople, to become professional VET secondary school teachers. Indeed, VET school teachers are so rare, they are literally referred to as an 'endangered species' by the Australian Institute for Teaching and School Leadership (AITSL), the national organisation responsible for accrediting Australia's teacher preparation courses. Unless steps are taken to purposefully generate VET ITE courses to produce a corpus of VET teachers for secondary schools, the quality, status and efficacy of VET school programs for secondary students in Australia will continue to suffer.

Understanding how experienced workers are able to become qualified VET school teacher is the primary focus of this Fellowship report. The author was inspired to travel to Norway and Finland following the publication of the Organisation for Economic Cooperation and Development (OECD) report *Teachers and Leaders in Vocational Education and Training (2021)* that indicated similarities between these countries' ITE education qualifications and those required by Australian teachers. This Fellowship sought to understand how Finland and Norway, two countries with well-established VET ITE programs, are able to offer courses to industry experts to produce a supply of professional teachers with extensive vocational expertise to resource their nation's secondary schools so that Australia could learn from these examples.

This Fellowship study was conducted as an international applied research project with ethics approval, and designed to comply with the research protocols of the countries involved. The first section begins by exploring Australian VET teacher shortages and what the literature says about VET in Schools. Section two takes a look at Finnish VET and VET teacher education, before presenting data and findings of research conducted in Finland. Section three looks at Norwegian VET and VET teacher education before presenting data and findings of research conducted in Norway. The report concludes with a discussion of findings and considers these findings in the context of Australian education. It further presents recommendations and some longer-term considerations for Australia.

The findings and recommendations support a positive argument for the introduction of bespoke ITE programs for industry experts influenced by both Finnish and Norwegian VET ITE pathways to secondary teacher qualification. By furthering evidence-base around international models of VET ITE and offering recommendations concerning the potential of these pathways to be

adapted and utilised in the Australian context, this report offers possible solutions to the nation's VET secondary teacher shortage crisis, as well suggestions to enhance the status of VET in Australian society.

Key recommendations

- Introduce to Australia a model of VET Initial Teacher Education (ITE) inspired by Finnish and Norwegian course models designed to support and upskill industry experts (e.g., tradespeople, technicians, artisans) to become high-quality professional VET secondary school teachers with equal status, pay, conditions and professional opportunities as general secondary school teachers;
- Offer financial support in the form of scholarships, Commonwealth Supported Places, study loans, and internships to vocationally qualified and industry experienced mid-career adults wanting to become VET secondary school teachers;
- Adopt a 'no dead ends' education policy to ensure that all vocationally qualified industry experts, including those without a bachelor level qualification (e.g., tradespeople, technicians, artisans) can still pursue higher levels of learning and not encounter structural barriers to higher levels of attainment or lifelong learning.

Longer term considerations for Australia

- Establish a VET in schools tripartite where, like in Norway and Finland, schools work closely with enterprises, industry and community representatives of a region to offer VET secondary students structured Work Integrated Learning and meaningful opportunities to engage in school-based apprenticeships that result in a trade certificate or other vocational qualification on completion of their senior school certificate;
- Introduce a Norwegian inspired model of VET in schools that offers first year VET students one academic year to gain an overview of an industry of interest to them before specialising in a trade or vocational qualification;
- Introduce universities of applied science that operate alongside scientific universities, afforded the same status, levels of funding and privileges as scientific universities. Positioning two types of universities that work collaboratively and in parallel will increase the value and status of vocational education and applied learning in Australia and encourage greater societal appreciation of both academic and vocational streams of learning;
- Adopt the Finnish multi-dimensional understanding of competence that includes knowledge, skills, values, attitudes and will/volition.

Fellowship background

Fellowship context

6 Since the 1990s, the Australian education sector has been unable to establish a sustainable or productive enough way of upskilling industry experienced tradespeople and other vocationally qualified industry experts to become qualified Vocational Education and Training (VET) schoolteachers for secondary schools. Today, there is a dearth of Initial Teacher Education (ITE) programs for industry experienced tradespeople to become qualified VET secondary school teachers.

Before its closure at the end of 2020, the Fellow was the course coordinator of the only undergraduate ITE program in Australia specifically designed to recruit and up-skill industry experienced tradespeople to become VET and Product Design and Technologies teachers qualified to teach in Australian secondary schools. The closure of the program had the effect of creating a significant obstacle for tradespeople wanting to enter the secondary teaching profession to teach their trade and material technologies subjects in schools. Paradoxically, the closure of this program during the COVID-19 pandemic coincided with state and federal government plans to generate a skills-led post-pandemic economic recovery, while pledging billions of dollars to encourage young Australians to pursue trade apprenticeships and other vocational pathways to the workforce. From this vantage point, the Fellow witnessed what could be described as a perfect storm—Australia was no longer producing a supply of high-quality pedagogically prepared teachers capable of teaching students a trade or vocational skills in schools, creating a situation that was more likely to stifle rather than assist national efforts to develop a skilled workforce for economic recovery.

Aware that there are countries in the world that are able to offer and sustain successful ITE programs to produce industry experienced VET teachers, the Fellow decided to apply for an International Specialised Skills Institute Department of Education and Training Fellowship (hereafter ‘the Fellowship’) for the purpose of investigating how other parts of the world are able to offer sustainable ITE programs to produce a pipeline of high-quality VET teachers to resource their nation’s schools so that Australia could learn from these real-world examples.

As well as acquiring knowledge of VET ITE courses, the Fellowship also aimed to acquire knowledge that would help to:

- identify and remove barriers for Australian tradespeople and other vocational professionals wanting to enter the secondary teaching profession;
- create viable pathways for tradespeople and other vocationally qualified professionals to attain a full VET secondary teaching qualification;
- elevate the standing, status and quality of VET in Australia.

After reading *Teachers and Leaders in Vocational Education and Training* (OECD, 2021), the Fellow elected to travel to Norway, Sweden and Finland because these were countries that, based on readings and previous experience coordinating an ITE program for VET and technologies teachers in Victoria Australia, appeared to offer ITE programs to tradespeople and other vocationally qualified professionals that were comparable and potentially compatible with Australian systems of ITE and teacher qualification.

In Australia, there are long standing reports of VET school teacher shortages (AITSL, 2021; DESE, 2021), yet despite this deficiency, tradespeople (e.g., carpenters, electricians, plumbers, chefs, hairdressers, metal fabricators) and many other vocationally qualified professionals (e.g., graphic designers, IT consultants, sales assistants, care workers) wanting to become qualified VET school teachers face barriers to entering the school teaching profession—and identifying solutions to this dilemma is what this study intended to achieve.

The barriers that tradespeople and other vocationally qualified professionals experience when seeking to enter the secondary teaching profession in Australia are multi-faceted, but possibly the most significant barrier is the severe shortage of suitable ITE programs and pathways leading to a VET secondary teaching qualification. Universities find it difficult to accommodate the needs of VET pre-service teachers as they arrive as mature aged non-traditional learners, and require the development of unique pathways to the teaching profession (Brown & O'Reilly-Briggs, 2017). Although there may be pathways to VET teaching for those eligible to enrol in a master of teaching degree, the vast majority of vocationally qualified professionals (such as, for example, tradespeople whose highest level of qualification is generally Certificate level III or IV) are prevented from entering these programs because they do not possess an undergraduate degree—a prerequisite to enter postgraduate programs. Currently in Australia, there are only two levels that ITE programs are offered at: bachelor (undergraduate) degree (AQF level VII), and master's (post-graduate) degree (AQF level IX). The present absence of appropriate undergraduate ITE programs for tradespeople and other vocationally qualified and industry experienced professionals presents an obstacle that is also creating a significant educational problem. That is, this situation not only impedes the prospects of industry experienced workers from becoming VET school teachers, but deprives schools and young people from benefiting from potentially high-quality vocational teachers, and the kind of expertise and authenticity that only those with significant industry experience and passion to pass on their vocational knowledge to the next generation possess. It further impedes the prospect of rectifying VET school teacher shortages. Barriers that prevent vocationally qualified professionals from accessing appropriate ITE programs to become VET school teachers is a weakness in the Australian education system and a problem in need of rectifying for the benefit of young people, industry and the nation.

Creating pathways for tradespeople to become VET secondary school teachers stands to not only benefit the quality of teaching and learning available for VET students and students of other applied learning programs in schools, but will inevitably help to enable economic recovery by improving the ‘quality and relevance’ of VET in schools programs— one of the national priorities agreed by Australian state and federal governments (Department of the Prime Minister and Cabinet, 2020).

Fellow biography

Dr Karen O’Reilly-Briggs (PhD) is an International Specialised Skills Institute, Victorian Department of Education and Training Fellow, Victoria University Adjunct Fellow, Academic Course Manager–Education at Box Hill Institute, Secretary of the Australasian Vocational Education and Training Research Association (AVETRA), industry experienced trade qualified metal fabrication engineering and pressure-vessel welding tradesperson, and (former) trade teacher from Melbourne, Australia. Her research interests include vocational education and training (VET), craft trades, trade apprenticeships, and the status of VET in society. This is O’Reilly-Briggs’ second ISSI Fellowship, following her first ISSI Department of Education Science and Training sponsored National Overseas Fellowship in 2006 that investigated the trade of Pipefitting in USA and Canada. She lives with her husband, David Briggs, and Staffy ‘Lucy’ in Camberwell, Victoria.

Fellowship period

Dates of travel: 7–19th May 2022



Research methodology

This Fellowship was conducted as an applied research study with Human Research Ethics Committee (HREC) approval from Victoria University, with the working title: *Investigating the Initial Teacher Education (ITE) of VET school teachers in Finland, Sweden, and Norway*. Approval no. HRE22–015.

The travel component of the Fellowship was conducted by means of visiting schools and universities in Norway and Finland, and by attending the 8th Stockholm International Conference of Research on Vocational Education and Training in May 2022. The study sought to identify and recruit VET school teachers as well as lecturers and academics responsible for the education of VET secondary school teachers in Norway, Sweden, and Finland for interview. Prior to travel, emails were sent to potentially suitable departments of VET teacher education and an education touring company in Finland to request invitations to visit schools offering VET. Although Swedish VET ITE was originally intended to form part of this study, the Fellow decided that the scope of the study was too broad and made the decision to narrow the research's purview and concentrate on the Norwegian and Finnish models of VET ITE.

Potential participants were asked to take part in the research and given information about the study including background information, participation criteria, a participant information statement, a list of interview questions and a consent form. They were further invited to participate in a semi-structured interview to share their knowledge of the programs, systems and supports available for the ITE of VET school teachers and pre-service VET teachers in their countries. All research questions were designed to elicit information about the ITE of VET secondary teachers, the organisation and nature of VET secondary school programs, and information about the perceived status of VET in their respective countries. All questions were of a non-personal and non-sensitive nature to comply with the ethical requirements of the countries involved. All participation was voluntary, and participants were free to withdraw their participation without consequence—even though no participant exercised this right. During the travel component of the study, participants were identified and, if agreeable, recruited and/or requested to refer colleagues for interview. Some interviews were conducted during international travels, while others were conducted in late-May and June 2022 via Zoom video conferencing post-travel.

As a pragmatic multi-method study, data was also collected from literature searches, literature reviews, reflections, and artifacts (e.g., photos and pamphlets) to help construct a bricolage of knowledge from which to extract findings.

On return to Australia, all recorded interviews were transcribed, de-identified, and emailed to participants to read and approve to comply with member checking procedures to ensure trust and rigour. All names of participants have been changed to protect their identities. Interview data was read and reread to identify major themes and processed using thematic analysis.

This report will begin by explaining the context of the study, including a discussion that argues the need for appropriate ITE programs in Australia to produce industry-experienced VET secondary teachers.

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The first section of this report explores Australian VET teacher shortages and what the literature says about VET in Schools. Section two takes a look at Finnish VET and VET teacher education, before presenting data and findings of research conducted in Finland. Section three investigates Norwegian VET and VET teacher education before presenting data and findings of research conducted in Norway. Section four concludes with a summary and discussion of findings before presenting recommendations and further considerations for Australia that will be of interest to governments, VET policy makers and education stakeholders in search of ways to address VET secondary teacher shortages in Australia.

Key findings

- Norway and Finland offer bespoke Initial Teacher Education (ITE) programs for industry experienced trades and crafts people to produce a sustainable supply of qualified VET teachers to teach vocational programs in upper secondary schools;
- VET secondary teachers receive the same pay, conditions, professional opportunities and high level of social respect as general school teachers;
- VET, including VET in secondary schools, is well respected and socially esteemed in Norway and Finland;
- VET upper secondary teachers in Norway and Finland are well-educated and trusted professionals;
- Norway and Finland as nations value education and the principle of lifelong learning. All learning pathways lead to higher levels of learning, and their education systems are designed around the principle of ‘no dead ends’;
- Both Finland and Norway have universities of applied science (formerly polytechnics) that operate in parallel to scientific universities. The presence of both types of universities positions vocational and applied learning as equal to learning in scientific universities. Tertiary students can pathway vertically or traverse between the two types of universities—from school through to doctorate;
- Both Norway and Finland are social democracies. Public education is free to study in both countries, and financial incentives and supports are available for mid-career adults returning to study;
- Respect for the VET teaching profession is important, and countries need skilled and pedagogically qualified VET teachers to prepare school students for their working futures.

Section 1: VET in schools, and the need for Initial Teacher Education for VET school teachers in Australia

Vocational Education and Training (VET) in Schools is in the spotlight and has become of significant political, economic and policy interest to Australia as the nation seeks ways to emerge from the social and economic costs and damage to the economy following the COVID-19 pandemic. Current economic conditions make the education and preparation of secondary students, including the choices they make regarding their employment futures, of pressing importance to the nation (Firth, 2020, p. 9). Senior secondary education, which includes VET in Schools¹ programs, is situated at the nexus of school and post-school life, and it is the last opportunity that schools have to ensure that students are adequately equipped to navigate their post-school futures—whether this be to further education or transition to the workforce.

The Australian VET in Schools program is a national policy developed to offer senior secondary students the opportunity to gain a nationally recognised VET qualification, and skills and knowledge needed to enter the workforce. In 1996, the Ministerial Council for Employment, Education and Training and Youth Affairs (MCEETYA) established a taskforce to encourage the take-up of VET school programs throughout secondary schools (Brown, 2019), and schoolbased apprenticeships were also introduced to enable school students to begin a part-time apprenticeship and receive payment for time spent in the workforce (Misko et al., 2017). The national VET in Schools program was one of many education reforms occurring in Australia in the mid-1990s. Others reforms included the implementation of the Australian Qualifications Framework (AQF) in 1995, competency-based training (CBT), industry endorsed Training Packages comprising of competency standards and rules for vocational qualification, and steps to broaden school-based learning opportunities to young people not wishing to pursue university pathways (Brown, 2019, p. 2).

Today, there are an estimated 251,200 VET in Schools students in Australia consisting of 20,500 students employed in school-based apprenticeships and traineeships (SBATs), and 230,700 students engaged in other VET programs, in all representing 91.8 percent of all VET in School students (NCVER, 2022).

VET delivered to secondary students in Australia occurs in a variety of settings and contexts; however, this study is primarily focused on VET offered within secondary school settings, on school premises, and in Trade Training and Trade Skills Centres. Although the purpose of VET in

1 VET in Schools (VETiS) is also known as VET Delivered to Secondary School Students (VETDSSS) .

Schools in Australia has never been clearly articulated (Smith, 2004, p. 570), objectives of VET in Schools include the effective preparation of secondary students for employment, improving transitions from school to further education, and promoting lifelong learning (Australia Parliament House of Representatives Standing Committee on Education and Training, 2004–2005, p. 175). It also includes the retention of students in schools to increase the proportion achieving Year 12 (Coates & Rothman, 2008), as well as addressing national skills shortages in traditional trades and other vocational occupations (IVET, n.d.).

It is generally agreed that there are many benefits associated with VET in Schools programs. For example, students are offered a chance to study more ‘hands on’ subjects to gain a nationally recognised qualification and pass secondary school, and there are positive employment prospects for those leaving school with VET qualifications (Smith, 2004, p. 570). Secondary schools too experience benefits. For example, increased retention rates (and therefore increased funding), increased attractiveness to students to enter Year 11, establishing relationships with local employers, and when students develop an interest in what they are studying, they also become easier to manage (p. 570).

This year, the Australian State of Victoria has introduced reforms to the way it is offering VET in secondary schools. The new VET Vocational Major (VM) is a new applied learning program that is studied over two years within the Victorian Certificate of Education (VCE) to “give students greater choice and flexibility to pursue their strengths and interests and develop the skills and capabilities needed to succeed in further education, work and life” (VCAA, nd.). Notwithstanding, this refresh and renewed focus on VET in the VCE appears to have either underestimated or ignored the need for a supply of high-quality pedagogically prepared VET teachers to teach these programs in secondary schools. Without suitable courses to produce a supply of qualified VET teachers to teach senior secondary certificate programs, it is difficult to envisage how quality provision can or will be supported in Victorian schools.

Despite good intentions, VET in Schools has been plagued by a multitude of challenges over the years, including reports of poor quality and dubious efficacy including (but not limited to):

- confusion and misalignment between educational and occupational aspirations of students (Gore et al., 2017)
- difficulties integrating VET curriculum and delivery into the senior school certificate (Polesel et al., 2019)
- students forming negative perceptions of VET early in their schooling (Gonski & Shergold, 2021; Gore et al., 2017)
- funding biases in favour of university pathways (Gonski & Shergold, 2021)

- schools prioritising university pathways ahead of VET (Polesel et al., 2019; Productivity Commission, 2020; Shergold, 2020)
- gender stereotyping (Gore et al., 2017) and declining rates of female participation (Misko et al., 2019)
- reinforcing class segmentation (Clarke, 2015; Roberts et al., 2019)
- lack of consideration for pedagogy (Clarke, 2015)
- competing expectations and purposes (Australia Parliament House of Representatives Standing Committee on Education and Training, 2004–2005; Clarke, 2015)
- low employer satisfaction, lack of industry credibility and weak employment outcomes (Clarke, 2012; Gonski & Shergold, 2021; Joyce, 2019; Misko et al., 2021; Shergold, 2020; Taylor, 2004–2005; Zoellner, 2020)
- safety concerns (Misko et al., 2021; Smith & Harris, 2001)
- declining participation and course completion rates (Gonski & Shergold, 2021; Polesel et al., 2019)
- poor quality provision (ASQA, 2021; O'Reilly-Briggs et al., 2021; Polesel et al., 2019; Skills Australia, 2011)
- low status (AITSL, 2021; Billett, 2018; Choy et al., 2020; Dalley-Trim et al., 2008; Gore et al., 2017)
- the creation of flawed binary constructs (i.e., 'academic—non-academic' and 'intellectual—practical') (Dalley-Trim et al., 2008)
- School leaders not supporting VET (Polesel et al., 2019)
- Teachers lacking expertise and experience to be effective VET teachers (Polesel et al., 2019)
- VET teacher shortages (AITSL, 2021; DESE, 2021).

The National Review of Teacher Registration (Education Council, 2018) identified that there are significant workforce challenges related to VET in Schools environments, and three of the 17 recommendations of One Teaching Profession relate specifically to VET with the aim of addressing the “issue of VET delivered to secondary school students, exploring possible options to improve access and requirements for VET trainers/assessors delivering VET in a secondary school environment”.

Although the VET in Schools policy has been in existence for approximately three decades, the Australian education sector has not yet been able to establish a sustainable or productive way of upskilling industry experienced workers, such as tradespeople, to become appropriately

skilled and qualified VET school teachers. At the end of 2020, the Bachelor of Technology Education at La Trobe University, the only undergraduate ITE course in Australia that had been purposefully designed to recruit and upskill tradespeople to become VET and Product Design and Technologies teachers was closed. The Fellow was responsible for the coordination of the program at the time, and in a unique position to understand the landscape and the consequences of no longer having a suitable program to prepare trade-qualified teachers for VET and Technologies teaching. This course struggled to maintain viability for a variety of reasons, but the economic impact to the university following the COVID-19 crisis of 2020 was to be the final nail in its coffin. The closure of this program had the effect of locking tradespeople out from accessing an undergraduate ITE program that was able to offer them two-years' of advanced standing in recognition of the skills, knowledge and industry experience they brought with them to the teaching profession. It also had the effect of aggravating VET school teacher shortages.

The closure of this ITE course left many Victorian secondary schools increasingly desperate to find teachers to run their VET and Technologies programs and left many secondary students without the quality of teachers and VET provision they deserve. In the face of VET teacher shortages, many school principals with their backs to the wall have been forced to implement poor-quality work-around solutions in response to this situation (O'Reilly-Briggs et al., 2021). Work-around solutions include (a) placing out-of-field teachers in front of VET and Technologies classes (e.g., use the geography teacher to teach VET and/or Technologies programs), (b) offer a temporary authority to non-ITE qualified VET trainers without a pedagogical qualification (i.e., Permission to Teach) so they can 'train' young people in schools, or (c) close programs altogether. Without ITE preparation, VET trainers do not have the appropriate pedagogical knowledge, teaching skills, or opportunity to work towards a teaching qualification, creating a tier of second-class teachers in schools who are not only pedagogically deficient, but ineligible for the same pay, conditions, education or professional opportunities as their teacher-qualified counterparts. All of these work-around solutions only serve to reinforce poor quality provision and low-standards in secondary education, and arguably, do a great deal of harm to the quality, reputation, effectiveness, and status of VET in Schools programs, VET, and applied learning areas in schools more generally. Australia is in urgent need of a solution to this dilemma, and it is this dilemma that this Fellowship seeks to address.

The current shortage of suitable and available ITE programs for vocationally qualified and industry experienced tradespeople to become secondary school VET teachers in Australia is likely to be:

- Compounding VET teacher shortages in Australian secondary schools;
- Generating poor-quality and unsafe teaching and learning practices in schools;
- Creating a tier of ‘second-class’ VET trainers who are employed by schools to teach students, but who are deprived of the same pay, conditions, professional and educational opportunities as school teachers they work alongside;
- Reinforcing the low social status of VET, VET teachers and those who pursue VET pathways;
- Devaluing the important contribution that trade qualified and industry experienced teachers bring to the secondary sector;
- Depriving school students of high-quality VET teachers with a deep knowledge of industry and pedagogy;
- Dismissive of the importance of pedagogy and teaching standards for high-quality teaching;
- Creating a barrier that prevents skilled tradespeople from accessing higher levels of education and professional qualification.

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Consequently, this Fellowship aims to identify best-practice ITE for VET teachers overseas so that Australia has access to knowledge that can be used to help create sustainable ITE programs to produce a supply of high-quality industry experienced VET secondary school teachers. The author is pursuing this research in the hope that one day Australian secondary schools will be resourced by appropriately skilled, industry experienced and pedagogically proficient VET school teachers. By learning from countries that upskill industry professionals to become VET school teachers, Australia will be in a position to learn from and implement best-practice.

According to the OECD (2021), there is a worldwide shortage of ITE qualified VET teachers who embody both industry expertise and the pedagogical knowledge needed for high-quality VET teaching, including Australia (ASQA, 2021; DESE, 2021; Tyler & Dymock, 2021). Despite this, there are countries that have managed to find sustainable ways of overcoming this dilemma, and this is the focus of the Fellowship. That is, this Fellowship embarks on an investigation of the preparation of ITE qualified VET school teachers in Norway, and Finland — countries identified as leading the way with regards to the quality of ITE education afforded VET secondary teachers so that this knowledge can be accessed by education stakeholders, industry representatives, governments, and education policy makers in Australia to improve the current quality and status of VET in Schools provision.

Raising the status of VET in Schools

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Billett (2018) tells us that the low status of VET in Australia is a growing problem, and that many young people and their parents do not even consider VET as a potential pathway to the workforce, even when it is more suitable for them than university. Compounding this issue, Australian schools are known to be encouraging their students towards university ahead of vocational pathways (Davis et al., 2022; Macklin, 2020; Productivity Commission, 2020; Shergold, 2020), and there are reports of a growing mismatch between the skills young people are graduating with and employment opportunities available (Clun, 2022). This is in part due to a lack of general teacher's knowledge and experience in vocational fields (Clarke, 2013), an over importance placed on achieving Australian Tertiary Admission Rank (ATAR) scores (Shergold, 2020), student confusion and uncertainty about VET, and a perception in schools that VET is "lacking in some way" (Gore et al., 2017). People's opinions concerning the image, quality, outcomes and effectiveness of VET impact their educational choices as well as those of policymakers (Cedefop, 2017a, p. 1), and in Australia, the low status of VET (Billett et al., 2019; Dalley-Trim et al., 2008; Gonski & Shergold, 2021; Joyce, 2019, p. 88) has created a roadblock to (a) industries in need of qualified tradespeople and other vocationally competent workers, and (b) a nation depending on skills-led economic recovery (Commonwealth of Australia, 2021; Department of the Prime Minister and Cabinet, 2020). This low-status phenomenon underpins a deleterious cycle with profound implications for industry, young people and the nation.

The reasons for low societal perceptions of manual workers (i.e., those who work with their hands) is multifaceted, but can be traced back to the Ancient Greeks (Billett, 2011, p. 92–97) who gave superior status to knowledge and those who used their minds (*nous*), over those who worked with their hands (*technê*), such as artisans. This biased value attribution has exerted a powerful influence over vocational education to this day (p. 97). Today, Australia has created two tertiary sectors that are separated by policy and tradition (Gonski & Shergold, 2021, p. 10) as well as prestige. Not only have long-standing societal sentiments relegated VET as 'the poor cousin' of Higher Education (Shergold, 2020, p. 76), but those who study vocational education—as well as those who teach it—are tarred with the same ignominious brush (Billett, 2011; Smith, 2019) leaving stakeholders wondering how this cycle might be remedied.

According to Billett (2011), one way of raising the social status of VET is by enhancing the societal esteem of the occupations the sector prepares workers for, and, as this study will argue, the quality and status of those who teach it as well. Raising the quality and status of VET teachers' work in schools is likely to flow on to benefit the quality and status of vocational occupations they teach, and this can be expedited through the production of high-quality pedagogically proficient degree qualified VET secondary school teachers (Smith, 2018, 2019;

Smith et al., 2015). But while tradespeople and other vocational professionals in Australia are prevented from accessing appropriate ITE courses and professional VET teaching qualifications, they are also being denied the same pay, conditions and opportunities enjoyed by the secondary teachers they work alongside in schools. That is, this is not only a matter of status, but within Australian education settings, it is also an inequity, and a struggle for recognition, respect, dignity and justice (Honneth, 2004). Such inequities only serve to reinforce societal presuppositions of VET as the pathway to second-class citizenship. Until such time as policy makers and education leaders are prepared to contend with this blind spot, and recognise, respect and value VET teachers as equals of general teachers, VET in Schools is likely to remain the pathway of low status and least desirability.

As Joyce (2019) reminds us, “[h]igh-quality teachers are essential for a high-quality training system that is respected by students and employers” (p. 49). So, what is it that makes high-quality VET teachers?

Valuing high-quality VET teachers

Valuing the work of teachers of VET reinforces its contribution to the senior secondary certificate and echoes a priority in the Excellence Review to “prepare every student to be a creative, connected, and engaged learner in a rapidly changing world” (Education Council, 2018, p. 47).

The important contribution that vocationally qualified and industry experienced VET teachers make to the nation, industry and economy is difficult to overstate. As trade and vocationally qualified professionals, they belong to a special cohort who have transitioned into the teaching profession as mature adults equipped with industrial qualifications, strong community connections and a wealth of expertise, and social and cultural capital. The wealth of technical skills, knowledge and industrial experience that these teachers bring to the classroom is invaluable to the educational experience of young people. Even so, it takes much more than industry skills and knowledge to become a high-quality teacher. So why do we need professionally qualified teachers in schools anyway?

According to the Melbourne Declaration (MCEETYA, 2008) and Mparntwe (Alice Springs) Education Declaration (Education Council, 2019/2020), teachers are needed to achieve the educational goals of young Australians, that is, to promote ‘equity and excellence’ and enable young people to become successful learners, and confident and creative individuals who are also active and informed citizens. High-quality teaching provision requires school teachers who are not only specialists, but who are also aware of the overarching purposes of school education,

who are pedagogically proficient enough to be capable of generating such outcomes for young people, and able to work to professional teaching standards—and this is where the Certificate IV TAE (i.e., low level VET training qualification) falls a long way short (O’Reilly-Briggs, 2022).

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A common practice of Australian schools unable to recruit qualified VET teachers due to skill shortages is to hire VET trainers by arranging for them a temporary authority known in Victoria as ‘Permission to Teach’ (PTT). The practice of placing trainers in front of school students may be a quick-fix to address a deficiency of VET teachers in the short term, but this practice is not conducive to high-quality provision in the long term. Nor does it uphold professional teaching standards, or do anything to address VET teacher shortages. As outlined in the National Partnership on Improving Teacher Quality (COAG, 2012) high-quality teachers are needed to boost Australia’s participation and productivity by helping young people to make the transition from school to work and further study (p. 3). The Melbourne Declaration of Educational Goals for Young Australians (MCEETYA, 2008) and Mparntwe (Alice Springs) Education Declaration (Education Council, 2019/2020) tell us that high-quality teachers form an essential part of improving student attainment and creating a world class system of education. Teachers “have the greatest impact on student learning, far outweighing the impact of any other education program or policy” (AITSL, 2011; 2018, p. 2). High-quality teachers also provide a source of inspiration and a positive influence on students as they make choices about their life, education and career directions (p. 2). Hattie (2003) tells us that after a student’s own perception and background, it is what professionally trained teachers know, do and care about which have the most powerful impact on students’ learning—and this is as true for vocational teachers as it is for teachers of any other specialisation. Given such high importance placed on teachers to educate and inspire school students to make choices about their futures, it is worth considering why there is not greater emphasis placed on establishing viable pathways for trade qualified and industry experienced vocational professionals to enter the secondary teaching profession. Australian schools are at present, for the most part, devoid of the value, qualifications, experience and inspiration that tradespeople and other vocationally qualified professionals could bring with them to the teaching profession, but as this Fellowship study will explore, this is not the case in Norway and Finland.

The blind-spot

Concerningly, despite teacher shortages, VET teachers are frequently absent from government level teacher supply and demand reports. For example, despite of being listed as a ‘critical cohort’, VET teachers are not afforded a listing in Victorian teacher supply and demand reports² (e.g., DET, 2020, 2021), nor included in the list of ‘types of secondary teachers’ on the NSW

² With the exception of one mention per report under the category of permission to teach registrations issued.

teaching career website. Such omissions leave those with genuine concerns about the shortage of VET school teachers and the quality of provision available in VET school programs wondering why VET teachers do not even rate a mention. Whatever the reason, vocational education, and the quality of vocational education available to students in schools is unlikely to improve while VET teachers are omitted from supply and demand data.

To promote 'equity and excellence' and enable young people to become successful learners, and confident and creative individuals who are also active and informed citizens, VET secondary teachers require no less pedagogical knowledge or preparation than any other secondary school teacher. So, what does it take to become a high-quality secondary school teacher in Australia?

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Developing high-quality teachers

High-quality secondary teachers are qualified and accredited to teach and work to the Australian Professional Standards for Teachers (APST) and the professional standards that school teachers work to guide their professional learning and practice and contribute to the public standing (i.e., status) of the profession (AITSL, 2011; 2018, p. 2). But VET trainers, without access to an ITE qualification, are unlikely to even know about, never mind design their practice to uphold these standards.

To help elevate the status and respect for VET in society, and identify ways to generate high-quality VET teachers for schools, this Fellowship looks overseas to two countries with well established VET school programs and ITE courses for VET secondary teachers: Norway and Finland.

The following section offers an overview of VET and VET schooling in Finland before presenting a summary of interview data from lecturers of VET teachers from a university of applied science, and VET school teachers teaching upper secondary vocational programs in Finland.

Section 2: Vocational education in Finland

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A brief history

Finland was part of Sweden until after the Napoleonic wars when it became part of Russia. In the latter part of the 19th-Century, the country received autonomy in domestic affairs, and in 1917, Finland declared its independence from Russia (Laukia et al., 2017, pp. 8–9). After WWI, there was nationalistic sentiment and international influences on education decreased (p. 13). Throughout this period, teachers played an important role in helping to establish a national identity, and even given heroic status as a consequence of their role in building resilience and instilling national consciousness (Kantar Public, 2016, p. 12). Education was (and still is) valued for its capacity to civilise, improve the morals of the population and to produce ‘model citizens’. The history of Finnish Education needs to be understood in the context of its ambition for independence and in its struggle for national identity.

In the 19th-Century, Uno Cygnaeus (1810–1888) was tasked with developing the Finnish school system and is today regarded as the ‘Father of Finnish elementary school’. Cygnaeus studied the education systems of different European countries, and decided that the German system based on Herbart-Zillerism pedagogy was suited to Finland because it encouraged systematic thinking—a practice believed would support national aims through schooling (Määttä & Paksuniemi, 2011, p. 122). The curriculum emphasised encouraging students to take up hobbies and stimulating their interest in activities that would improve their diligence, and strengthen character, morality, faith and encourage love for country (p. 122).

The first vocational school for industry workers and craftspeople was established in 1899 in Helsinki, and soon after, other vocational institutions were set up in other major towns (Laukia et al., 2017, pp. 10–11). Finland implemented compulsory basic education in 1921, and the first modern institutions offering technical skills and vocations developed around this time.

In the early part of the 20th-Century, a ‘great debate’ was conducted between industry and the Government of Finland about vocational and basic education, including their aims and objectives, and how education should be organised. Industry argued that vocational education should be connected to the world of work and that students should learn practical skills in workplaces guided by worker-instructors—similar to what was happening in Germany and Austria (p. 11).

In 1939, the first vocational education act was ordered in Finland and VET began to develop more rapidly as the economic structure shifted from agriculture, to services and industry (Laukia et al., 2017, p. 13). After WWII politicians realised that they needed to develop the industrial sector through education, and so in 1957 vocational teacher education was enshrined in law, and in 1958 a law was passed requiring vocational education schools to be established in all towns with more than 20,000 residents. A network of vocational schools throughout Finland was established (Laukia et al., 2017, p. 13; Stenström & Virolainen, 2014, p. 9). The amount of vocational education conducted increased rapidly during the 1960s and 1970s, and many changes to the education system occurred between the 1960s and 1980s. Finland had become an education focused society (Laukia et al., 2017, pp. 13–14).

Of interest, the law in Finland also states the aims and objectives of VET, and these include: increasing vocational skills and competences of the population, developing the world of work, and preventing unemployment and increasing entrepreneurship (“Laki ammatillisesta peruskoulutuksesta [Statute of VET],” 1988/630). Finland also aims to educate good citizens and create opportunities for further education (Laukia et al., 2017, p. 19).

The societal appreciation of VET increased following important reforms made in the 1970s and 1980s. These reforms were only possible because of the cooperative efforts of many players including political parties, industry representatives, schools, the Ministry of Education, the Finnish National Agency for Education and Labour Unions (pp. 16-17). Finland also became a member of the European Union (EU) and today uses the European Qualification System (EQF). Upper secondary vocational qualifications are positioned at EQF4, an applied science degree at EQF6, and a master’s degree at EQF7 (p. 18).

In the late 1980s and early 1990s, universities of applied science were established, and today in Finland, universities of applied science are the tertiary institutions responsible for ‘practical education’, offering courses in areas such as business, design, communications, technology, engineering, health care, tourism, hospitality, and fine arts. They also offer ITE programs for vocationally qualified and industry experienced professionals to become upper secondary vocational teachers.

In December 2001, Finland outperformed all traditional powerhouses of education (i.e., Germany, Japan and the USA) on the new Programme for International Student Assessment (PISA) study of student reading, maths and science literacy, generating worldwide attention and delegations of international visitors wanting to learn ‘the secrets’ of their high performing education system (Aho et al., 2006, p. 123). Many myths emerged trying to explain how the Finns managed to outperform every other country, but the performance of an education system needs to be understood in the context of other systems in the society, such as health,

environment, law, governance, economy and technology (p. 125). That is, it is not only education that is performing well in Finland—schools are but one part of a well-functioning democratic welfare state (p. 125).

In 2018, the Finnish VET system underwent another major reform, introducing personal competence development plans that promote a high level of individualisation (Finnish National Agency for Education, 2019, p. 9).

Public perception of VET in Finland

There is [] a direct link between the image of vocational education and training and the perceived quality of training (Laukia et al., 2017, pp. 30–31).

As evidenced by this quote, Finns are mindful of the link between the image of vocational education and the perceived quality of training it has to offer.

Changes made to school-based VET over the past few decades have served to improve its status and prestige, and participation in VET programs have increased (Virolainen & Stenström, 2015, p. 16). Public perception of VET is favourable in Finland, and its image amongst young people is positive. This is evidenced by the high percentages of students who pursue VET pathways to work and further learning. VET in Finland has been developed as an integral part of the education system that offers high quality learning and opportunities for further learning. When compared with many other countries, VET in Finland enjoys “high popularity and a good reputation” (Finnish National Agency for Education, 2019, p. 8)—an enviable claim that makes it the subject of much interest around the world.

The internationalisation of VET and skills completions are two other factors thought to be enhancing the overall attractiveness of VET in Finland (Korkala, 2012; Ruohotie et al., 2008). Skills Finland in cooperation with schools and employers, help to promote skills-excellence by actively participating in national and international skills competitions, such as WorldSkills, EuroSkills, Abilympics and ‘Taitaja’ (Laukia et al., 2017, p. 31).

No dead ends

Finnish education policy has established education pathways from basic education to higher levels of education that ensure ‘no dead ends’ (Cedefop, 2019b, p. 24; Koukku et al., 2014, p. 14; Laukia et al., 2017, p. 31). That is, the education system has been carefully designed to make sure that students can transition from: basic education to academic or vocational education; from vocational to academic education, and between scientific universities and

universities of applied science. Always with a view to strive for higher levels of qualification and lifelong learning. Such commitment to education ensures that VET pathways remain valued by Finnish society and do not become stigmatised (as they can be in Australia) as ‘dead ends’.

Upper secondary vocational schooling in Finland

The purpose of VET is to increase and maintain the vocational skills of the population, develop commerce and industry, and respond to its competence needs. Promoting employment and self-employment are key elements of VET (Cedefop, 2019b, p. 26).

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VET plays an important role in the Finnish education system, and it is a popular option for young people pursuing post-compulsory education. Education in Finland is public-financed by the state and municipalities (Laukia et al., 2017, p. 23), and it is mandatory for school students to undertake basic education (*peruskoulu*), after which, at the age of 15-16 years, they are given the option of progressing onto three years of either *upper secondary general (lukio)* or three years of *vocational* education (Laukia et al., 2017, pp. 14–15). In 2021, the compulsory education age was extended from 16 to 18 years (Kangas, 2021). Equal access and practices that prevent exclusion from education are important objectives of Finnish education policy (Cedefop, 2019b, p. 20). Finland’s education system has been developed to be “flexible and permeable” (p. 24). Other than having completed compulsory basic education, there are no entry requirements for vocational education in Finland.

Each year, VET in upper secondary schools attracts more applicants than there are study places available, and this is especially so for programs in Social services, Health and sports, Vehicle and transport technology, Business and administration, Electrical and automation engineering, and Beauty care (Cedefop, 2019b, p. 27). Preparatory education and training for VET (‘VALMA’) is available for young people who have completed their compulsory education, but who have not found a suitable study place, which may occur when there is more demand for places than supply. This program is also used by immigrants, jobseekers, those with outdated or inadequate work qualifications looking to update their qualifications, and others who may require special support. VALMA is essentially a bridging program that provides learners with capabilities for applying for VET and supports their chance of completing qualifications (Cedefop, 2019b).

In Finland, students enrol in upper secondary schooling according to their motivations and how they managed studies during their basic education (Laukia et al., 2017). The motivation of students for studying is recognised as an important factor because if students can choose education that supports their motivations, then learning outcomes will be good (p. 20). The Finnish National Agency for Education (2019) reports that 40 percent of all secondary students

finishing basic education pursue vocational pathways (p. 8), while other figures suggest the number is closer to 50 percent (Laukia et al., 2017, p. 19; Ministry of Education and Culture (Finland), 2019, p. 8). In 2018, education reforms merged funding and education policies, and barriers were removed to enable adults to enrol in VET in upper secondary education (European Commission, 2022). Because adults returning to study are today welcome to enrol in upper secondary VET programs, the division of students in these programs has increased to approximately 70 percent of all upper secondary students studying VET (Karttunen & Seppänen, 2021).

Since 2018, there have been 10 broad fields of vocational education available to study in upper secondary vocational education: (i) Agriculture and Forestry; (ii) Business Administration and Law; (iii) Education; (iv) Health and Welfare; (v) Humanities and Arts; (vi) Information and Communication Technologies; (vii) Natural Sciences; (viii) Service Industries (Personal, Security and Transport services); (ix) Social sciences, and (x) Technology (Architecture and construction, Industrial supervision, Technical planning and Product development, Mechanical, Process, Energy and Electrical engineering, Process, Chemical and Materials Engineering) (Studyinfo.fi, n.d.). The three biggest VET sectors are listed as engineering, manufacturing and construction; business administration, and health and welfare by the Ministry of Education and Culture (2019, p. 8).

Within upper secondary vocational offerings, there are three tiers of VET qualifications that can be attained: (i) Initial vocational upper secondary qualifications, (ii) Further vocational qualifications, and (iii) Specialist vocational qualifications. Initial VET offers skills needed for entry level jobs and supports student's growth into good and balanced individuals and members of society (Cedefop, 2019b, p. 26). Those who hold an upper secondary VET qualification have broad and basic vocational skills for working in a field, as well as more specialised competence in at least one area (p. 26). Approximately 10 percent of those enrolled in Initial VET programs are apprentices (Sandelin, 2015). Continuing VET (i.e., Further and Specialist) is most often studied by employees and industry experienced adults who have already attained an Initial VET qualification. These programs offer more comprehensive and specialised vocational education. The holder of a Specialist VET qualification has highly advanced and/or multidisciplinary skills (p. 27).

VET has been developed to provide skills and knowledge sought after by both employers and by society, and when compared with other European nations, there are high employment rates for those completing vocational studies (Ministry of Education and Culture (Finland). 2019, p. 9). In recent years, Finland has made further reforms and improvements to their VET systems to better align skills and qualification with labour-market demands so that training can respond more

swiftly to changes in working life, and adapt to individual's learning needs (Cedefop, 2019a). The reforms also sought to make the system more competency-based and customer-oriented (European Commission, n.d.-b). The work-based component of VET programs may be over 80 percent, and this feature is seen as a strength of Finnish VET (Karttunen & Seppänen, 2021). All forms of VET require work-based learning (WBL), and there are two forms of WBL: (a) apprenticeship training and (b) a training agreement. VET in Finland is based on continuous learning, and the reforms seek to enhance working life-based learning methods and augment individual learning pathways (Ministry for Education and Culture, 2017; Valtioneuvosto, 2017).

Although Finland does not have an inspector system or ranking system for education providers, they do have quality assurance processes. The quality assurance of VET comprises quality management systems of education, providers, national steering and regulation, and external evaluation (Ministry of Education and Culture (Finland), 2019, p. 18).

Studies show that classroom and curriculum practices lean toward conservativeness and tradition (Määttä & Paksuniemi, 2011, p. 122). Finnish teachers are seen as authorities who are respected, where their role involves "guaranteeing discipline, order and security" (p. 122). Finnish people value hard work and diligence which are enduring characteristics of Protestant Christian ethics (Karttunen & Seppänen, 2021).

Apprenticeship in Finland

Apprenticeships have a long history in Finland, and today, students can undertake apprenticeships as part of their vocational studies with the aim of becoming a skilled professional. Apprenticeships are fulltime and based on a fixed-term employment contract, and involve structured on-the-job learning (approx. 80 percent of the apprenticeship) as well as theoretical learning in vocational studies (approximately 20 percent of the apprenticeship). Apprentices are paid according to relevant collective agreements, and remuneration is defined in the apprentice's contract (Cedefop, 2019a). Apprenticeships can be conducted as an Initial (EQF4), Further (EQF4) or Specialist (EQF5) vocational qualification (Cedefop, 2019a). As education is publicly funded in Finland, neither the apprentice or employer are required to pay training fees (European Commission, n.d.-b). Employers who take on an apprentice in the same year that they complete their basic schooling are eligible for increased compensation (European Commission, n.d.-b).

Apprenticeship training is based on a National Core Curriculum, and each apprentice requires an individual learning plan to be drawn up that takes into account their own training needs as well as those of their employer. This plan is made with the cooperation of the student, employer and local administrative authorities, and appended to the apprenticeship contract once

approved (Sandelin, 2015). When the plan is being drawn, any prior learning of the apprentice is recognised and taken into account.

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The workplace duties of an apprentice are carefully planned to support their learning, and they work at least 25 hours per week on the job (Karttunen & Seppänen, 2021). To ensure quality, legislation ensures that VET is implemented in a way that is goal-oriented and systematic, so workplaces are evaluated by educational institutes for their suitability, and teachers need to ensure that apprentices have sufficient capacity for learning in their working life. To achieve this, apprentices are assigned both a work-place instructor (or 'mentor') and a VET teacher. Together, workplace instructors and VET teachers plan students' learning objectives for workplace learning, and this division of tasks plays an important role in the professional growth of the apprentice and in their ultimate success. There are optional units available in upper secondary vocational education for students wanting to become qualified workplace instructors (Karttunen & Seppänen, 2021; Sandelin, 2015).

Apprentices undergo practice-oriented assessment via competence demonstrations. Education providers nominate assessors, and evaluations of apprentices are conducted on-the-job using a panel of two evaluators, a teacher and a workplace instructor. The competences assessed and criteria used are outlined in the National Core Curriculum, and this includes vocational knowledge, mastery of work processes and methods, safety procedures, and core skills such as problem solving, communication and cooperation (Jørgensen, 2018a, p. 103). Once sufficient competence has been achieved, the apprentice also needs to demonstrate their competence on-the-job over a period of time that can vary from a few shifts to an entire week (Arviointiopas työpaikoille, 2019; Kumpulainen, 2016, p. 39).

In Finland, entrepreneurs have the option of apprenticeship training as well, and an entrepreneur's apprenticeship agreement can be made for those who are self-employed (Cedefop, 2019a).

Finland uses collective wage agreement systems to calculate apprenticeship pay rates, and apprentices receive an attractive wage at about 80 percent the wages of a skilled worker in their field (Chankseliani & Anuar, 2019, p. 270).

Finnish apprenticeship completers can pathway into universities after completing their upper secondary vocational qualification (Chankseliani & Anuar, 2019, p. 269; Stenström & Virolainen, 2014).

Incentives and supports for Finnish students

Equal opportunity is a long-standing principle of Finnish education policy, and most education provision is publicly funded. Financial supports are also available for students such as study grants, housing supplements, transport subsidies, and learning material supplements. Students can also apply to banks for Government guaranteed student loans, and working adults returning to study may be eligible for up to two years' unpaid study leave. Adult employees and selfemployed persons (who meet certain criteria) wanting to study a vocational qualification of at least two months duration are also entitled to receive a generous adult education allowance, and those who have completed a vocational education qualification are eligible to receive a one-time tax-free scholarship with the caveat that it must be applied for within 12 months of having being awarded their VET qualification (Cedefop, 2019b, pp. 63–65).

The initial teacher education of vocational teachers in Finland

Finnish education reforms of the 1980s prohibited schools from employing VET teachers without academic qualifications, and since the mid-1990s, all VET teachers have been educated at universities of applied science (formerly polytechnics) (Kaiser, 2021). Teaching is one of the most respected professions in Finland (Sahlberg, 2011) and the high status of the profession makes it a competitive field to enter (Isacsson et al., 2019; Kantar Public, 2016). The attractiveness of the teaching profession has increased alongside the appreciation of practical vocational education (Laukia et al., 2017). Finland chooses to invest in the preparation of its vocational teachers, and although a lot has been written about Finland's education system, comparatively little has been written about the preparation of its VET teachers (Isacsson et al., 2019, p. 74). VET teachers in Finland are highly educated, and only one third of people applying for VET teacher education courses are accepted each year (Finnish National Agency for Education, 2019, p. 9). For example, in 2016, there were 5,328 applications for VET teacher programs, but only 1,590 applications were successful (Laukia et al., 2017, p. 70). In a more recent report, Isacsson et al. (2019, p. 79) suggest that only one fifth (or less) of applicants to VET ITE programs are successful. Presently in Finland, there are five institutions that offer Vocational Initial Teacher Education, and they are located in Oulu, Jyväskylä, Tampere, Helsinki and Hämeenlinna (Isacsson et al., 2019, p. 75). Although education is free in Finland, it is financed by the Government, and so the Ministry of Education and Culture are able to control the number of people entering ITE programs (p. 75).

There are nation-wide qualification requirements of VET upper secondary teachers in Finland as outlined in Finland's Statute of Teacher Qualifications (986 / 14.12.1998), and the Statute of Universities of Applied Sciences (1129 / 18.12.2014). A VET teacher must have a bachelor level

degree or equivalent, three-years of industry experience and pedagogical teacher education of one academic year, although this time frame is flexible. In occupations where no suitable bachelor degree exists, it is possible to enter an ITE program so long as the candidate has achieved the highest qualification available for study in their vocational field and has a minimum of three-years industry experience (Koukku et al., 2014, p. 23; Laukia, 2013, pp. 34–35; Ministry of Education and Culture (Finland), 2019, p. 19). The pedagogical studies in VET teacher education programs include: general pedagogical studies; vocational pedagogical studies; teaching practice and optional studies (Laukia et al., 2017, p. 69). For comparison, ITE programs in Australia are only offered at the bachelor (AQF7) and masters (AQF9) levels. The scarcity of undergraduate ITE courses for VET teachers in Australia makes it difficult for tradespeople and other vocationally qualified industry experts to find an accessible program to become a VET secondary teacher.

In Finland, upper secondary vocational programs consist of both core subjects and vocational subjects. VET teachers who teach core subjects, such as communications, social and cultural competence, maths and natural sciences, must have a master's degree and teaching qualification (Laukia et al., 2017, p. 69).

The content of VET ITE is updated regularly by universities of applied science, and vocational teacher education departments enjoy wide autonomy in deciding curricula and training arrangements for teacher-students (i.e., pre-service teachers). Finnish legislation steers teacher qualification requirements, but only at a general level (Koukku et al., 2014, p. 23). VET teachers are trusted professionals, and as such, hold key positions to develop and change VET. The work of Finland's VET teachers is ever evolving.

Recent reforms to the Finnish education system are believed to have helped increase the appreciation and quality of the upper secondary vocational teaching workforce (Laukia et al., 2017, p. 73). VET teachers use a student-centred and competency-based pedagogical approach and “are always ethical developers and active citizens in the changing society and world of work” (p. 69). The role of a VET teacher is as much about instilling ‘professional ethos’ in their students as it is teaching them how to do a job (Ministry of Education and Culture (Finland), 2019, p. 20). A Finnish VET teacher's work is not limited to teaching. In recent times it has expanded to include the holistic management of their students' individual study paths and counselling (Karttunen and Seppän, 2021).

Today in Finland, VET teachers must be specialists in their own field, and in pedagogical studies. Student-teachers must achieve competency on teacher guidance, networking and research and development (Isacsson et al., 2019, p. 76; Laukia, 2013). During initial teacher preparation, student-teachers also learn from one another as their lecturers use “student-centred and peer

group methods and versatile learning environments, co-operating with other teachers and the workplace” (Isacsson et al., 2019, p. 76). The learning process of VET teachers is highly personalised, based on competence and workplace needs, with field-based teaching practice (p. 76). Those teaching student-teachers in universities of applied science need to hold a master’s degree, and principal lecturers need to hold a licentiate or doctoral degree in either education or their vocational specialty (Isacsson et al., 2019, p. 77).

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Finland has a very high level of trust in its teachers, and the intellectual challenges of curriculum, and the satisfaction of knowledge that one has been admitted to a highly respected profession means that very few leave the profession once qualified (p. 79). Australian VET teachers may be interested to learn that the word ‘accountability’ does not exist in Finnish language. “In Finland, we think that accountability is something that is left when responsibility has been subtracted” (Sahlberg, 2015, as cited in Isacsson, 2019, p. 79).

Figure 1 (over) offers an overview of VET in the Finnish Education system.

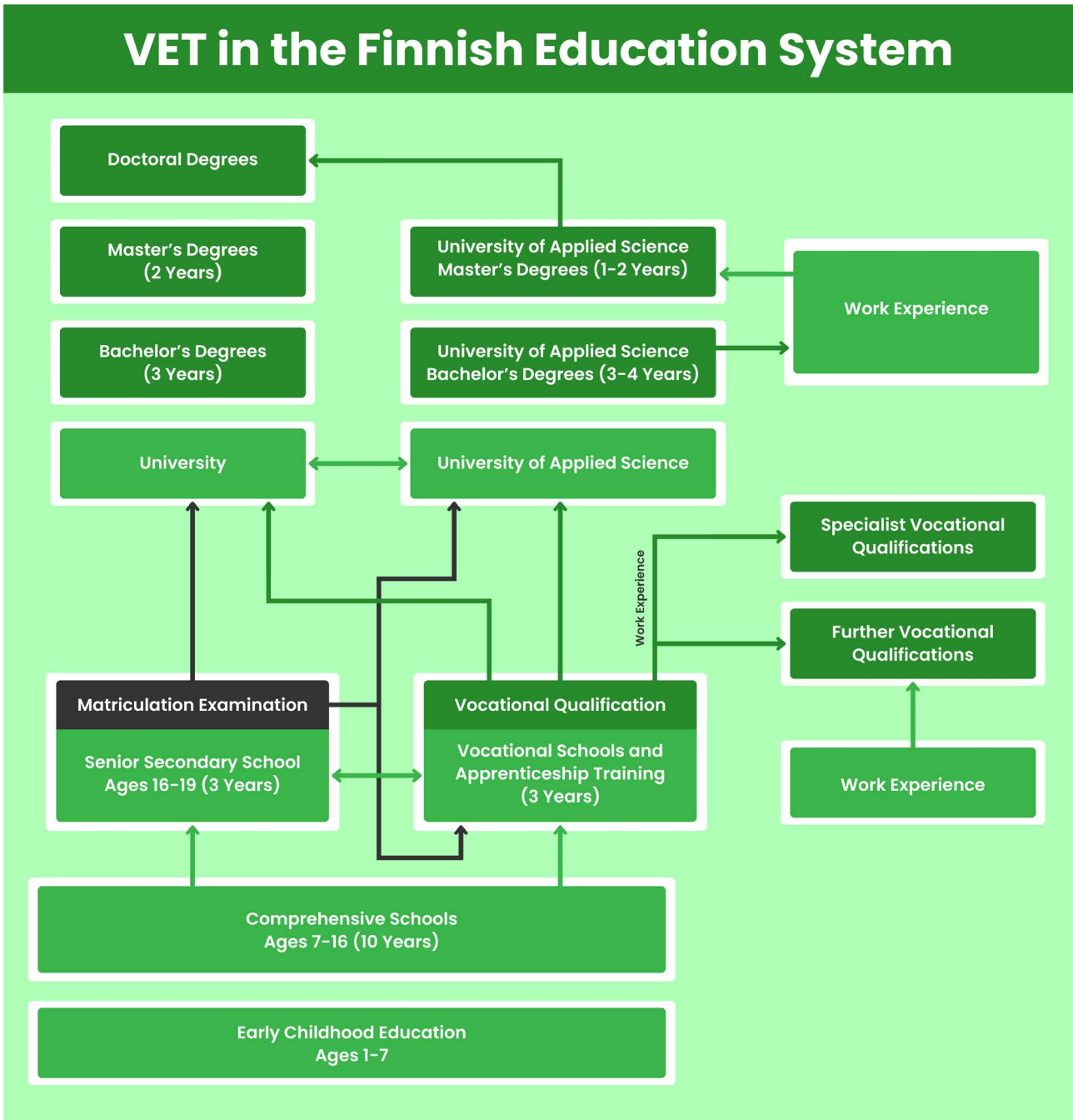


Figure 1. Overview of VET in the Finnish education system, adapted from Cedefop (2019c).

Interview findings from Finland

Two university of applied science academics and two vocational school teachers were interviewed for this study in Finland. To protect the identities of interview participants, their names have been changed.

Fredrik is the Director of a vocational teacher school at a university of applied science and has previously worked as a school teacher and as a principal in vocational secondary schools. Hanna is a Principal lecturer at a university of applied science where she has worked for the past 20 years. She teaches in the vocational teacher programs at the institute.

Mikael and Aada are both VET teachers working at an upper secondary school in Finland. The school offers both academic and vocational pathways to students. Mikael teaches car mechanics and has worked as a VET teacher in schools for the past 20 years. Aada teaches business studies and is comparatively new to the teaching profession, with three years of teaching experience.

The interview findings below present answers to interview questions from both 'academic participants' and 'VET teachers' accordingly.

The status and standing of VET and VET upper secondary teaching in Finland

Interview participants were asked a probing question: *'Is VET school teaching a 'well-regarded' or 'prestigious' occupation in your country? Why/why not?'* Below is a summary of responses to this question.

Responses from academic participants

VET is in demand and VET teachers are well respected in Finland. Fredrik (Director, university of applied science) explained that VET teachers in Finland are more respected than they are in surrounding countries. He also said that appreciation can be measured in a number of ways. Firstly, it can be measured by salary, and the salaries of VET and general teachers are about even. It can also be measured by the number of applications his department receives each year for VET ITE programs. In 2022, they had many applications but could only accept about one third of these.

"[The] appreciation of vocational education teachers is not as high in general education, but not very much behind" – Fredrik.

Hanna (Principal lecturer, university of applied science) explained that VET is still a very popular option for upper secondary school students. She indicated that until recently, 50 percent of school students would select a VET pathway, but in recent times this figure has reduced a little. She explained that although the wages of teachers in Finland are not especially high, there are other benefits that come with the job. She explained that many adults come to the Institute when they are considering a career change. For example, they may have a hectic business life and feel they have a lot of expertise and knowledge but would like to move in another direction.

“So, it’s a transition. These studies are also some kind of identity transition in their working career” – Hanna.

Responses from VET teacher participants

Mikael (automotive VET teacher) suspects that there is a small gap regarding the level of respect afforded VET teachers, but also said that he is not sure. He added that the number of students choosing to study a VET pathway in upper secondary school is approximately 50 per cent as well.

Regarding the level of prestige of VET teachers, Aada (business school teacher) thought that general (academic) school teachers are more respected but adds that she has “no idea why” she thinks this.

How VET is offered to school students in Finland

Participants were asked ‘*How is VET offered to secondary students in Finland?*’. Below is a summary of responses to this question.

Responses from academic participants

Fredrik explained that there have been a number of reforms in Finnish education over the years. In 2017-2018, changes were made so that: students would do more work-based learning in ‘the world of work’ (i.e., industry); teachers needed to personalise the learning process for students, and prior learning was to be recognised as part of competency-based ideology. Another aspect of this reform saw funding cuts from the VET sector. He says that he does not think that these cuts are working properly because young students need to be taught differently to adults (pedagogically speaking).

“My personal idea is that we should treat pedagogically young students, [a] little bit different than adults who already have work experience” – Fredrik.

Both university of applied science academics discussed the new regulations and reforms introduced in 2021 that heralded an expansion of VET in Finland. Before these new regulations were introduced, students were required to stay in school until the ages of 16 or 17, but these changes now require students to stay at school until the age of 18. This means that when secondary students complete their basic education, they also need to continue in upper secondary education by pursuing either a theoretical (academic) or vocational education pathway. Fredrik believes that this is an interesting renewal of the system that will likely lead to better VET offerings. He also thinks that these changes will be demanding for managers and teachers of upper secondary schools because they will need to work differently to ensure that students are progressing and do not drop out. He further proposed that these changes signal a changing culture in education—one that is making people consider the focus of education, versatile pedagogy and the teaching profession. Pedagogy and pedagogically skilled teachers have also come into renewed focus following the COVID-19 pandemic that saw much education move online. Fredrik considers the new regulation especially important because it is difficult for Finnish people who have not completed upper secondary education to find good work.

Hanna discussed the important role of guidance counsellors for young people after they complete primary school. These counsellors explain the possibilities and the types of choices available to students about their futures from a young age. She also explained that different communities organise their secondary schools differently. Some schools offer both academic and VET education on the same campus, while others have separate campuses for these offerings. She added that it is also possible for upper secondary students to do a double-degree, where they can choose to study both an academic route and a VET route simultaneously.

“The basic principle in [the] Finnish education system is that there should not be any dead ends. So even if you chose the vocational school and study in vocational schools, there is a possibility to apply for academic universities as well as universities of applied sciences. That’s something that is a very important principle in our educational system” – Hanna.

Throughout interviews, participants reinforced the importance of the ‘no dead ends’ principle within and between academic and vocational pathways of learning.

Responses from VET teacher participants

Mikael and Aada offered their VET school teacher perspective to explain how VET is offered to secondary students in Finland.

Aada (business studies teacher) explained that after comprehensive school, students need to apply to do either high school (academic) or vocational studies, and this is a big decision for young people. Like Hanna, she also explained that in some cases, schools can combine these streams of learning, and at the school she works for there is a 'combined diploma' that students can study.

34 Mikael (automotive teacher) explained that there are nine years of compulsory schooling before students enter upper secondary vocational education. He further said that in upper secondary VET, there are three stages of progression for students:

1. Basic education and basic vocational education;
2. Vocational professional studies;
3. Special professional education.

In stage one, basic vocational education, students learn basic skills such as how a car works and how to maintain it, and how to repair it. They also need to complete some work-based learning in a company. In stage two, they begin to improve their skills and learn more, such as how diagnostics work and how to identify difficult problems. In stage three, special professional education, students are quite skilful and, depending on their company, they might be asked to help the tutor of a working group.

Mikael also explained some things about the apprenticeship system in Finland. There are two ways of completing an apprenticeship. Students can (a) do an apprenticeship with a company, or (b) go to vocational school to learn skills. The goal and the requirements are the same for both, however, with the second way, the students do not get paid. He added that it was not easy to explain this in English.

Aada said that vocational students get a lot of practice in the workplace and that they go to workplaces to learn. Students first have lessons at school so they know what to do at the workplace, and then they go out to workplaces and learn more skills there. She also explains that students qualify in their vocation once they finish vocational upper secondary school. For example, in business, students get a diploma after three years and then they are qualified to work in their vocation. They qualify with a basic level of business education, and if they want to study further, they can apply to study at a university of applied science.

Aada also explained how the three years of vocational study is divided in her teaching area of business. In the first year, students learn "*customer service and basic studies, how to work, how to behave in the workplace, what are the rules, what you can do, what you can't do, all that stuff*". They also study economics and "*calculations, profits and losses and things like that*". In

their second year, students need to decide whether they would like to study marketing and sales or accounting, and focus on this area for their final two years.

Popularity of VET in upper secondary education in Finland

Participants were asked *'Is VET a popular option for school students? Why/why not?'*. Participant responses are presented below.

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Responses from academic participants

Fredrik responded to this question by explaining that VET was as popular as general education about 5-7 years ago, however there were some differences in popularity around the country.

"There were differences, however, in general, they were about the same and I was very happy" – Fredrik.

He further explained that at the time of these reform discussions, general high school education was being emphasised and since, he suspects, the appreciation of VET has slowly been declining. Although this decline is not dramatic, its direction does concern him. He also said that although students can carry on and study VET post-secondary school, the media in Finland tends to focus on university education and matriculation exams, and so VET is not as popular and there is now some confusion in society about whether it is possible to continue on with further education if you study VET in upper secondary school. Further, the reforms of 2016–2017 that introduced competency-based education (that shifted the focus from teacher-centred to student-centred learning) gave the impression that students would not be learning from a teacher and so there was some sense that the quality of VET would not be as good. He suspects that these things have contributed to a slight decline in popularity of VET in recent years.

"The feedback is positive, but appreciation has a little bit come down. That's important, interesting phenomenon, I think" – Fredrik.

There are also questions about whether a 16- or 17-year-old can know what profession they want to pursue, explaining why many young people select the general (academic) pathway, because it gives them another three years to think about where they want to go.

Responses from VET teacher participants

Mikael thought that there was about a 50-50 split between students who choose VET pathways and those who choose the academic pathway in upper secondary education. He also thought that the pathways students choose to study are based on economic factors. He said that

students read the papers and watch television to identify skill needs areas, and this is something that makes vocational pathways attractive. He added that car mechanics is always popular because many people want to work with cars. He also said that this situation does change, but the reputation of automotive VET is very good.

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Aada agreed that VET is a popular option. She thinks this is because many people do not like to read and study from books in the same way that they would need to in academic pathways, and that many people like to 'learn by doing', which makes VET a popular option.

Transitioning from industry to the VET secondary teaching profession in Finland

Participants were asked *'Can you explain how industry professionals, such as trade/technical/craft workers go about transitioning from industry to the VET secondary school teaching profession?'* Below is a summary of responses.

Responses from academic participants

Fredrik explained the entry requirements for candidates wanting to study a VET ITE course. Candidates must first have a degree obtained at university or a university of applied science, and most frequently, applicants to the VET teaching profession already have a bachelor level degree³. As well as this, candidates must also have a minimum of three years of industry experience working in the technical or business sector. Those who have achieved these things can apply to enter a VET ITE at his university of applied science. Once qualified as a VET teacher, graduates receive a permanent teaching position and full salary.

Responses from VET teacher participants

Mikael said that studying for a teaching qualification at university while working at an upper secondary school is the most common way for industry experts to enter the VET teaching profession. He also discussed the three-year window candidates have to graduate with their VET teaching qualification. Mikael entered the VET teaching profession because did not like his job at the time and wanted to try his hand at teaching. Even though he was not employed by a school right away, he decided to leave his job and study to gain his teaching qualification. He also stated that applicants need to have a minimum of three years of industry experience as a prerequisite to entering a VET ITE course.

3 However, if a higher education level degree does not exist for a vocation (e.g., a trade qualification), the candidate only needs to demonstrate that they have obtained the highest qualification possible in their field and three-years of industry experience to be eligible to study the VET ITE program.

Aada explained why she decided to become a VET teacher. She described how she had ‘hit a glass ceiling’ in the business world and so decided to change her career to something more worthwhile.

“I got bored of hitting my head ... and decided to do something else” – Aada.

As a scout and girl guide, Aada already had experience working with young people, and her belief that education is the best investment in young people’s future made her decide to try teaching. As a teacher she says she has more freedom, can decide many things and she can speak her mind—which is something she was restricted from doing in the business world.

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“We have only these criteria on how to evaluate these students, and we can decide how we teach these things to them. And we can do it just how we see is fine” – Aada.

Aada has been a VET teacher for three years, and has spent the majority of her teaching career working in lockdown during the COVID-19 pandemic. She added that before the pandemic there would be a lot more consultation between industry and the school but the pandemic has restricted what was previously achievable. Aada was working for a bank when she decided to study for a teaching qualification. She already had a master’s degree before deciding to become a teacher.

Initial Teacher Education and flexibility in Finland

Participants were asked ‘How is ITE offered to pre-service VET school teachers and what flexibility is built into ITE programs?’ Participant responses are below.

Responses from academic participants

Hanna explained that once a person becomes interested in pursuing a VET teaching career, they can apply for a position as a substitute teacher at a secondary school. There is a window of three years where they can work in a school, but within this time they need to complete their pedagogical ITE qualification. When they apply to study their ITE program, they can continue working at a school because their studies are designed in a way so that they can do most of their assessments using their own teaching work as the basis for their assignments. These programs use inquiry-based and competency-based approaches in their programs.

“You have to have this kind of developmental inquiry-based developmental orientation in your work as a teacher” – Hanna.

Because ITE programs are competency-based, candidates can receive recognition of prior learning for the things they can already do and build-on from that. The ITE program she offers is one-academic year in length and worth 60 credit points. Although her ITE course is not linked to a degree, it is nevertheless a professional teaching qualification that elevates graduates to the same professional level (e.g., pay, conditions, status) as general secondary school teachers.

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In Hanna's ITE program there are basic competence areas that are divided into study models. They include competence criteria for each of the models that become the basis for assessing a pre-service teacher's competence. The ITE program studies are divided into three levels:

1. Group level;
2. Peer (interest) groups;
3. Personal – study level.

At the *Group level*, groups comprise about 20 student-teachers (i.e., pre-service VET teachers). These study groups attend contact periods on campus at the university of applied science. Preservice VET teachers must also complete online work, and so they attend campus approximately one or two days per month. The whole group needs to attend in person on set 'contact days'. Other student-teachers study in Peer groups. These Peer groups are organised according to the student-teacher's interest area. For example, they may be interested in 'assessment', or 'learning environments'. Peer groups hold a study circle once per month where student-teachers read to become familiar with teaching theory. They work "quite actively" within these study circles. Each student-teacher in the peer group also needs to organise a field day for the rest of the group as well as some other activities. This work is done between the whole group on the contact days. The third level is the Personal level, which involves a personal study process. This level can last longer than the other levels, depending on where the student-teachers begin their studies. Student-teachers also need to make a personal development plan that must be agreed to by their personal tutor. Student-teachers begin by writing an orientation essay, and then hold discussions with their personal tutor. Candidate's personal life situation is also taken into consideration to ascertain how much time they can invest in their studies. Most student-teachers complete this process within one academic year, but sometimes they take longer because this process also involves changing their identity—from worker to teacher. For these reasons, lecturers do not push student-teachers to complete their studies in one year. The creation of a student-teacher's study plan is a very personalised process because the ITE course is tailored to each individual's needs.

"That's something that many times our students say in the beginning. 'Tell me what to do. What are the assignments? What are the criteria? How many pages, what to do,

when and what?’ We say that, ‘Well, hold on. Be patient. You have to figure out what you need to develop. What type of competencies do you need to develop?’” – Hanna.

Hanna explained that these studies cannot be rushed. Students need to engage in self-study and study interactions and then test and work with other students and develop competencies in the different areas.

“We cannot say that, ‘Okay. Two weeks and you’ll hand me a paper and that’s it.’ That’s not the way it goes” – Hanna.

Self-assessment plays a central role in Finnish competency assessment. Then there is the importance of self-assessment within peer groups, for example, *“how well do you get along with your peers?”* How student-teachers work in peer groups demonstrates how well they will work in a teaching team or how well they will work with teaching colleagues. Peer assessment also has an important role. Student-teachers also look at the tutor’s role and discuss feedback and feed forward, and consider how to go about doing certain things and what needs improvement, what needs more attention and what practice is still needed. Student-teachers also get feedback from their schools and their students, *“so it is quite a journey”*.

When it comes to the personal study process, there is flexibility as student-teachers can adjust their studies to accommodate their situation at work and in their personal life.

Fredrik explained that all student-teachers at the university of applied science are adults, with an average age of 35–40, so the majority of them already have degrees and work experience – sometimes in more than one area. Some of them may already have PhDs. He further explained that salary is not an issue or motivation for these student-teachers because in industry they are likely to be earning more than they can earn as a teacher. In other words, they are intrinsically motivated to teach. Candidates are interviewed when they apply to enter the VET ITE program and during these interviews many tell him that their industry is heavy and they have to be productive, and there are lots of uncertainties, so they want to try another career and think that teaching may be good. Many of the candidates are also motivated to work with young people.

Fredrik explained that the VET teaching profession is versatile, and VET teachers are free to use different methods and that they are trusted to make many decisions. Although there are orders and rules that teachers need to abide by, *“it’s more or less free ... you are owning your position”*.

He further explained that the VET ITE program is offered as one academic year of study, but that it can be stretched out to one and a half or two years, making it quite flexible and more achievable for students to complete.

“We have this blended system. We have contact periods and distance education so that students are not here every day, ... once in a month, they have contact education here and then they have distance education” – Fredrik.

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Fredrik also said that most student-teachers are working at the same time they are studying, and so this is also an example of flexibility. On campus classes are held on Friday afternoons and Saturdays, and they utilise versatile teaching methods, including blended learning.

Responses from VET teacher participants

Aada explained that when she was studying for her teaching qualification, she was able to attend lessons on Saturdays and also on Fridays once per month. This schedule made it easy for her to coordinate with her workplace. She was given group assignments that she did in her own time as well as other assignments, but these assignments were completed on Fridays and Saturdays during attendance. It took her one and a half years to complete her qualification and she felt that this arrangement worked well for her. Towards the end of her studies, she was given larger assignments to complete, including the making of 30 hours of lessons. For one assignment, she made a video showing ways to work with students who were restless and could not sit still during class. She clarified that although there were many non-written assignments, there were also many written assignments in the course as well.

Supports for VET pre-service teachers in Finland

Participants were asked the question: *‘What supports are in place to help candidates gain a VET teaching qualification?’* Below is a summary of responses.

Responses from academic participants

As discussed previously, many students are already working as part time teachers when they arrive at the university of applied science, and so many are receiving a salary during their studies so they do not need further financial support. However, if candidates are studying full time, it is possible to receive a study allowance from the government.

“Education is free. We don’t have any fees. Yes, indeed... it’s financed by the government ... we don’t have fees in Finland in university education for Finnish students and European Union students” – Fredrik.

Other supports include guidance advisors who support students if they need expert help. Teachers are also supporting and guiding.

Hanna explained that some students are quite ambitious and want to do more study, so they can get study leave and financial support from the government. To get this payment, they need to have been working for a period of time, approximately five years, before they qualify for this financial support. The amount of financial support students are eligible to receive depends on how much work experience they have and their life situation.

Responses from VET teacher participants

Mikael also explained that education is free in Finland, and that adults can get financial support when they study, however he is not aware of all the different supports available.

Aada said that she was able to access a government funded study grant for adults. Towards the end of her ITE studies, she took two months leave from work to complete the larger assignments. This study support equated to approximately 60 percent of her regular wage.

Advice for countries wanting more VET secondary school teachers

Participants were asked *“What advice would you give to countries that do not have suitable ITE programs for vocational professionals to become qualified VET school teachers?”*. Below are their responses.

Responses from academic participants

Fredrik replied by saying that although it was not his position to give other countries advice, he would offer some suggestions to take into consideration because his university of applied science is responsible for teaching VET teachers in some other countries.

He explained that he has noticed that in many countries there is no ‘proper’ education for teaching staff working in the vocational education sector, especially in the initial vocational education sector, or higher VET, or technical or professional education sectors either. He went on to say that 50 years ago in Finland, the perception was that there was no need for pedagogical teacher training in VET or technical higher education, but that this view changed toward the end of the 1950s, and also in higher technical education in the 1970s. Because learning outcomes back then were very poor, and VET teachers could not teach, they “did not have any idea of how to organise education”. They were also not able to motivate students or to estimate learning outcomes. Consequently, the country decided to reintroduce pedagogical education for VET and technical teachers. Since 1958, Finland has had compulsory pedagogical education of upper secondary VET teachers. In the 1960s, VET expanded rapidly. After WWII Finland had a baby boom and those babies were at the age of upper secondary education in the 1960s. The government realised that Finnish society was changing to an industrial business country, and

because there were so many people, it was not possible for everyone to go to high school and then university, so they needed to develop their vocational education sector. Then they realised that they needed pedagogically educated VET teachers.

“We decided that ... there were two alternatives. Either we build a special vocational teacher education program for the universities, which could include also these vocational subjects and this pedagogy, but it could take at least, let’s say three, four, five years to study this. And the second possibility was that ... we build a special pedagogical education for vocational education sector teachers and we enrol participants from students or participants who already have vocational education and work experience” – Fredrik.

The latter idea was selected because it was faster and more economical, and they continue to use this model. Because the majority of Finnish student-teachers already have a bachelor degree, they only need to complete a one-year pedagogical qualification.

“[I]n Finland, we have a system where we enrol teacher students who already have an education, and they have work experience, then they come here. Maybe they are a little bit older at the age, but however, they already know this world of work. They don’t have any special misunderstandings about this world of work, and they know not only the theoretical aspects of this technical sector, but they know also something in practice, and then they come here” – Fredrik.

He advised that whatever teacher training a country has, it should be systematic and it should be quality assured. Quality assurance should be included in teacher training. He also says that although there is no current teacher registration system in Finland, it is something under discussion and may be introduced soon.

Hanna believes that it is important to have vocational schools and professionals who have vocational teacher education to provide good VET. The teachers need to be particularly good, and “[t]hey need to have a pedagogical qualification”. VET teachers need to not only be an expert in their vocational field, but “they also need to have this pedagogical orientation” to help students learn their vocation. She also spoke of the importance of VET secondary students acquiring the identity and attitudes of the vocation they are studying for.

“If you are skilled in doing something with your hands but then you have a bad attitude or you don’t have the identity of that professional, then you are not quite a good professional in many, many ways” – Hanna.

The universities of applied science collaborate with the academic universities and research in the field of education. Hanna explained that universities of applied science were established in Finland at the beginning of 1990s to raise the level of professional knowledge and skills in the society. There was a need for well-educated people working in business, and it was thought that this required a more vocational or practically oriented education than what is offered in an academic university.

During reforms of the 1990s, there was a need to renew college education. In Europe and several countries, there was a second pillar of higher education, and this is what inspired Finland to introduce universities of applied science. The universities of applied science were also introduced to ensure that people could engage in lifelong learning and progress vertically and horizontally between the two university sectors *“to ensure that there are no dead ends”*.

Responses from VET teacher participants

Mikael wanted to say that he thought that the transition from work to teaching is too sudden for some people, and they do not have enough time to complete the transition process properly. He further thought that student-teachers need more time to learn how to work with students, to diagnose class-based problems and to learn how to handle students. He said that many school students have issues such as attention deficit and so teachers need time to learn how to deal with students with learning difficulties. He also thought that *“more and more”* students seem to be struggling to read text, and this is a problem that teachers need to learn to deal with. He further said that student-teachers need to learn more about working with students with learning difficulties.

He advised that respect for the teaching profession is important, and also advised that VET teacher remuneration should be a bit higher to be comparable with what they received working in their original industry vocations.

“If the payment is good, they respect you much more, and also, if you don’t pay enough, you don’t get the good teachers” – Mikael.

Aada was surprised by this question because she did not realise that other countries might not have ITE for VET secondary teachers. When asked why she found the question unusual, she replied:

“because if you don’t teach young people how to work and behave and do things and fix cars and nurse people, if you don’t have teachers, who will teach them? Nobody. And those people who are going to take care of my cars and take care of me when I’m old?”

... young people are our future” – Aada.

Aada believes that VET teachers are more important than ever because young people have many issues and teachers need to know how to deal with them. For example, if students cannot sit still in class, they need to know how to guide them to use their potential because a teacher needs to be versatile because students are not all the same.

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“You have to know about people and their personalities and how to handle them. And if you know how to fix a car, but you can’t handle these students, then it doesn’t work” – Aada.

Before closing the interviews, participants were asked if they would like to add anything else. These responses, noted as ‘further comments’ are presented below.

Further comments

Mikael wanted to add that he thinks that the creation of personal study plans for each student is a good thing. By working to study plans, educators do not speak in ‘years’ anymore, only the time it takes for students to gain the skills. He also wanted to say that he has noticed nonteaching duties, such as paperwork and speaking with parents, was increasing, and thought that teachers need personal help to deal with these extra duties so that they can spend more time teaching students.

Mikael also discussed the freedom he has to modify classes and curriculum. He explained that his students do not like sitting in a classroom, and so he can modify his practice and move learning to the workshop. There, if he sees a student not participating in the group, he can direct them to go and do some on the job learning instead. The VET teachers can choose how learning takes place, and he regards this as a positive thing that came from the 2017–2018 reforms.

Mikael also discussed the importance of being trusted by school management and the need for teachers to carry this trust. He believes that this is why good teachers are needed, because if VET does not have good teachers, then they will not be trusted with these freedoms. He explained that if a teacher is not motivated, then they may abuse the freedoms, *“but if you have good motivated teachers [who are] free to choose how they do it, that’s the best combination”*.

“And if you are a very good guy in the mechanics, you know everything and you know everything for the car electrics, that doesn’t mean that you are a good teacher. Because teaching is totally another profession. Yeah. You have to know the technology.... And if you know the technology, you may not even teach because you have to know something

about the learning process and something of the people's mind ... You have to know how to teach before you can teach"– Mikael.

Frederik added that he believes that the 2020s is an important decade for VET.

"I think this decade, 2020, is a decade of pedagogy and learning. If we want to improve our business life, if we want to improve our society like we do, it is the question of learning, and when it is the question of learning, we must have qualified teachers" – Frederik.

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Summary of interview data from Finland

Status of VET

VET and VET teachers are well-respected in Finland, even so, VET may be regarded by some people as slightly less prestigious than general (academic) education. VET teachers receive salaries that are 'about the same' as general teachers and they also enjoy the elevated social status that Finnish society affords its teachers. Institutes offering VET ITE receive many more applicants than they can accept into their courses each year, and approximately 50 percent of upper secondary school students elect to study a VET pathway to the workforce. All of these factors suggest that VET teaching is a well-regarded and prestigious profession, and comparable to the general teaching profession in Finland.

How VET is offered in schools

An important principle of Finnish education is that there are 'no dead ends' and so even if young people choose a VET pathway in their upper secondary schooling, they can change to the academic pathway at any time, and vice versa. In 2017, changes were made that saw upper secondary VET students performing more work-based learning, and teachers required to personalise student learning by using individual study plans. Also, prior learning is recognised towards qualification.

Different communities in Finland organise their schools differently. For example, some schools offer both academic studies and VET on the same campus, while others have separate campuses for the different offerings. New regulations require students to stay at school until the age of 18. This change makes it mandatory for young people to remain in school to study either an academic or VET pathway during their upper secondary schooling. These changes also mean that schools are required to work differently to ensure that all students are progressing and do not drop out. They also signal a changing culture in Finnish education, one

emphasising pedagogy and the importance of pedagogically skilled teachers. After nine years of comprehensive schooling, students enter upper secondary school where they must decide whether to study an academic or vocational pathway. However, there are some programs that offer 'double-degrees' or 'combined diplomas' that encompass both academic and VET subjects.

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In upper secondary VET, there are three stages of progression: (1) Basic education, where student learn basic skills of a vocational field; (2) Vocational professional studies, where students begin to refine their skills; and (3) Special professional education, where students become quite skilful in a vocation and may be required to assist the tutor of a working group. All vocational students have extensive workplace learning experience because they are required to work and learn both at school and in local enterprises. Before being sent out to a workplace, students are given lessons at school so they are prepared for what they will encounter during their placement. When school students complete three years (or equivalent) of upper secondary schooling, they graduate with a basic vocational qualification in their area of study. If they wish to continue studying after graduating, they can enrol in a university of applied science. Young people as well as adults can enrol in upper secondary VET.

There are two ways to complete an apprenticeship in Finland. Students can either do an apprenticeship with a company, or attend vocational school to learn the skills of a vocation. Both ways require extensive work-based learning, but with the latter, students do not get paid. The goal is the same despite which pathway students take.

Popularity of VET

VET teachers thought that VET was equally as popular as academic streams of learning in upper secondary education, however academics thought that VET's popularity, although still fairly even, may have declined a little in recent years.

Transitioning from industry to VET teaching

The study found that vocationally qualified and experienced industry professionals wanting to become a VET school teacher can apply to work in a school as a part-time teacher. Once employed by a school, they have three years to complete a VET ITE teaching qualification. Candidates wanting to enrol in a VET ITE program must have a degree obtained at university or a university of applied science as well as a minimum of three years of industry experience working in the technical or business sector. However, those working in vocations where there is no degree level qualification can still enrol in an ITE program so long as they have the highest qualification attainable in their field. The most common way for industry professionals to

become a VET teacher is to study for a teaching qualification while also working part-time as a VET teacher in an upper secondary school.

Initial Teacher Education

Although VET ITE programs in Finland are not linked to a degree, they still lead to a professional VET upper secondary school teaching qualification. VET ITE programs are blended and designed so that pre-service teachers can use their experience working in schools to form the basis of their assessment tasks. VET ITE uses inquiry-based and competency-based approaches. Group assessment and self-assessment play an important role within peer groups. The VET ITE program is personalised for each candidate, and is designed to be one-academic year in length. As the VET ITE program utilises competency-based assessments, pre-service teachers can receive recognition of prior learning for skills and knowledge already acquired. The VET ITE program utilises a wide variety of assessment tasks. Pre-service teachers also need to demonstrate that they can get along with their peers and work well in groups.

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The VET ITE program itself is divided into three levels:

1. Group level – study groups complete online work and attend campus 1–2 days per month;
2. Peer groups – study an area of interest in a study circle once per month and organise a field day;
3. Personal study – individual study.

Once graduated, VET teachers receive the same pay, working conditions and opportunities (i.e., status) as general secondary school teachers.

On campus sessions are held on Friday afternoons and/or on Saturdays. Candidate's personal life circumstances are also taken into consideration. Most candidates are able to complete the program within one year, but some may take longer depending on their personal circumstances. Student-teacher's studies cannot be rushed because teacher-identity formation takes time. Within the personal study process, pre-service teachers can adjust their studies to accommodate their work and personal life situations. Each candidate has a personalised study plan, and the ITE course is tailored to each individual's needs. As the VET teaching profession is versatile, pre-service teachers are free to use different methods and are trusted to make many decisions.

Supports

Public education is free to study in Finland, and so ITE students do not have to pay to study. This is made possible through taxes⁴. Because many VET pre-service teachers are already working part-time in schools, they are also receiving a salary and so may not require further financial support. Those studying full-time may be eligible to receive a study allowance from the government. Universities of applied science also offer support in the form of guidance advisors, and lecturers also offer support. Students with approximately five years of industry experience and ambitious to engage in extra study can receive study leave and a study grant from the government. The amount of funding they are entitled to depends on how much work experience they have and also on their life situation.

Advice

Respect for the VET teaching profession is important, and countries need skilled and pedagogically qualified VET teachers to prepare young people for their working futures. It is important to have schools that offer VET and employ professional VET teachers who are experts in their fields. VET teachers need a pedagogical orientation to provide good VET, and to help VET school students to acquire the identity and attitudes of the vocation they are studying towards. Candidates transitioning into the teaching profession need to be offered enough time to develop their teaching skills, including classroom management skills, and develop their teacher identity. VET ITE needs to be systematic and quality assured, and quality assurance should be included in teacher training.

Further comments

VET school teachers in Finland are respected and trusted professionals who have the freedom to modify classes and curriculum as required. They are not only experts in their vocation, but are pedagogically proficient teachers as well. Good VET teachers are motivated to do well and understand not to abuse the freedoms they are offered. These teachers can choose how learning takes place and regard this as a positive thing.

The 2020s is shaping to be a decade of pedagogy and learning to improve business life and society. To achieve this, societies need pedagogically qualified VET teachers

⁴ Although individual tax rates vary, the average single Finnish worker faced a net average tax rate of 30.8 per cent in 2021, compared to the OECD average of 24.6 percent (OECD, 2022).

Section 3: Vocational education in Norway

A brief history

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Before 1945 training for work in Nordic countries was mostly organised as part of working life, often involving some form of apprenticeship. After the Second World War, Norway's social democratic government wanted to extend general schooling from seven-years to nine-years, and this succeeded in 1959 with the introduction of compulsory two-year youth school that was divided between general and vocational streams of learning (Jørgensen, 2018b, p. 14).

The post-war period saw industrial growth and large numbers of youth made the strengthening of post-compulsory VET a priority for governments. School-based VET for industry, commerce, handicrafts and apprenticeships were at this time regulated separately, and the law applying to apprenticeships only applied to urban areas. The VET system in Norway became regulated with the first Apprenticeship Act of 1950 that controlled the training of apprenticeships in cities and urban areas (Thunqvist et al., 2019, pp. 301–303). Authorities wanted a unified education system with 'vertical permeability' from the lower to the higher levels and without any 'dead ends' (Jørgensen, 2018b, p. 14).

By the 1970s, manufacturing employment and apprenticeships had declined in Norway, and opponents of apprenticeship training preferred to promote social mobility through access to higher education, a privilege that had previously been reserved for the middle classes (Høst & Hovdhaugen, 2013; Thunqvist et al., 2019, p. 302). The 1974 Upper Secondary School Act established a unitary school system and the traditions previously developed in vocational schools continued within the new institutional framework (Thunqvist et al., 2019, p. 302). Education reforms in 1975 integrated school-based VET with general education in a more comprehensive secondary education system (Jørgensen, 2018b, pp. 13–14). With the 1980s came renewed interest in apprenticeships. New legislation and training agencies were established, and enhanced cooperation between employers contributed to this regeneration (Thunqvist et al., 2019, p. 303). In 1981, the Apprenticeship Act was replaced by a new Act on Vocational Training that applied to the entire country, and offered an institutional framework to foster closer cooperation between government and social partners (p. 303). Social partners influenced training content to help align curriculum with the needs of working life, and new trades were established in areas such as food processing and timber manufacturing, which meant that previously unskilled and semi-skilled jobs could be upgraded to 'skilled' work (p. 303).

Economic downturn towards the end of the 1980s and during the 1990s lead to high levels of youth unemployment (NOU, 1994) prompting changes to the way VET was organised (Albæk et al., 2015). This led Norway to question how VET could better meet the changing needs of labour markets and help young people into jobs (Thunqvist et al., 2019, p. 299). Facing unemployment, many young people wanted to enrol in upper secondary schools, however, schools did not have the capacity to accept increasing numbers of applicants at that time, and so many potential students were turned away (Bäckman et al., 2011, p. 13; Thunqvist et al., 2019, p. 304). The youth labour market situation together with increasing demand for education triggered profound reforms to the nation's education system (Bäckman et al., 2011, p. 13). In 1989, a committee made up of employers and trade union representatives was formed (the Blegen Committee) to consider how education could better meet the needs of the nation. The Blegen Committee proposed that courses should provide a broad basis for further education and focus on general subjects including languages and maths. It was thought that a broader basic education would give VET students a better foundation for lifelong learning and help them to better adapt to future needs within their trades (Thunqvist et al., 2019, p. 304). General and VET streams of learning were included in the new upper secondary school system, and in this system, the standard model for the VET program was two-years of school-based education followed by two-years of apprenticeship training in industry—an arrangement that continues to this day (Jørgensen, 2018b, pp. 11–15).

By the mid-1990s, Norway had a vision to skill its young population and utilise their talents as far as possible, resulting in 'Reform 94'. This Reform sought to restructure and rescale upper secondary school levels to accommodate all adolescents and put them on a path towards higher levels of attainment. There was a pressing need to improve vocational tracks of learning (Bäckman et al., 2011, p. 13; Markussen, 2007, p. 90).

Since the right to upper secondary schooling was legislated in 1994, there has been a rapid growth in apprentices (Høst, 2009), mostly in traditional professions such as manufacturing and crafts (Bäckman et al., 2011, p. 13). State interventions and political reforms during the 1990s have played a significant role in shaping the upper secondary VET system in Norway. The reforms led to a school-based hybrid system with a strong emphasis on apprenticeships (Thunqvist et al., 2019, p. 298).

In 2016, Norway introduced a nationally standardised 'two plus two' (or '2 + 2') model of upper secondary vocational education (Schmid et al., 2020, p. 55). This system was designed to offer broad foundational vocational education to upper secondary students in their first two years of vocational studies, followed by two years of work-based education and training in the form of apprenticeship. The first two years of school-based vocational studies are not intended to

lead directly to the labour market, but are regarded more as ‘the first step’ of a sequenced qualification (Schmid et al., 2020, p. 55).

The current VET system in Norway is characterised by a combination of state-controlled schooling, a corporatist model, and an apprenticeship system (Nylen & Tønder, 2014; Olsen et al., 2014; Thunqvist et al., 2019, p. 301). The number of apprenticeships offered by employers varies each year, keeping pace with business cycles and employer’s labour needs. Employers get to pick their apprentices, and in a good year, 80 percent of apprentice applicants are indentured, but those unable to secure a contract can take one year of school-based education and training instead (p. 14). Since 1994, Norway has used the ‘two plus two’ model of vocational education, consisting of two years of school-based education followed by two years of apprenticeship training (Schmid et al., 2020, p. 60).

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Status of VET in Norway

According to the OECD (2020), Norway is a leader in terms of its skills system and how it develops and uses the skills of its citizens. VET plays an important role in Norway and is generally regarded as high quality and high social status. This can be appreciated by the high numbers of students enrolled in upper secondary VET compared with general (academic) secondary education, and significantly above the OECD average.

Figure 2 (over) offers an overview of VET in the Norwegian Education system.

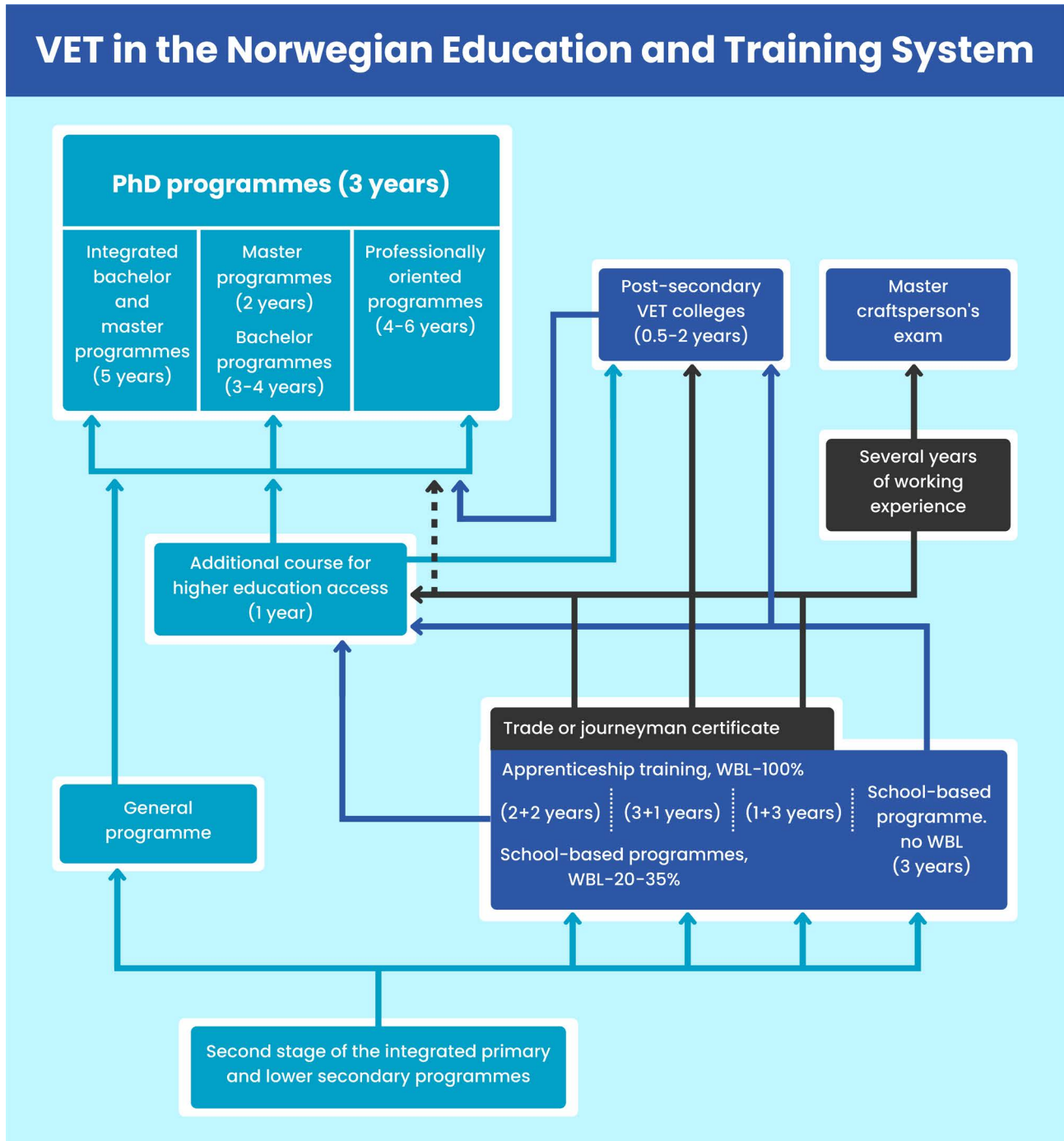


Figure 2. Overview of VET in the Norwegian education and training system, adapted from Cedefop (2017b).

Upper secondary vocational schooling in Norway

Norway has a unified education structure, and VET is integrated and regarded as equal to general education in upper secondary education (Cedefop, 2017b). There are currently 10 VET education programs on offer leading to more than 180 different trade or journeyman certificates for secondary school students (Utdanningsdirektoratet, 2020). VET is organised and financed by the counties as part of the upper secondary education system and schools provide students with both general and VET pathways. The number of VET programs on offer varies between regions and in response to local labour markets (Norwegian Directorate for Higher Education and Skills, 2022).

In Norway, there are 10 years of compulsory schooling (Bartsch, 2021, p. 11), and since 1994, all students who have completed compulsory primary and lower secondary education have the right to continue on with three years of upper secondary schooling. Almost all students (approximately 96–97 percent) continue on to study upper secondary education (Thunqvist et al., 2019, p. 301). Much like Finland, students have the option to pursue either vocational or general (academic) upper secondary pathways (p. 301). Of these students, approximately 50 percent enrol in upper secondary vocational programs (Fiva et al., c.2017, p. 8; OECD, 2018, p. 6; 2020a, p. 2; Schmid et al., 2020, p. 60), although more recent reports suggest that this percentage is rising.

The 2 + 2 model of upper secondary vocational education

While general (academic) upper secondary programs are three-years in duration, upper secondary vocational programs are four-years in length, and commonly referred to as the 'two plus two' model. The first two years of upper secondary VET are dedicated to school-based vocational learning that includes more than 400 hours of practical training, some of which is conducted in industry in preparation for apprenticeship (Norwegian Directorate for Higher Education and Skills, 2022, p. 9). The final two years of this model is spent completing an apprenticeship with a company (Thunqvist et al., 2019, p. 301). The final exam is a trade or journeyman's test leading to a trade vocation and an EQF level 4 qualification (Utdanningsdirektoratet, 2020).

During a student's first year in VET (i.e., Vg1-upper secondary level 1 - see Figure 3) they are offered a general introduction into a broad vocational field and study common core (academic) subjects (e.g., language, maths, science), as well as common program subjects that offer students a general induction into a vocational field. In their second year (i.e., Vg2-upper secondary level 2 - see Figure 3) subjects become more specific as students decide on the vocation they would like to pursue. Students can study vocational subjects as well as in-depth vocational studies that may include theory and work placement (Hiim, 2020, p. 232).

There are currently 10 broad vocational areas available for study in Norwegian upper secondary education: (i) Agriculture, fishing and forestry, (ii) Building and construction, (ii) Crafts, design and product development, (iv) Electrical engineering and computer technology, (v) Hairdressing, floral, interior and retail design, (vi) Healthcare, childhood and youth development, (vii) Information technology and media production, (viii) Restaurant and food processing, (ix) Sales, service and tourism, and (x) Technological and industrial production (Vibli.no, 2022).

In VET students' third and fourth years, their studies are formalised as an apprenticeship contract between the student (as apprentice) and a training enterprise (or company), and this arrangement needs to be approved by a county authority (Utdannings-direktoratet, 2020). During these two apprenticeship years, students are engaged in productive work, develop an in-depth knowledge of their trade, and prepare for their journeyman's test (p. 1). Social partner representatives (i.e., industry, business and public sector representatives) hold the majority of seats in all advisory bodies in the decision-making system for upper secondary VET—an arrangement designed to anticipate skill needs and secure relevant educational provision. This system creates a tripartite arrangement (between the school, apprentice and industry) that aims to ensure relevance and quality in accordance with local labour market needs. In recent years, these social partnerships have been involved in the development of the new structure and in the development of renewed VET curricula for all trades and crafts (Utdannings-direktoratet, 2020).

Hiim (2020) analyses the challenges of school-based VET in Norway, explaining that there are strong political ambitions in Norway to strengthen the quality and completion rates of upper secondary VET students to produce a skilled workforce and improve the status of VET. This has come following a period of discontent concerning the quality and relevance of VET provision (pp. 228–229). Since, Norway has made considerable efforts to strengthen the quality and relevance of its vocational programs to achieve these aims because it is widely believed that there are close connections between quality, respect and the status of VET (p. 229).

Much like Finland, Norway's education system has been constructed so that there are 'no dead ends' (i.e., programs always leads to further study and higher levels of qualification), and although the vocational track does not automatically prepare students for university studies, all VET students are entitled to such preparation (Bäckman et al., 2011, p. 13). After the first two years of upper secondary vocational education, it is possible for students to change direction, and so, instead of pursuing an apprenticeship, they can switch to supplementary studies in a school and qualify for entry to university. Due to 'dropouts' and other students transitioning from VET to general (academic) streams of education, the proportion of young people graduating from VET appears lower than that of general education (Schmid et al., 2020, p. 60). Statistikk sentralbyrå [Statistics Norway] state that between 2015 and 2021, 80.4 percent of all upper

secondary students completed their education, however only 70 percent of students studying vocational programs completed their studies. In 2019, there were 196,629 pupils studying upper secondary vocational education in Norway, and of these, 48,457 (24.6 percent) were apprentices and trainees (Bartsch, 2021, p. 33). According to the OECD (2020a), although almost half of all school students enrol in upper secondary VET, these students are less likely to complete their qualification compared with those in general upper secondary programs (p. 2).

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The most common broad field of vocational study is engineering, manufacturing and construction with 41 percent of all upper secondary vocational graduates gaining a qualification in this field (OECD, 2020a, p. 2). In the 2020/21 school year, 93 percent of all candidates passed their vocational or apprentice examination (i.e., 29,127) (Bratholmen, 2022).

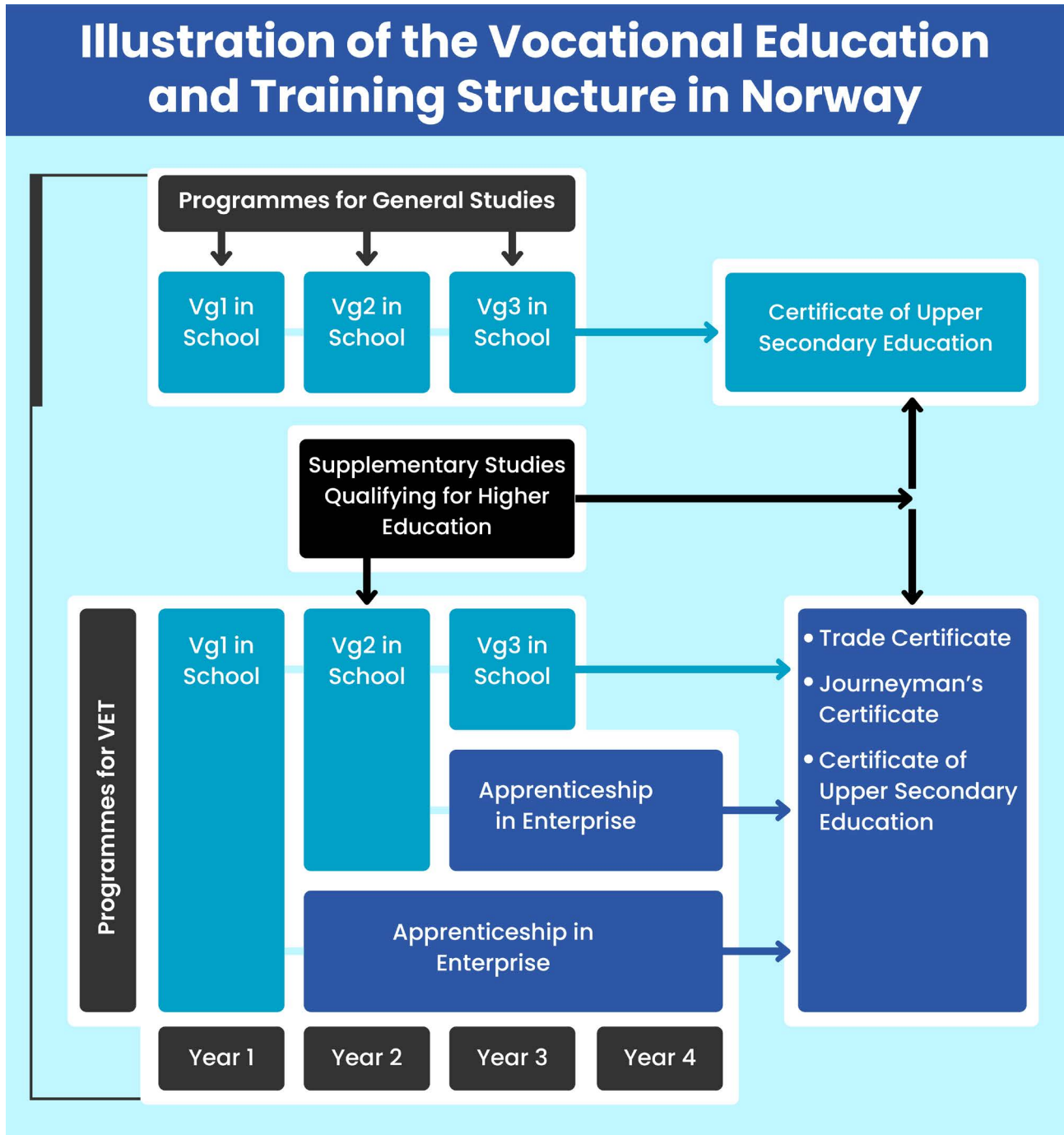


Figure 3. Vocational Education and Training structure in Norway, adapted from Utdanningsdirektoratet (2020).

Apprenticeship in Norway

Apprenticeships in Norway are offered at EQF level 3 and 4 (Schmid, 2020, p. 55), and apprentices, while enrolled in upper secondary vocational education, are also required to complete two years of apprenticeship training and productive work in a business or public institution (Utdanningsdirektoratet, 2020, p. 1). Apprentices make up the largest group in upper secondary vocational education, accounting for 62 percent of all candidates in the 2020/2021 school year (Bratholmen, 2022). The largest proportion who passed their examinations are among candidates who took the professional or apprentice test within industrial and technology subjects (96 percent)—3 percentage points higher than average for all other vocational education fields (Bratholmen, 2022).

Apprentices in Norway are employed by the companies they work for and pay their wages, while the companies employing apprentices receive a state grant in exchange for employing apprentices (Thunqvist et al., 2019, p. 301). Apprentice wages are determined through negotiations between unions and employer associations at the national level (Kuczera, 2017, pp. 26–27). The apprenticeship contract is standardised and signed by the apprentice, employer, the local training agency and county authority (Thunqvist et al., 2019, p. 301).

All companies employing apprentices must also appoint a qualified training supervisor and one or more trainers. How on-the-job training is conducted varies but enterprises must be able to document how the apprentice's training is planned, organised and assessed to ensure that the apprentice develops the necessary skills and competences (Norwegian Directorate for Higher Education and Skills, 2022, p. 10). Apprentices are assessed through continuous evaluation by the enterprise and at two meetings per year between the trainer (instruktør) and apprentice (p. 10).

Apprenticeship Training Agencies (ATAs) are Norwegian training enterprises that are owned by groups of companies and funded through state grants. ATAs aim to establish new apprenticeship places and deal with administrative tasks associated with apprenticeships, and often sign apprenticeship contracts on behalf of companies. They are also accountable for apprenticeship completions and results (Kuczera, 2017, p. 29). Approximately 70–80 percent of all apprentices in Norway are associated with an ATA (p. 29).

An apprenticeship concludes with a trade or journeyman's exam leading to a qualification at EQF4 (Utdanningsdirektoratet, 2020, p. 1).

Incentives and supports for students

Like in Finland, students do not have to pay fees to study in Norway. Norwegian students accepted into programs can apply for a Norwegian State Education Loan Fund (Lånekassen) or a scholarship (legater) or grants (stipender) (Nordic Co-operation, n.d.). The government provides companies with direct subsidies for each apprentice (with a right to upper secondary education) that varies according to characteristics (such as age, disability, gender, previous education, migration status) and sector characteristics (Kuczera, 2017, p. 20). In Norway, higher grants are also available to employers in small crafts such as shoemaking, pottery art and silversmithing, which are all protected trades for historic and social reasons (p. 22).

Initial teacher education of vocational teachers in Norway

Initial Teacher Education (ITE) qualified VET teachers are responsible for school-based upper secondary vocational education in Norway. Teacher education is provided by 15 public Higher Education institutions, and 2 private University Colleges spread over 28 campuses throughout the country. All ITE programs are regulated on a national level by 'framework plans' issued by the Ministry of Education and Research. There are six types of teacher-education programs in Norway, and two of these types concern the ITE of VET upper secondary school teachers: (i) a bachelor program, and (ii) a one-year post-graduate program obtained in combination with an academic degree (or vocational basis) from a university. There are no entrance exams or tests to access an ITE in Norway as everyone who fulfils the basic criteria is admitted (Isacsson et al., 2018, pp. 43–44).

Bachelor level ITE programs were introduced in Norway to increase the competence and quantity of skilled-workers entering the VET teaching profession (Hiim, 2020, p. 234). Bachelor level ITE programs require student-teachers to complete a three-year vocational teacher training program of 180 credit points consisting of: vocational subjects guided by pedagogical practice (pedagogy and didactics) and vocational subjects with guided vocational practice. In the third year of study a thesis is included. Student-teachers must complete a minimum of 130 days of placement, which is divided into 70 days of supervised vocational pedagogic practice in schools, and 60 days of pedagogic practice linked to working life (Norwegian Ministry of Education and Science, 2013).

Admission to the one-year post-graduate master's program requires candidates to have a trade certificate, two years of practical work experience and two years of higher-vocational education or a bachelor degree from a relevant profession (Lyckander, 2021, p. 3). The master's program consists of education theory and practice for subject teachers consisting of 30 credits

of pedagogy, 30 credits of subject didactics, and 60 days of teaching practice (European Commission, n.d.-a).

Teachers' skills in VET programs can be divided into two categories: (a) those with a formal vocational background who generally have a journeyman's or trade certificate, or (b) those who have taken a program of professional study at university (Norwegian Directorate for Higher Education and Skills, 2022, p. 9). All vocational secondary teachers in Norway have a double qualification: they are both skilled workers and professional teachers (Norwegian Directorate for Higher Education and Skills, 2022, p. 10).

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The vocational and teaching experience of pre-service teachers forms the base for learning processes, and all candidates are formally evaluated on a continuous basis throughout their study program. They also undergo a 'suitability assessment' during their program (European Commission, n.d.-a). Pre-service teachers are expected to be active participants in their own learning, and contribute reflections and experiences on teaching and guidance. They are also expected to attend and participate in 'common seminars' arranged by their university. Studies are based in praxis, and student-teachers are assessed by means of formative and summative assessment, and through the use of diary entries and tests (that can be project, home, schoolbased, oral or written) depending on the topic or objective of the subject (Isacson et al., 2018).

Norway spends more per student than any other OECD country on primary to secondary educational institutions. There are no tuition fees for a bachelor's degree for national students in Norway but loans are available to cover living expenses. While loans may reduce the upfront cost, students are required to repay them once they start work. In Norway, students' average debt on graduation is USD \$29,128 (OECD, 2020, p. 7). In 2015, a new funding strategy was promoted to improve the recruitment and qualifications of Norway's VET teachers called 'The Vocational Teacher Promotion Initiative – for the skilled workers of tomorrow'. The initiative comprised of (a) grant schemes for employees who lack teacher qualifications, (b) grant schemes for recruiting new teachers, and (c) creating more study places in educational programs in educational theory and practice in vocational education (PPU-Y) (Norwegian Directorate for Higher Education and Skills, 2022, p. 6). Norway recognises the unique characteristics of vocational teachers and their professional practice and so special professional development measures have been established for their continuous and further learning. They include: (a) continuing and increasing the use of the VET staff training scheme; (b) continuing the scheme where teachers can update their skills in industry; (c) and increasing the number of VET teachers given the opportunity to take further education in common core subjects (p. 6).

Norway also has regulations relating to Initial Teacher Education curriculum of VET secondary teachers to teach Year levels 8–13 (ages 13–18). The objectives of the regulations are to ensure that schools can offer VET which is “integrated, profession-oriented and research and evidence based” (Norwegian Directorate for Higher Education and Skills, 2022, p. 12). VET ITE must be of high academic quality with consistency between subjects of “professional study, vocational subjects and practical training” (p. 12). It must also meet society’s needs and comply with the Education Act and applicable national school curriculum (p. 13). Further, all teachers, including teachers of upper secondary vocational programs, must have teaching qualifications in accordance with national curricula for teacher education programs and regulations (Norwegian Directorate for Higher Education and Skills, 2022, p. 12; Norwegian Ministry of Education and Science, 2013). The ITE of all teachers in Norway must ensure that candidates can further develop their schools as institutions of learning and education in a democratic society. This education must also consider equity and multiculturalism, and help to create schools that are inclusive of all students regardless of their prerequisites and social, cultural and linguistic backgrounds. Vocational teacher education must also prepare candidates to provide training on Sámi relations, including knowledge of the Indigenous population and the rights of Sámi children and young people to engage with curriculum (Norwegian Ministry of Education and Science, 2013).

In Norway, most VET teachers hold a trade certificate plus at least two years practical experience and two years of higher-vocational education at level 5 in the International Standard Classification of Education (ISCED) system (below university level). They must also have one year of vocational practical-pedagogical education at level 6 (university level), however, many VET teachers from vocations that do not have an apprenticeship tradition (e.g., service, transport, health care), already have a university education at bachelor level (Hiim, 2020, p. 234).

A vocational ITE qualification opens pathways for VET teachers to pursue further education at the master’s or doctoral level in education science to increase competence, encourage research, and give these teachers the same opportunities as other teachers to undertake research education (Hiim, 2020, p. 235).

Interview findings from Norway

Four university academics from Norway were interviewed for the study. Again, all names of participants have been changed to protect their identities. Agnete is Head of studies and responsible for the master’s VET teaching program. Amelia is a Professor at an institute of VET. Lukas is also a Professor at a university and is also craft trade qualified. Julia works as an

Assistant Professor and her research concerns the cultural heritage of traditional crafts. Julia has also worked as a career's counsellor in schools. All participants are directly involved with the Initial Teacher Education (ITE) of VET teachers for upper secondary schools in Norway. Below is a summary of interview findings.

The status and standing of VET and VET upper secondary teaching in Norway

Participants were asked *'Is VET school teaching a 'well-regarded' or 'prestigious' occupation in your country? Why/why not?'* Below is a summary of participant responses to this question.

Although one participant responded by saying that VET teachers enjoy the same status and prestige as general upper secondary teachers, the majority of participants were more reluctant to claim that VET teaching was as prestigious, instead suggesting that VET appears to be of higher status in some areas of Norway than in others. For example, in rural areas where there are many crafts and trade qualified people, VET and VET teachers appear to enjoy greater prestige, but in the urban and city areas, they thought that it was a little less well-regarded, possibly because there is more opportunity to attend university in the urban areas than in the regions.

One participant, Julia, who is also a lecturer and qualified career counsellor, explained that she believes that she has witnessed the status of VET increasing over the past decade, especially following a campaign by the Department of Education called 'The year of VET' (Yrkesfaglærerløftet). The campaign was intended to raise the status of vocational education, trades and craftsmanship in society, recruit crafts and tradespeople to become VET teachers, as well as raise the professional quality of VET teachers. Employers and school principals were given financial incentives to provide flexible schedules to employees wishing to take part time VET teacher education, and universities were given financial incentives to develop attractive and relevant courses to increase the numbers of VET school teachers. Julia says that over the past 25 years, VET in Norway has transitioned from being the least popular pathway in upper secondary education to the preferred pathway of upper secondary students (51% VET / 49% academic), and the status of VET teachers has also improved alongside this elevated status. She described witnessing parents in rural areas trying to convince their children to pursue a VET pathway to a trade ahead of an academic pathway to university.

"... [T]he parents would say, 'Why do you want to use your head? Use your hands... Stop thinking, do an honest job!'" – Julia.

Agnete has noticed an increase in positive messaging regarding VET in newspapers and the number of VET students proudly showing off what they do in social media. She thought that Norwegians are now realising VET's importance to the nation and economy and so she senses that VET's status is also improving, but slowly. She also thinks that the elevated status of VET teachers and VET pathways in upper secondary education is because both general and VET offerings take place in the same school grounds.

A few participants explained that VET teachers also receive the same salaries as their general teaching counterparts.

Lukas, who is a qualified tradesperson and Professor at a university felt that although VET teachers have the same status as general teachers, they seem to reside *"in the shadows"* of the official system because VET is so complicated. He thinks that this may be because those governing education do not usually have a personal experience of the VET system.

How VET is offered to school students in Norway

Participants were asked *'How is vocational education offered to senior secondary school students in Norway?'* Below is a summary of participant responses.

In upper secondary VET in Norway, the most common pathway for students to engage with is the '2+2' model. In this model, the first two years are mostly school-based, allowing students to 'taste' a selection of vocations within a broad vocational field before having to decide on the vocation they would like to specialise in. In school student's third and fourth years, they are employed as apprentices and work in industry to complete their apprenticeship and secondary schooling. One participant estimated that approximately 80 percent of students complete their upper secondary VET qualifications this way. In the 2+2 model, students need to identify a vocational field of interest to them and spend their first year learning a little about the variety of vocations in that field. For example, if a student enrolls in the 'Restaurant and food processing' field, they may get to try bakery, then cooking, then pastry cheffing, then waiting and so on. Students do not need to decide which vocation to specialise in until their second year, when their vocational education starts to become more specialised. The last two years of this model are completed working and learning as an indentured apprentice in industry. By the time the student (or apprentice) has completed their fourth (and final) year of upper secondary VET, they also complete their apprenticeship and (after testing) qualify as a trades or craftsperson. Although participants expressed mostly positive views about this system, some limitations were also observed. For example, if a secondary student decides that they would like to study a vocation

that is not offered via the school this can be problematic, and students who already know what vocation they want to pursue early on can become frustrated waiting until they can begin to specialise.

As well as the 2+2 system, there are some other ways for students to engage with upper secondary VET. For example, there is also a pathway for industry experienced people without a formal vocational qualification to return to study for an ‘add on’ year of trade related theory to achieve a ‘letter of qualification’ or ‘fagbrev’ (i.e., certificate of apprenticeship). Further, there is a pathway for people with special needs, who can choose to enrol in a few subjects (instead of the entire apprenticeship curriculum) and qualify to perform (what was described as) ‘standardised work’ in industry. There is also a special three-year apprenticeship program option for ‘red-listed’ (by UNESCO and United Nations) or ‘endangered’ crafts or trades (e.g., blacksmithing, stained glass) including Indigenous crafting of the Sámi people called ‘Duodji’. Indigenous crafts include leathercraft, textiles, bone and tree crafts, and these apprenticeships are offered to not only acknowledge the Indigenous population of Norway but to safeguard their culture.

Education pathways in Norway are flexible and *“it is a point to have no dead ends”*. Consequently, people who have chosen to study VET but later wish to pursue academic pathways can do so by enrolling in a ‘build-upon’ year in preparation for university studies. Academic pathway students can also transition into VET, but it is more common for students to move from VET to an academic pathway.

Popularity of VET in upper secondary education in Norway

Participants were asked the question: *‘Is VET a popular option for school students in Norway? Why/why not?’*. Below is a summary of participant responses to this question.

VET is a popular option for school students, and currently, 51 percent of all upper secondary students in Norway choose VET over general academic pathways. It has been a political wish of the government to raise the numbers of students choosing VET and this appears to be succeeding, even though numbers are lower in urban or city areas compared to regional areas of the country. Even so, the number of students who actually complete their vocational studies is lower because some drop out and others change mid-stream to general upper secondary schooling. One participant suggested that one of the reasons VET is so popular is because they have a political system where three parties collaborate: employers, labour unions and the state.

“... [T]hese three parties’ cooperation is very, very important in Norway and it contributes to kind of equalizing wages” – Amelia.

Because wages of skilled workers in Norway are quite high, the difference between incomes is not great, and this was considered to be an important reason why students choose VET, and also why their parents are happy for them to choose VET pathways. That is, parents are satisfied that their children will be able to make a good living post-school by choosing a VET pathway to the workforce, and are therefore supportive of their children pursuing VET pathways. It was mentioned that some parents do think that their children may be stifled by choosing VET over university, *“but it’s not really socially accepted to say that”*.

As mentioned previously, the percentage of students pursuing VET pathways differs by region. Lukas explained that in some areas, such as, for example, a town with a big ship building industry, as many as 70 percent of upper secondary students will enrol in VET, while in the capital city, Oslo, where there are many industries that require a university qualification, the numbers of students studying VET is more like 26 percent. Lukas also explained that it is not uncommon for advisors in lower secondary education to encourage students with high grades to pursue general (academic) upper secondary pathways, so there are *“systematically less grades in the vocational parts”*.

Transitioning from industry to the VET secondary teaching profession in Norway

Participants were asked *‘Can you explain how industry professionals, such as trade/technical/craft workers go about transitioning from industry into the VET secondary school teaching profession?’* Below is a summary of participant responses to this question.

There are two main pathways to the VET teaching profession in Norway: Pathway 1, the bachelor pathway; and Pathway 2, the Practical Pedagogical Pathway (see Figure 4). The most popular pathway to the VET teaching profession for skilled and experienced workers is via the Practical Pedagogical Pathway (or ‘PPU’). Candidates cannot enter a PPU straight out of their apprenticeship as they need to have been working in their field and gained insight into the practices of their profession and spent time refining their craft over a period of 3–5 years in industry beforehand. Further, tradespeople (and others without an undergraduate qualification) also need to complete one year of study to prepare to enter university. This program is called *generell studiekompetanse* (general study skills). Skilled workers with a bachelor degree do not need to complete the general study skills year, and can enrol in the PPU directly.

“In the PPU year, you learn everything about pedagogic, didactics, about using your voice ... how to use your crafts and then teach the pupils. And then they will get qualified to teach in upper secondary education” – Julia.

As is the case in Australia, recruiting skilled workers to become VET teachers can be a challenge because some skilled professionals can earn a higher salary in industry than they can as teachers. For example, electricians and IT specialists are reported to earn more money in industry than they can do working as a teacher. In other areas, such as forestry, healthcare and food processing, workers can earn a higher salary when they transition into teaching. Even so, VET school teachers still earn “a good income”. In vocational fields that experience a shortage of teachers, such as electrical trades, it is possible for schools to employ electrical professionals to teach without having yet achieved the general study skills year of PPU. Even so, these individuals still need to be enrolled and studying towards a VET teacher qualification while also teaching in schools. They also need to have completed their VET ITE within three years of commencement.

In Norway, it is possible for a pre-service VET teacher to be employed by a school while concomitantly studying their ITE course part time. Amelia describes this internship-style arrangement as extremely important.

“The part time [ITE] programs and flexibility of the programs is very important” – Amelia.

Pre-service VET teachers cannot be employed by a school full time until they have completed their ITE course and qualified as a VET teacher. Pre-service teachers who work part time for a school while studying draw heavily from their practical experience, and their theoretical course work can be based on these experiences.

Initial Teacher Education and flexibility in Norway

Participants were asked ‘How is ITE offered to pre-service VET school teachers and what flexibility is built into ITE programs?’ Below is a summary of responses.

ITE differs between institutes in Norway. At the university the Fellow visited, there are no regular weekly classes for ITE students. Instead, student-teachers have six ‘gatherings’ per year where they are required to come together on campus. At Agnete’s university, 80 percent attendance is a compulsory requirement of the master’s level ITE program, however, during the COVID-19 pandemic, distance learning was used. Many of the students who live a long distance from the campus have expressed their preference for blended distance learning and hope that the university will keep this as an option into the future. Other universities offer hybrid options as standard.

Amelia explained that about half of the skilled workers entering a VET ITE come from a trade or skilled background (without an undergraduate degree). Others, such as engineers and nurses already have a bachelor degree when they decide to pursue a VET teaching career.

“We want more skilled workers as teachers because it is to do with relevance. They know the work that their students are educating for” – Amelia.

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As discussed above, there are two main ways to study an ITE course in Norway: (a) the bachelor pathway, or (b) the Practical Pedagogical Pathway (of which there are two variants; see Figure 4 for details).

Julia explained that because her university is trying to encourage more people to become VET teachers, they also need to be willing to tailor courses according to the needs of students. As such, they try to offer courses on campus for those who prefer this option, and also offer courses part time to suit the schedule of busy students juggling private life, work and studies.

In Norway, all candidates who meet entry criteria are accepted into VET ITE courses, however, there is a “*very tough screening process*”. The entry requirements differ according to the ITE pathway candidates choose to enter.

Lukas explained that although his course is full time, students are only required to attend classes for three-days to one-week per month. Because his students live all over Norway, it would not be possible for them to attend campus every day. Students who live far away need to fly in and stay in hotels when they are required to attend classes. Although there is an 80 percent attendance requirement, there is still flexibility built into the programs. For example, if a student is pregnant or ill or has a problem preventing them from attending in person, accommodations can be made.

Due to the nature of the courses, a lot of study and assessment is conducted online and in teams, and there is a lot of variety in the types of assessments used in the courses. The VET pre-service teachers are required to cooperate to make, for example, movies or documentaries as assessment tasks. VET ITE students are also given assessment tasks such as written essays and oral examinations. They are also required to do a ‘school exam’ to appreciate what it will be (or is like) for their own students undertaking exams in schools.

Supports for VET pre-service teachers in Norway

Participants were asked ‘*What supports are in place to help candidates gain a VET teaching qualification? E.g., Financial supports? Course structure supports? Social supports?*’ Below is a summary of responses.

“The wonderful thing about education in Norway is that higher education is mostly free, at least in public education, which is amazing” – Julia.

All participants responded to this question by explaining that public education is free in Norway, although students may still need to pay a small registration fee. Different counties within Norway also offer incentives to their citizens such as scholarships and funding for practitioners who want to become VET teachers, and other scholarships to cover travel expenses.

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“So that’s on top of the Norwegian system allowing people to study, providing study loans and study scholarships ... and on top of that, their principal adjusts their workload, thus freeing up time for studies” – Julia.

Lukas explained that taxes in Norway go into a hub before being distributed back out again.

“The doctor is free, school is free, higher education is free. So it’s a system made not for rich people, [but] for everybody” – Lukas.

Amelia thought that because most students studying an ITE course are already working, and because higher education is free, students do not really need further financial supports.

Agnete explained that although education may be free, some schools supported their pre-service teachers more than others. Where some ITE students are given days off and their principals arrange fill-in teachers to support their classes so they can attend university, other ITE students are not so well supported, and these students can struggle to complete their degree.

“They say ‘look, I couldn’t get an extra teacher. I have to teach. I cannot leave’” – Agnete.

Because the university requires 80 percent attendance, not having school (employer) support to attend ITE classes can negatively impact these candidates. Agnete further explained that although it is possible to give a compensation assignment once or twice to these students, this cannot be an ongoing arrangement. Consequently, some students ‘put this back onto the university’, saying that the university should be promoting or advocating the program so their school management understands the importance of arranging their workload so that they can attend their classes on campus.

Advice for countries wanting more VET secondary school teachers

Participants were asked what advice they would give countries to produce ITE programs for workers to become VET secondary school teachers.

Participants clearly believed that there is a need for pathways for workers to become VET secondary school teachers, but were also mindful that because countries have different social systems and cultural practices they should not “*copy blindly*”, but instead make decisions based on the needs of that society. Amelia also stated that it is very important for candidates to be working in schools as teachers while also completing their ITE degrees.

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“Teacher education is ... closely linked with the cultural and social systems ... but if I should give some kind of advice, it would be, I think, it’s important with flexibility and I think it is important that people can work as teachers while they take their [teacher] education” – Amelia.

“I strongly believe that there is a need for [VET ITE pathways] absolutely. But I guess it should be a flexible system ... It should have advanced standing [and] recognition of prior experience” – Agnete.

Participants also suggested that because of the maturity of VET ITE students, ITE programs need to be flexible with part-time options and offer financial support, such as scholarships, to assist adults in their transition to the VET teaching profession. Offering candidates advanced standing and recognition of prior experience towards course completion was also regarded as imperative.

“I think every VET teacher education [program] should be very grounded, down to earth, grounded in the practice in the field but also be combined with the philosophical and the reflective thinking processes in academia that are needed to make students aware of their role” – Julia.

Summary of interview data from Norway

Status of VET

Interview data revealed that VET school teaching is a well-regarded profession and is afforded a similar level of prestige as academic teachers in Norway, however this level of prestige varies in different parts of the country. Nordic VET teachers also receive the same salaries as general school teachers. It further found that some ITE academics perceive that the status of VET and the professions it prepares people for has been increasing in recent times, as evidenced by the popularity of VET in upper secondary schools. Today in Norway, school students pursuing VET pathways slightly outnumber those taking academic pathways to university.

How VET is offered in schools

Data revealed that young people can study VET in upper secondary education, and the majority (approximately 80%) do so via the ‘2+2 model’—two years of school-based VET, followed by two years of work-based apprenticeship. In the first year of this model, students select a broad vocational field to study, and gain an overview of the many vocations within that field. In their second year, they begin to specialise in an area. In their third year, they are indentured as apprentices and complete their apprenticeship during the final two-years of their upper secondary schooling. Norway also offers special apprenticeships for endangered craft trades including Indigenous crafts to safeguard Sámi culture. To ensure there are ‘no dead ends’, students completing VET or who have completed an apprenticeship can still enter university by studying a one-year ‘build-upon’ program to prepare for higher education studies.

Popularity

Interview data found that VET is a popular option for upper secondary students in Norway. Presently, approximately 51 percent of upper secondary students (more than half) choose to study a VET pathway ahead of an academic pathway to university, although this figure does vary (higher and lower) in different regions around the country. Cooperation between employers, labour unions and the state is believed to be an important factor behind the popularity of VET as a pathway for students. Parents are supportive of VET because they are satisfied that their children will be able to make a good living by taking a VET pathway to the workforce.

Transitioning from industry to VET teaching

Interview data found that there are two main pathways to the VET teaching profession in Norway: the bachelor pathway and the Practical Pedagogical Pathway (or PPU) (see Figure 4). The most popular pathway to the VET teaching profession for skilled and experienced workers is via the PPU. After an apprenticeship, candidates need to have worked in industry for 3–5 years before they enrol in a PPU. Also, those without an undergraduate qualification need to also study one year of general study skills to prepare to enter higher education. Skilled workers with a bachelor degree can enrol in the PPU directly. Student-teachers can study their ITE while also teaching part time in a school, but they need to have completed their ITE within three years of their employment. ITE courses are designed so that student-teachers working in schools can draw heavily from their practical experience to complete their ITE course.

Initial Teacher Education

Interview data revealed that ITE differs between institutions that offer it in Norway. At the institute visited, there are no regular weekly classes. Instead, student-teachers have six ‘gatherings’ per

year where they are required to attend campus. Student-teachers are expected to participate in online learning as well. For the attendance component, 80 percent attendance is compulsory, however some accommodations can be made for students who are ill or who are experiencing problems. The University tries to offer courses part time to suit the schedule of busy working adults. A lot of study and assessment is conducted online and in teams, and there is a lot of variety regarding the types of assessments used. There is a tough screening process for course entry, but all candidates who meet entry criteria are accepted into a VET ITE course.

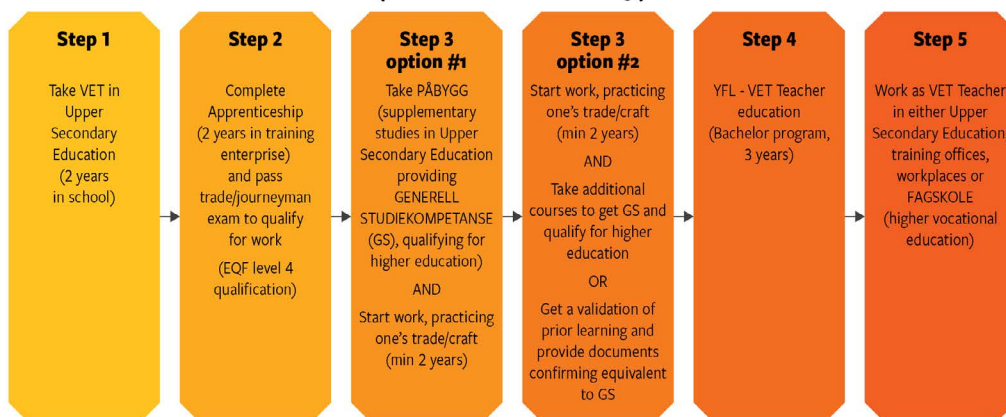
Supports

Interview data revealed that public education in Norway is free, however students may need to pay a small registration fee. The different counties within Norway offer different incentives to students such as scholarships, funding to cover travel expenses and funding for practitioners who want to become VET teachers. There are also study loans that students can access. Regarding support from school employers, some schools support their student-teachers more than others by helping arrange their work schedules so they can attend university, however other employers are less accommodating.

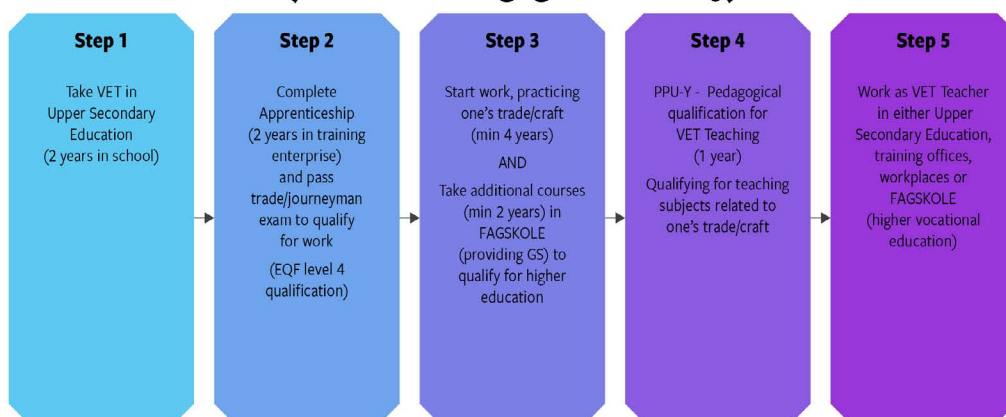
Advice

Interview data revealed that although participants were reluctant to tell other countries how to organise their VET systems, they did believe that there is a need for pathways for industry experienced workers to become VET secondary school teachers, and that these pathways and practices should be designed to accommodate the different social and cultural practices of a country. A few participants mentioned the importance of program flexibility, financial supports, advanced standing and recognising candidate's prior education and industry experience. Enabling student-teachers to work as VET teachers in schools while also studying their ITE qualification is also regarded as important. VET ITE should be grounded in practice and combined with philosophical and reflective thinking.

Pathway 1 to VET Teaching Profession in Norway (Bachelor Pathway)



Pathway 2a to VET Teaching Profession in Norway (Practical Pedagogical Pathway)



Pathway 2b to VET Teaching Profession in Norway (Postgraduate Certification in Education)

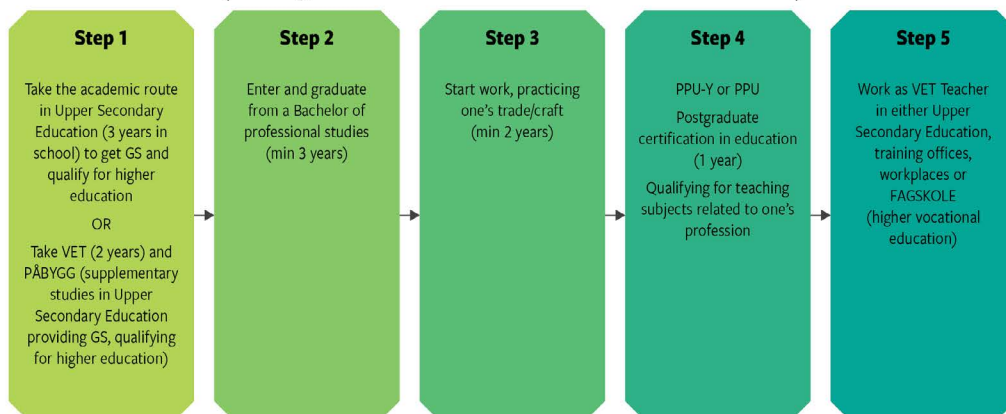


Figure 4. Illustration of ITE pathways to the VET teaching profession in Norway (constructed from interview data).

Section 4: Discussion and recommendations

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Status and standing of VET

VET school teachers are highly respected professionals in Finland and Norway, and VET teaching is a well-regarded and prestigious vocation in both countries. The governments and citizens of each country appreciate the national importance of VET and the vocations it prepares people for. The levels of trust, respect and professionalism offered VET teachers in these countries ensures that VET secondary school teaching remains a highly desirable vocation. As Australian VET continues to struggle with its image and status as well as severe teacher shortages, it is worth considering how elevating levels of trust, respect and professionalism of the VET teaching profession in Australia may also result in enhancing the desirability of VET and the VET teaching vocation. While the trend in Australia is to diminish standards for admission into ITE (Wilson, 2020), Norway enforces stringent requirements for entry (Fiva et al., 2017) and can accept all who meet entry requirements into a VET ITE. Finland however receives many more applicants for VET ITE than they can accommodate each year, ensuring a highly competitive application process with only a fraction of applicants accepted for candidature annually. The desirability of the VET teaching profession in both of these countries ensures that they do not experience VET teacher shortages in the way that Australia does. Norway and Finland offer practical VET ITE programs capable of generating a sustainable supply of high-quality VET secondary teachers for their upper secondary school systems that Australia would benefit to learn from.

Norway's school system is structured so that the majority of upper secondary VET students are engaged in the '2 + 2' apprenticeship education system during their schooling, and achieve their trade or craft certificate at the conclusion of their upper secondary education. Both countries offer effective and impressive models of school-based VET—models that leave the Australian VET in Schools model appear haphazard and poorly designed by comparison. A significant criticism of the Australian VET in Schools system is that young people are expected to specialise in one vocation too early—before they have enough understanding of an industry or the vocations within it to know exactly what occupation they want to pursue. Allowing time for students to gain a better understanding of an industry and the vocations within it early in their VET schooling would potentially help to reduce the high attrition rates of apprentices in Australia (NCVER, 2022). Norway's solution to this is to offer first year VET students the opportunity to

experience many vocations within an industry of interest to them, and it is not until students' second year of VET that they are required to specialise and commit to an apprenticeship.

Australia will benefit by adopting elements of VET ITE from both the Norwegian and Finnish models of VET teacher preparation designed specifically for tradespeople and other industry experts to become professional VET secondary school teachers. Australia can further benefit by implementing education policy and practices, like those in Finland and Norway, that ensure that VET enjoys an elevated standing in society, is of equal status to Higher Education, and that the VET teaching profession is a prestigious and desirable vocation to enter.

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In Nordic countries, universities of applied science operate alongside scientific universities. The 'no dead ends' educational principle ensures that vocationally educated people can pursue courses within and traverse between the two types of universities, from school through to doctorate. The existence of the two university sectors also serves to elevate the social status and prestige of vocational education and applied learning, by positioning VET as different but equal to academic streams of Higher Education. In 2019, the Council of Australian Governments announced its vision for parity between the Higher Education and VET sectors to better coordinate skills formation, and as observed by Scott, Grundnoff & Fleming (2021), Finland's proven success in this area demonstrates that parity between the VET and academic sectors is indeed achievable. By some coincidence, Universities Accord consultations are also taking place in Australia in 2023, creating a moment in time to include principles related to partnerships between VET and universities. If the Australian Universities Accord and the National Skills Partnership choose to embrace the concept of a more integrated tertiary sector, there is a "chance to move towards real, integrated tertiary education that will deliver better outcomes for both students and industry" (Dodd, 2023). Universities of applied science that operate alongside scientific universities in Nordic countries offer real-world working examples of how integrated tertiary education can be enacted.

Further, the Australian government has recently launched an Inquiry into the perception and status of vocational education and training (Parliament of Australia, 2023) to identify status related challenges and ways to enhance the VET sector's appeal. As VET in both Norway and Finland is esteemed, and VET teaching is a well-respected and highly desirable vocation in both countries, Australia only need to turn its attention to Finland and Norway to learn (a) what socially esteemed vocational education looks like, (b) how to achieve it. Striving to elevate the status of VET in Australia will—pending the introduction of suitable ITE courses to produce pedagogically proficient VET school teachers—also attract more industry experts to the VET teaching profession. The enhanced quality of education available in Australian schools will in turn enhance the status and standing of VET in Australian society.

VET in upper secondary schools

As previously discussed, a foundational principle of Finnish and Norwegian education is expressed in the mantra ‘no dead ends’. This catchphrase captures the Nordic egalitarian attitude towards education and the quest to ensure their societies consist of democratic and responsible citizens. After WWII, divided education structures were broken down to enhance accessibility to education and diminish social divisions and inequities (Jørgensen, 2018b). Lifelong learning is taken seriously in Nordic countries (Ranki et al., 2021), and a great deal of consideration has gone into developing education programs and pathways to ensure that students can transition between VET and academic education in schools as well as in and between the two university sectors. Upper secondary students pursuing either general or VET pathways are free to transfer between streams of learning at any stage, and in some cases, they can choose to study combined diploma courses—courses comprising both general academic and VET subjects. Giving students the opportunity to transition between VET and academic streams of learning free of ‘dead ends’, helps VET to remain a popular study option for students and their parents, and also helps to maintain VET’s elevated social status.

VET school pathways in both Finland and Norway rely on high-quality pedagogically qualified professional VET teachers with substantial industry experience to teach their VET programs. Approximately 50 percent of upper secondary students in both countries pursue a VET pathway to the workforce—a figure substantially higher than Australia’s estimated 28.2% of school students engaged in VET (NCVER, 2022). Presently in Norway, VET upper secondary students slightly outnumber those engaged with the academic stream. This is an impressive outcome that is made possible by the elevated status of VET and the occupations it serves in these countries.

If Australia desires increased numbers of VET school students, we should consider introducing VET pathways into senior secondary schooling inspired by Norway’s and Finland’s upper secondary school systems. For example, introducing a VET pathway based on Norway’s ‘2+2’ model— where students study two years of VET based at the school and two years in industry as indentured apprentices—has potential to generate large numbers of apprentices and qualified tradespeople on completion of their secondary schooling. This is a collaborative model of VET where schools work closely with enterprises, employers and labour unions to ensure VET students and apprentices are able to engage in substantial amounts of structured work integrated learning and gain a VET qualification and craft certificate on completion of their schooling. Consequently, such a model would require coordination and the commitment of government, schools, employers and industry to operate successfully. Interview data indicates that this high level of cooperation between key stakeholders is regarded as an important factor that helps to reinforce the popularity of VET in schools in Norway. Australia will benefit by

adopting a model of VET in secondary schools based on the Norwegian and Finnish upper secondary VET pathway programs.

Transitioning from industry into VET teaching

In Finland, industry experts wanting to transition from industry into the VET teaching profession can either apply directly to enrol in a VET ITE program, or gain part time employment in a school while also studying a course to gain a professional VET school teaching qualification. Although an academic higher education qualification is a general requirement of the application process, those without a bachelor degree (e.g., tradespeople) can still be admitted to the program so long as they have achieved the highest qualification in their vocational field. This is an important example of how the lifelong learning principles of these nations ensure that all citizens are given opportunities to pursue higher levels of learning (i.e., 'no dead ends'). Australia could benefit from adopting a 'no dead ends' education policy to ensure that all citizens, including adults in vocations without a bachelor level qualification (e.g., tradespeople and other vocationally certified workers) can still be admitted to degree level courses that enable them to study and qualify as VET secondary school teachers.

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ITE programs in Finland and Norway are characterised by blended learning models requiring minimal campus attendance and highly personalised study plans. Assessment tasks are varied and draw heavily from their practical teaching work in schools. Assessment also includes group and peer assessment and self-assessment as well.

VET ITE programs in Finland and Norway lead to a professional VET upper secondary school teaching qualification of equivalent status and standing as general school teachers. In Norway, industry experienced candidates can enter the VET teaching profession via two main pathways: a bachelor pathway or the practical pedagogical pathway (PPU). For skilled and experienced tradespeople, the PPU is the most popular pathway to the VET teaching profession. In Norway, skilled workers that have not studied in higher education previously also need to complete one-year of general study skills before they can enrol in the PPU. While both Finland and Norway have VET ITE programs that lead to a professional teaching qualification taught by a university, the PPU and Finnish VET ITE pathways for tradespeople and other industry experienced experts are not necessarily linked to a degree level qualification. While professional teacher accreditation outside of a higher education degree may be a workable arrangement in these countries, due to the current lack of prestige and lack of opportunities associated with the VET teaching occupation in Australia, the Fellow cautions against the development of VET ITE programs that would (a) deny future VET secondary teachers the opportunity to achieve a university degree

level teaching qualification, and (b) destroy the possibility of VET teachers achieving professional parity with general secondary school teachers in Australia.

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Should Australian education authorities be willing to establish a bespoke model of ITE especially designed to produce industry experienced VET teachers, much like the Finnish model or the PPU in Norway that resulted in a professional teaching qualification, teacher registration and professional parity, then this option is something that should also be explored.

While Finland uses inquiry-based and competency-based models of education, it is important to bear in mind that Finnish competency-based training is broader and more holistic than Australian versions of competency-based training (CBT), and there are many dimensions to Finnish competency-based education. Australian versions of competence often start and end with ‘skills’, or sometimes ‘skills and knowledge’. Finland however, embraces a much more holistic understanding of competence that integrates knowledge, skills, values, attitudes and will/volition. In this is another lesson for Australian VET. To produce well-rounded vocationally educated professionals that embrace not only the skills of an occupation, but the values and attitudes of the vocation and the volition to carry it through, will require Australian VET sector to reassess its current understanding of competence, and learn to appreciate that a diamond has many facets —not just one.

Support for VET pre-service teachers

Public education is free in Finland and Norway, and pre-service VET teachers are able to work part time in a secondary school while also studying for their ITE qualification. This arrangement assists them to gain valuable teaching experience while also earning a salary to support themselves. Should a pre-service teacher wish to study full time, they can apply for a study allowance. Other finances available include scholarships and study loans. In Finland, the amount of study support a student receives when returning to study is calculated based on their years of industry experience and their life situation.

In Australia, financial support, or rather the lack of it, is a significant issue faced by adult learners returning to study. Adults embarking on a career change to become a teacher face significant obstacles as they try to hold down their primary job to earn enough money to pay the mortgage, bills, university fees and support their families, and work without pay for months at a time when it comes to doing practical placements. Also, course design is often not flexible enough to accommodate the busy lives of working adult learners. These problems dissuade potentially great people from entering the VET teaching vocation. Therefore, if Australia is serious about producing high-quality VET school teachers, we also need to be supporting these individuals

and the development of ITE programs that are grounded, tailored and flexible enough to produce high-quality VET teachers. This is one area where education markets have clearly failed industry, school students and Australian society, and thus, is an area in which governments need to intervene.

The fact that the Norwegian and Finnish governments pay for all public education and offer a variety of financial supports to adults returning to study means that tradespeople and other industry experienced individuals do not face the same set of obstacles when it comes to changing careers. In Australian education markets, VET ITE programs simply close down when they do not have the required number of students needed to make the program financially viable to run. Without government intervention and financial support made available for adults to return to study, it is difficult to envisage how a suite of VET ITE programs capable of producing sufficient VET teachers to resource Australia's secondary schools can be established.

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In both Finland and Norway, pre-service teachers can study for a VET ITE qualification while also working in a school. This arrangement means that pre-service teachers can be employed and earn a part-time wage while gaining practical teaching experience, then use this experience as the basis for their assessment tasks while completing their VET ITE studies. This arrangement—comparable to an internship or apprenticeship model—has potential to be used in Australia as well, providing ITE programs are designed to be flexible enough to accommodate schools and candidates. This arrangement would further reduce the level of financial support required by pre-service teachers otherwise.

Non-financial supports for pre-service VET teachers in Finland and Norway include: school managers who arrange the work schedules of pre-service teachers to accommodate their on-campus studies; guidance advisors, and academic staff at universities who also help to support their studies.

Australia will benefit by supporting tradespeople and other industry experts to transition into the VET secondary teaching profession by offering study support, scholarships, and introducing an internship-model of VET ITE so schools can employ preservice VET teachers while they also study to achieve a VET teaching qualification.

Recommendations for Australia

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- Introduce to Australia a model of VET Initial Teacher Education (ITE) inspired by Finnish and Norwegian course models designed to upskill industry experts to become high-quality professional VET secondary school teachers with equal status, pay, conditions and opportunities as general secondary school teachers. This ITE model should be grounded and designed to incorporate: blended and flexible learning; personalised study plans; recognition of prior learning; paid internships or permission to work in secondary schools while studying VET ITE; 1–2 year ITE course duration; constructivist (self, peer and group) learning and assessment models.
- Offer financial support to vocationally qualified and industry experienced adults wanting to study a VET ITE so they are supported during their transition to the VET secondary teaching profession.
- Adopt a ‘no dead ends’ education policy to ensure that all vocationally qualified industry experts, including those without a bachelor level qualification (e.g., tradespeople, technicians, artisans) can still pursue higher levels of learning and engage in lifelong learning.

Longer term considerations for Australia

- Establish a VET in schools tripartite model where, like in Norway and Finland, schools work closely with enterprises, industry and community representatives of a region so that secondary students are offered structured Work Integrated Learning and meaningful opportunities to engage in school-based apprenticeships that result in a trade certificate or other vocational qualification on completion of their senior school certificate.
- Introduce a Norwegian inspired ‘2 + 2’ model of VET in schools that offers VET students one academic year to gain an overview of an industry and the vocations within that industry before they are required to specialise in one trade or vocational qualification;
- Introduce universities of applied science that operate alongside scientific universities that are afforded the same status, levels of funding and privileges as scientific universities. Positioning two types of universities that work collaboratively and in parallel will help to increase the value and status of vocational education in Australia and encourage greater societal appreciation of both academic and vocational streams of learning. Together, these universities will enable all Australian citizens to aspire to higher levels of qualification and progress vertically as well as traverse horizontally between VET and academic streams of learning without ‘dead ends’.
- Adopt the Finnish multi-dimensional understanding of competence that includes *knowledge, skills, values, attitudes and will/volition*.

Conclusion

As Australia emerges from the COVID-19 pandemic, there is an increased focus on VET and its important role in national economic recovery. However, VET teacher shortages—including VET school teacher shortages—are impeding national efforts to meet skills and industry needs. Following the pandemic, a confluence of circumstances has reinvigorated interest in vocational education, and highlighted the important role the VET sector plays in Australian society. This renewed attention has also re-exhumed perennial issues, such as the low status of VET in Australian society, and how such perceptions are feared to be discouraging young people from pursuing vocational pathways to the workforce.

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This is an important moment in time for Australia and the nation's VET sector because governments and VET leaders have a unique opportunity to review the way that VET is offered, and address long standing issues that prevent it from being its best. One of these long-standing issues is the paucity of ITE programs to produce high-quality industry experienced VET secondary school teachers. This is also the moment when we need to appreciate what exemplary practice looks like in action when it comes to the way VET school teachers are prepared, and the way that VET is offered in secondary schools more generally.

In response to VET teacher shortages and the severe lack of suitable ITE programs available for industry experts to transition into the VET school teaching profession in Australia, this Fellowship engaged in an applied research study seeking to understand how two Nordic countries with highly esteemed VET sectors go about preparing their industry experts for the senior secondary teaching vocation. It also sought to understand how these countries manage to sustain their VET ITE programs to resource their nation's VET upper secondary school programs—something that Australia has been unable to achieve in recent decades. Both Norway and Finland have established flexible and well-organised programs that utilise contemporary methodologies to upskill adult industry experts, including trades and crafts people, to become high-quality VET school teachers. Not only are these ITE courses free to study for their citizens, but they have been cleverly designed to cater for the variety of circumstances that adult students encounter, including the offering of financial support to ensure that mid-career candidates are able to transition into the VET teaching profession. For example, pre-service VET teachers can gain employment in a school and work part time while also studying towards their teaching qualification. Other students who choose to study a VET ITE can take advantage of study scholarships, travel and accommodation allowances or study loans to support their return to study. Consequently, these nations are able to produce considerable numbers of high-quality industry-experienced pedagogically prepared VET school teachers to resource their nation's VET school programs. Importantly, not only do Norwegian and Finnish VET teachers enjoy the same pay conditions and professional opportunities as their general teaching peers in schools,

they are also revered as trusted professional teachers—a social standing that Australian VET teachers only dare imagine.

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Although this Fellowship study did not intentionally set out to investigate the VET school systems of these countries, it became apparent during the investigation that the ITE of VET teachers is informed by the way VET is offered in their schools, and so the study expanded a little in scope to also learn how VET was offered to school students in Norway and Finland. Both of these countries take a national approach to education, including VET in schools, and have well-organised VET school systems—systems that leave Australia’s approach to VET in schools appear substandard by comparison.

If Australia wants to enhance the quality and status of VET in society, and the quality of VET in schools, then it also needs to invest in VET by implementing custom ITE programs for adult industry experts to return to study to become professional VET teachers. This study has drawn from the examples of two Nordic countries to demonstrate that this is possible and achievable.

Personal, professional and sectoral impact of the Fellowship

Personal, professional impact

This Victorian Department of Education sponsored International Specialised Skills Institute Fellowship provided an invaluable opportunity to the Fellow to investigate how the Initial Teacher Education of VET upper secondary school teachers in Norway and Finland is offered to tradespeople and other vocationally qualified industry experts to become school teachers. The study provided the author with the opportunity to visit universities and universities of applied science in these countries, as well as one secondary school in Finland, and meet with key stakeholders including VET teachers, lecturers responsible for teaching pre-service VET teachers, and key university administrators responsible for coordinating VET ITE departments and programs. These people generously shared knowledge and wisdom that has benefited the Fellow, and has potential to benefit the development of high-quality and sustainable ITE programs to produce VET secondary school teachers in Australia.

Although the overseas component of the study was conducted within a relatively short period of time, the contacts made, and knowledge gained during this Fellowship will support the Fellow to become an expert in the area of VET ITE in Australia. This Fellowship opportunity provided the author with greater confidence in this area and confirmed to her that it is indeed possible to create sustainable ITE programs for mid-career industry experts to become high-quality and qualified VET school teachers with equal status and career opportunities as general school teachers. With the Australian government’s present interest in enhancing the perception

and status of VET, and reforming the way ITE is offered to pre-service teachers in Australia, the Fellow is hopeful that these education reforms will extend to supporting the creation and implementation of bespoke ITE programs for tradespeople and other industry experts to expedite the process of developing high-quality and pedagogically proficient VET school teachers for Australian schools. With such support, there is nothing to stop Australia from establishing courses capable of producing exemplary VET school teachers to resource the nation's VET school programs.

When schools are able to equip themselves with high-quality VET teachers with extensive industry expertise who are respected as professionals, the quality of VET and applied learning in schools will be enhanced and young people will more likely be inspired to pursue VET pathways. Further, and in response to Australia's current Inquiry into the Perceptions and Status of Vocational Education and Training, this Fellowship has also convinced the author that Australia need only look to Finland and Norway for real-world examples of what it takes for a country to elevate the perception and status of VET in society.

This Fellowship has also enabled the author to develop a deep admiration of Nordic countries and the egalitarian nature of these societies who embrace a genuine appreciation for vocational education. For VET researchers and educators in Australia who battle daily to uphold the value and dignity of VET, including the trades and occupations it prepares its citizens for, it will be heartening to know that there are indeed places in the world that truly value VET as 'different but equal' to academic streams of education—and where VET teaching is an esteemed profession. Australia would be a much richer and smarter country for following the lead of Norway and Finland when it comes to education policy and practice.

Sectoral impact

The findings of the study will inform and support governments, industry, policy makers, schools and tertiary educational institutes in search of ways to improve current VET provision with knowledge and information to help develop sustainable ITE programs for industry experienced professionals to become VET secondary school teachers. If or when Australia is ready to produce a sustainable supply of professional VET secondary teachers to support the nation's secondary schools and mid-career industry experts to transition to the VET teaching profession, the Fellow would like to offer assistance in the development of VET ITE programs inspired by the Norwegian and Finnish models.

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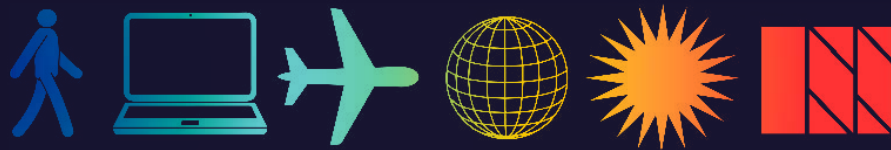
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