

OECD Reviews of Vocational Education
and Training

Preparing Vocational Teachers and Trainers

CASE STUDIES ON ENTRY REQUIREMENTS AND INITIAL
TRAINING



Preparing Vocational Teachers and Trainers

CASE STUDIES ON ENTRY REQUIREMENTS
AND INITIAL TRAINING

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Please cite this publication as:

OECD (2022), *Preparing Vocational Teachers and Trainers: Case Studies on Entry Requirements and Initial Training*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/c44f2715-en>.

ISBN 978-92-64-55796-3 (print)
ISBN 978-92-64-43665-7 (pdf)
ISBN 978-92-64-65948-3 (HTML)
ISBN 978-92-64-88572-1 (epub)

OECD Reviews of Vocational Education and Training
ISSN 2077-7728 (print)
ISSN 2077-7736 (online)

Photo credits: Cover © elenabsi/Shutterstock.com and Studio Folzer.

Corrigenda to publications may be found on line at: www.oecd.org/about/publishing/corrigenda.htm.

© OECD 2022

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <https://www.oecd.org/termsandconditions>.

Foreword

As in all parts of the education system, teachers and trainers are at the heart of strong vocational education and training (VET) systems. Their importance was highlighted during the COVID-19 pandemic, when the commitment and creativity of teachers and trainers safeguarded the continuity of teaching and learning. Teachers and trainers in VET need to have a unique combination of pedagogical and industry-specific skills and knowledge that allows them to effectively teach vocational theory and practice to students. Moreover, as learners in VET are often more diverse than in general education programmes, VET teachers and trainers play a key role in overcoming barriers to learning.

Having well-prepared teachers and trainers is key for high-quality VET. Initial education and training to prepare teachers and trainers for their role needs to be carefully designed to ensure that it equips future or new teachers and trainers with the skills to effectively train and support VET learners in their field of study. At the same time, this type of initial teacher and trainer preparation should not constitute a substantial entry barrier that would hinder the access of skilled and motivated professionals to the teaching and training profession – especially as many countries already face shortages of teachers and trainers. Striking the right balance between quality and flexibility is crucial to ensure the supply of well-prepared teachers and trainers in VET.

In spite of their important role, data and information on effective policies and practices for attracting and training VET teachers and trainers are limited. This report aims to fill the knowledge gap, by looking at policies and practice to regulate the entry into the VET teaching and training profession and to prepare these teachers and trainers for their role. The analysis focuses on five OECD countries: Canada, Denmark, Germany, the Netherlands and Norway. Each of these countries have a well-established VET system and have different strategies for balancing the need for comprehensive preparation of teachers and trainers and flexibility. The report is part of the OECD Centre for Skills' broader work on VET, which supports countries in building attractive, inclusive and responsive VET systems.

This report was drafted by Shinyoung Jeon, Malgorzata Kuczera and Irina Vogel from the OECD Centre for Skills, under the supervision of Marieke Vandeweyer (manager of the VET team) and El Iza Mohamedou (Head of the OECD Centre for Skills). The report has benefited from comments provided by Mark Pearson (Deputy-Director for Employment, Labour and Social Affairs) and colleagues in the Centre for Skills. Administrative and editorial assistance was provided by Jennifer Cannon and Duniya Dedeyn (OECD Centre for Skills).

The OECD is grateful for the support from the Gatsby Charitable Foundation. The project has hugely benefited from the inputs and feedback provided by colleagues in the five case study countries, in particular from the Canadian Council of Directors of Apprenticeship; the Ministry of Education and Children in Denmark; the Federal Institute for Vocational Education and Training in Germany; the Ministry of Education, Culture and Science in the Netherlands; and the Norwegian Directorate for Education and Training. The report also benefited from feedback received from the Group of National Experts (GNE) on VET and from the Department for Education in England (United Kingdom).

Table of contents

Foreword	3
Acronyms and abbreviations	7
Executive summary	10
1 Key insights on preparing vocational teachers and trainers	12
1.1. Skill requirements for teaching and training in VET	13
1.2. Strategies to ensure that VET teachers and trainers are well-prepared	21
1.3. Balancing quality and flexibility: Lessons learnt from the five case studies	25
References	34
Note	36
2 Case study: Entry requirements and initial training of vocational teachers and trainers in Canada	37
2.1. A snapshot of vocational education and training in Canada	38
2.2. Entry requirements for teachers and trainers in VET in Canada	43
2.3. Initial preparation for teachers and trainers in VET in Canada	46
References	51
Notes	54
3 Case study: Entry requirements and initial training of vocational teachers and trainers in Denmark	55
3.1. A snapshot of vocational education and training in Denmark	56
3.2. Entry requirements for teachers and trainers in VET in Denmark	62
3.3. Initial preparation for teachers and trainers in VET in Denmark	64
References	69
Notes	72
4 Case study: Entry requirements and initial training of vocational teachers and trainers in Germany	73
4.1. A snapshot of vocational education and training in Germany	74
4.2. Entry requirements for teachers and trainers in VET in Germany	78
4.3. Initial preparation for teachers and trainers in VET in Germany	81
References	90
Notes	93

5 Case study: Entry requirements and initial training of vocational teachers and trainers in the Netherlands	95
5.1. A snapshot of vocational education and training in the Netherlands	96
5.2. Entry requirements for teachers and trainers in VET in the Netherlands	101
5.3. Initial preparation for teachers and trainers in VET in the Netherlands	105
References	112
Notes	115
6 Case study: Entry requirements and initial training of vocational teachers and trainers in Norway	116
6.1. A snapshot of vocational education and training in Norway	117
6.2. Entry requirements for teachers and trainers in VET in Norway	118
6.3. Initial preparation for teachers and trainers in VET in Norway	120
References	124
Notes	126
Annex A. Simplified ISCED mappings	127
References	131

FIGURES

Figure 1.1. The use of work-based learning in VET differs between countries	14
Figure 1.2. The educational attainment of VET teachers varies greatly across countries	15
Figure 1.3. Several OECD countries face VET teacher shortages	19
Figure 1.4. The number of VET teachers in the Netherlands is expected to decline, after a successful increase in the past decade	20
Figure 1.5. Part-time teaching in VET is common in some countries	21
Figure 1.6. VET teachers whose ITET covered key elements of teaching practice felt more prepared	24
Figure 1.7. ITET for VET teachers appears to be weaker at developing pedagogical skills than ITET for general education teachers	25
Figure 1.8. Qualification and training requirements for in-company trainers in five countries	28
Figure 2.1. Apprenticeship registrations in Canada are on the decline	40
Figure 2.2. ITET for VET teachers in Alberta appears to focus more on pedagogical skills than in other countries	47
Figure 3.1. VET teachers in Denmark tend to have more non-teaching work experience	59
Figure 3.2. More than half of VET teachers are over 50 years old in Denmark, 2018	60
Figure 3.3. Half of STEM teachers in VET in Denmark are older than 50	61
Figure 4.1. Most upper-secondary VET students in Germany come from <i>Realschule</i> and <i>Gymnasium</i>	74
Figure 4.2. The different VET provider types in Germany offer distinct VET programmes	75
Figure 4.3. Most VET students in Germany are in vocational schools	76
Figure 4.4. Most VET teachers in Germany are qualified teachers (2019-20)	79
Figure 4.5. Most AEVO examinations are passed in the industry and commerce field	80
Figure 4.6. ITET for prospective teachers of vocational theory	82
Figure 5.1. Upper-secondary VET providers in the Netherlands are small in number but large in the number of student enrolments (2020-21)	97
Figure 5.2. Indicative funding flows in upper secondary VET, the Netherlands	100
Figure 5.3. Process of lateral entry for VET teachers in the Netherlands	103
Figure 5.4. About one tenth of HBO students in the Netherlands are studying Education (teacher training and science of education)	107
Figure 5.5. HBO students in Education programmes (teacher training and science of education) in the Netherlands spend more time in internships than those in other programmes	109
Figure 6.1. The majority of prospective VET teachers in Norway opt for the vocational practical pedagogical education programme	121

TABLES

Table 1.1. VET teachers need a mix of pedagogical and industry-specific skills and knowledge	16
Table 1.2. Corporate trainers need pedagogical and industry-specific skills and knowledge	17
Table 1.3. Indicative summary of upper-secondary VET teacher qualification requirements in five countries	27
Table 2.1. Financing VET teacher education and training differs across provinces in Canada	49
Table 3.1. Minimum entry requirements for VET teachers in Denmark	64
Table 5.1. Difference between the two types of regular secondary teacher qualifications in the Netherlands	102
Table 6.1. Difference between vocational practical pedagogical education and vocational teacher education in Norway	122
Table A A.1. Simplified ISCED mapping Canada	127
Table A A.2. Simplified ISCED mapping Denmark	128
Table A A.3. Simplified ISCED mapping Germany	129
Table A A.4. Simplified ISCED mapping the Netherlands	130
Table A A.5. Simplified ISCED mapping Norway	131

Follow OECD Publications on:



http://twitter.com/OECD_Pubs



<http://www.facebook.com/OECDPublications>



<http://www.linkedin.com/groups/OECD-Publications-4645871>



<http://www.youtube.com/oecdilibrary>



<http://www.oecd.org/oecdirect/>

Acronyms and abbreviations

Acronyms and abbreviations	Full name
CPD	Continuing Professional Development
ECTS	European Credit Transfer and Accumulation System
ISCED	International Standard Classification of Education
ITET	Initial Teacher Education and Training
STEM	Science, technology, engineering and mathematics
TALIS	Teaching and Learning International Survey
VET	Vocational Education and Training

Acronyms and abbreviations in Canada	Full name
ACG	Apprenticeship Completion Grant
AIG	Apprenticeship Incentive Grant
CAL	Canada Apprentice Loan
CATI	Computer-Assisted Telephone Interview
CCDA	Canadian Council of Directors of Apprenticeship
CEGEP	Collège d'enseignement général et professionnel
CoA	Certificate of Apprenticeship
CoQ	Certificate of Qualification
DEP	Diplôme d'études professionnelles du Québec
EI	Employment Insurance
ESDC	Employment and Social Development Canada
LMI	Labour Market Information
NAICS	North American Industry Classification System
NAS	National Apprenticeship Survey
NHS	National Household Survey
NOC	National Occupation Classification
P/T	Provincial/Territorial
RAIS	Registered Apprenticeship Information System
YAP	Youth Apprenticeship Program

Acronyms and abbreviations in Denmark	Full name
AGYM	Gymnasiale uddannelser (upper secondary education)
AMU	Arbejdsmarkedsuddannelser (Labour Market Education)
AP	Academy Profession degree programme
BP	Professional bachelor programme
BUPL	Børne- og UngdomsPædagogernes Landsforbund (Association of Child and Youth Educators)

Acronyms and abbreviations in Denmark	Full name
CFU	Centralorganisationernes Fællesudvalg (Central Federation of State Employees' Organisations)
DKK	Danish krone (national currency)
DPE	Diplomuddannelse i erhvervspædagogik (Diploma in Vocational Pedagogy)
EGYM	Gymnasiale uddannelser (upper secondary education)
EUD	Erhvervsuddannelse (vocational training)
EUV	Erhvervsuddannelse for voksne (vocational education and training for adults)
EUX	Erhvervsfaglig studentereksamen (vocational education combined with high school diploma)
EVA	Danmarks Evalueringsinstitut (Danish Evaluation Institute)
HF(-eksamen)	Højere Forberedelseksamen (Higher Preparatory Examination)
HF-enkeltfag	Single Subject Higher Preparatory Examination
HHX-eksamen	Højere Handelseksamen (Higher Commercial Examination)
HK Kommunal	HK Municipal (Union of Administrative Employees of Municipalities and Regions)
HTX-eksamen	Højere Teknisk Eksamen (Higher Technical Examination)
LVU	Lange videregående uddannelser (long tertiary education programmes)
SVU	Statens Voksenuddannelsesstøtte (State Adult Education Support)
VEU Council	Rådet for Voksen- og Efteruddannelse (Council for Adult and Continuing Education)
VVU	Videregående voksenuddannelse (further adult education)

Acronyms and abbreviations in Germany	Full name
AdA	Ausbildung der Ausbilder (Training courses for trainers)
AEVO	Ausbildereignungsverordnung (Ordinance on Trainer Aptitude)
Aufstiegs-BAföG (or AFBG)	Aufstiegsfortbildungsförderungsgesetz (Upgrading Training Assistance Act)
BAföG	Bundesausbildungsförderungsgesetz (Federal Training Assistance Act)
BBiG	Berufsbildungsgesetz (Vocational Training Act)
BIBB	Bundesinstitut für Berufsbildung (Federal Institute for Vocational Education and Training)
BMBF	Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research)
HWK	Handwerkskammer (Chamber of Crafts)
HwO	Handwerksordnung (Trade and Crafts Code)
IHK	Industrie- und Handelskammer (Chamber of Industry and Commerce)
JArbSchG	Gesetz zum Schutze der arbeitenden Jugend (Act on the Protection of Young People at Work)
KMK	Ständige Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland, short: Kultusministerkonferenz (Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany)
KoProNa	Konzepte zur Professionalisierung des Ausbildungspersonals für eine nachhaltige berufliche Bildung (Concepts for the Professionalisation of Training Personnel for Sustainable Vocational Training)
PfIBG	Pflegeberufegesetz (Nursing Profession Act)
PfIBRefG	Pflegeberufereformgesetz (Nursing Profession Reform Act)

Acronyms and abbreviations in the Netherlands	Full name
AOC	Agrarische opleidingscentrum (agricultural training centres)
BBL	Beroepsbegeleidende leerweg (apprenticeship track)
BDB	Basiskwalificatie didactische bekwaamheid (basic teaching competence qualification)
BOL	Beroepsopleidende leerweg (school-based track)
EZK	Economische Zaken en Klimaat (Economic Affairs and Climate Policy)
HBO	Hoger beroepsonderwijs (higher professional education)
LIO	Leraar in opleiding (trainee teacher)

Acronyms and abbreviations in the Netherlands	Full name
MBO	Middelbaar beroepsonderwijs (upper secondary VET)
MBO Raad	Association of (publicly funded) VET Colleges
NBI	Niet-bekostigde instellingen (non-government-funded institutions that offer MBO)
NRTTO	Nederlandse Raad voor Training en Opleiding (Dutch Council for Training and Education, for private institutions)
OCW	Onderwijs, Cultuur en Wetenschappen (Education, Culture and Science)
PDG	Pedagogisch didactisch getuigschrift (pedagogical didactic certificate)
ROC	Regionaal opleidingscentrum (regional training centre or VET college)
SBB	Samenwerkingsorganisatie Beroepsonderwijs Bedrijfsleven (Organisation for the Cooperation between VET and the Labour Market)
UAS	Hogeschool (University of applied sciences)
VMBO	Voorbereidend middelbaar beroepsonderwijs (lower secondary pre-vocational education)
VWO	Voorbereidend wetenschappelijk onderwijs (pre-university education)
WO	Wetenschappelijk onderwijs (University education)

Acronyms and abbreviations in Norway	Full name
NOK	Norwegian krone (national currency)
NOKUT	Nasjonalt organ for kvalitet i utdanningen (Norwegian Agency for Quality Assurance in Education)
PPU-Y	Praktisk-pedagogisk utdanning for yrkesfag (vocational practical pedagogical education)
YFL	Yrkesfaglærerutdanning (vocational teacher education)

Executive summary

Teachers and in-company trainers are central to vocational education and training (VET), as they support the school-to-work transitions of learners from diverse backgrounds. VET teachers develop learners' skills in school-based settings, while in-company trainers support learners during their time in work-based learning. Countries use different strategies to ensure that VET teachers and trainers are well-prepared for their teaching and training responsibilities.

First, many countries set entry requirements for the VET teaching and training profession to ensure quality and consistency, including in terms of teaching qualifications, vocational qualifications and/or work experience. Similarly, countries introduce standards and regulations regarding the organisation and delivery of in-company training, including in some cases requirements for trainers. Nonetheless, many countries do not impose any specific requirements on pedagogical qualifications or skills of trainers.

Second, initial education and training for VET teachers and trainers can ensure that they are well-prepared when taking up their role. Initial teacher education and training (ITET) allows future and new teachers to obtain the necessary skills and qualifications, and its effectiveness is well evidenced. ITET is organised differently across OECD countries, but often takes the form of a teacher-training degree course at the tertiary education level, usually including practical training. Several countries provide targeted financial support to help future VET teachers benefit from ITET. Similarly for in-company trainers, preparatory and continuous training programmes are often provided, although these programmes are mostly optional.

While entry requirements and initial education and training contribute to the quality of the teaching and training workforce, too strict requirements and lengthy and intensive preparation could discourage potential VET teachers from entering the profession and create barriers to the provision of work-based learning. This could contribute to the shortages of VET teachers and trainers that several OECD countries face – although there are many reasons for such shortages. Providing flexible ways to recruit and qualify VET teachers and trainers is therefore important, while ensuring that they are fit for their role.

Case studies from Canada, Denmark, Germany, the Netherlands and Norway offer lessons on how they manage to develop a skilled teaching and training workforce through entry requirements and training, while maintaining sufficient flexibility.

- **Entry requirements for VET teachers:** All five countries require teachers to have a vocational and pedagogical qualification, and relevant work experience is also required in some cases (e.g. Denmark and Norway). The exact requirements differ between countries, education levels, and in some cases also between teachers of vocational theory and practice. Multiple routes to enter the profession are offered to overcome possible barriers, usually coupled with mechanisms to ensure that the pedagogical and professional skills of (prospective) VET teachers are up to standards. Countries that have relatively strict requirements, such as Germany and the Netherlands, provide alternative -more flexible- pathways for individuals coming from industry.
- **Entry requirements for in-company trainers:** In-company trainers in all five countries are usually expected to have a vocational qualification and several years of experience. Only Germany requires companies to have at least one trainer who passed a trainer aptitude examination that

testifies to their professional and pedagogical skills – although some sectors, regions or companies in the other four countries may impose similar requirements.

- **Initial training and preparation for VET teachers:** All five countries operate very different ITET systems, with different length and content of programmes and different providers. In Germany, for example, teacher training at universities includes a bachelor and a master programme, followed by a preparatory service as teaching practicum. In Denmark, the VET-pedagogy diploma programme is offered by university colleges as part of the higher adult education system.
- **Initial preparation for in-company trainers:** In all of the five countries, training for trainers is optional rather than mandatory. Training programmes are mostly non-formal and are offered by various providers. For example, in Canada, different provincial and territorial apprenticeship authorities, apprentice employers, industry associations as well as universities provide such training.

The case studies highlight the importance of striking the right balance between quality and flexibility for attracting and preparing VET teachers and trainers. While the countries provide varying degrees of flexibility and take different approaches to achieving this, some key pointers for balancing quality and flexibility emerge:

- Entry requirements help ensure that VET teachers hold the necessary skills and knowledge, and these requirements need to be transparent and clear. At the same time, flexibility is needed, so that individuals with relevant skills and knowledge can enter the profession even when they do not (yet) fulfil all requirements.
- Prospective or new VET teachers need to be able to enrol in high-quality ITET that allows them to develop the right set of skills. These ITET opportunities need to be easy to access, and should therefore be organised in a flexible way and coupled with targeted financial support.
- Allowing the providers of ITET for VET teachers to have a certain degree of autonomy over how they organise and deliver training can help ensure that the training fits the needs of their learners. Such autonomy should be supported by a solid quality assurance mechanism.
- Coordination between VET institutions and teacher-training institutions contributes to a better design and delivery of VET teacher training. This includes partnering for the development of subject-specific skills and knowledge, as well as collaborating to provide opportunities for aspiring VET teachers to put their teaching skills into practice in a VET institution.
- Equipping in-company trainers with pedagogical skills will support them in transferring their knowledge and skills and supporting the learning journey of the learner. Flexible pedagogical training and materials should therefore be made available, and when such training is optional incentives need to be provided to encourage trainers and their employers to take up the training. Moreover, training should be provided on all relevant aspects of in-company training - from the start to completion of work-based learning.
- Regulations on the quality of work-based learning can also foster the quality of the trainers. Such regulations takes a more holistic approach to achieving high-quality training at the workplace, while possibly also allowing for more flexibility than when strict qualification or skills requirements are imposed on in-company trainers.

1

Key insights on preparing vocational teachers and trainers

This chapter provides an overview of the report and a summary of the key findings and lessons learnt from the case studies of five countries: Canada, Denmark, Germany, the Netherlands, and Norway. It highlights the roles and importance of teachers and in-company trainers in vocational education and training (VET), strategies to prepare these teachers and trainers, and the role of entry requirements and initial teacher and trainer training.

1.1. Skill requirements for teaching and training in VET

Teachers and in-company trainers are central to vocational education and training (VET). They play an important role in developing learners' skillsets in line with labour market needs, by teaching and training not only occupational skills but also transversal skills, such as basic and socio-emotional skills. They support the school-to-work transition of students with diverse backgrounds, including adults in need of new, updated, or improved skills (OECD, 2021^[1]). Box 1.1 provides definitions of VET teachers and trainers.

Digitalisation, automation, and the transition to a low-carbon economy are having an impact on the skills needed in the labour market, and therefore also on the skills that need to be formed through VET. Some of these trends have been accelerated by the COVID-19 pandemic. These changes in skill needs necessitate changes to VET curricula – both school-based and work-based learning – and therefore also to the skillset of VET teachers and trainers. Moreover, as pedagogical approaches evolve, including due to technological advances in the education sector, VET teachers and trainers need to keep abreast of these changes to be able to effectively teach and train their students. In particular, newly recruited VET teachers and trainers should be equipped not only with up-to-date knowledge and skills in their field but also with strong pedagogical skills and awareness of new approaches to teaching (OECD, 2021^[1]).

Box 1.1. Definition of VET teachers and in-company trainers

In general, VET teacher refers to teacher of vocational theory or practice (and in some cases, teacher of general subjects) in school-based VET, and VET trainer to in-company trainer who train practical and technical work during the time when apprentices receive training in a company.

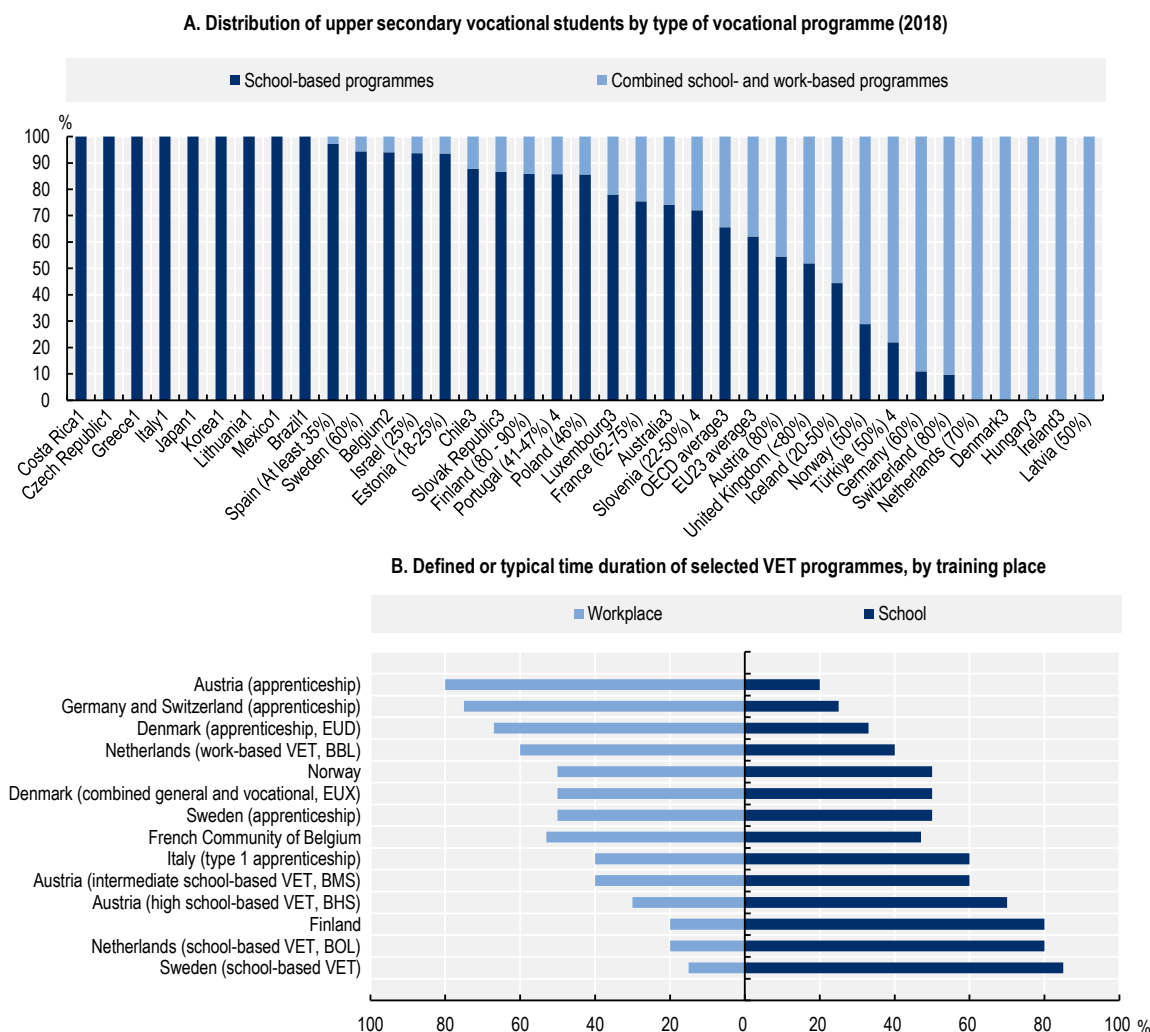
- VET teachers:
 - *Teachers of vocational theory* teach theoretical subjects related to the vocational field, such as sales techniques and electronics, in VET programmes.
 - *Teachers of vocational practice* teach practical applications, such as mechatronics practice in school workshops, in VET programmes.
 - *Teachers of general subjects* are responsible for teaching academic subjects, such as mathematics and sciences, in VET programmes.
- VET trainers are individuals who provide training to VET students during their work placement with companies.

These definitions are not always clear-cut, partly because in some countries in-company trainers or industry professionals may teach in school-based VET.

As the terminology for these professions differs across countries, the section 'VET teachers and trainers' in each of the following chapters provides more detailed definitions and characteristics in each country.

Countries have a different mix of school-based and work-based learning in VET programmes (see Figure 1.1, Panel A), and this has implications for the demand for teachers and trainers and their skill requirements. In some countries, VET is predominantly organised as school-based learning (e.g. Italy, Sweden), whereas in others the large majority of VET students are in programmes with a substantial work-based learning component (e.g. the Netherlands, Switzerland). The proportion of time spent in school and the workplace within VET programmes differs widely between countries and even between different programmes within the same country (see Figure 1.1, Panel B). For example, apprentices in Austria, Germany and Switzerland spend only around 20-25% of their time in school-based training, whereas apprentices in Sweden split their time equally between school and the workplace.

Figure 1.1. The use of work-based learning in VET differs between countries



Note: For Panel A, figures in parentheses refer to the most typical duration of the work-based component as a percentage of the total programme duration for combined school- and work-based programmes.

1. Data on typical duration of the work-based component are not applicable because the category does not apply.

2. The most typical duration of the work-based component is at least 46% for the Flemish Community of Belgium and 60% for the French Community of Belgium.

3. Data on the most typical duration of the work-based component are missing.

4. The share of students enrolled in combined school- and work-based programmes as a percentage of all student enrolled in upper secondary vocational education is estimated based on the results of the INES ad-hoc survey on VET.

Source: Jeon, S. (2019^[2]), Unlocking the Potential of Migrants: Cross-country Analysis, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/045be9b0-en>. OECD (2020^[3]), Education at a Glance 2020: OECD Indicators, <https://dx.doi.org/10.1787/69096873-en>.

1.1.1. VET teachers need a sophisticated mix of knowledge and skills

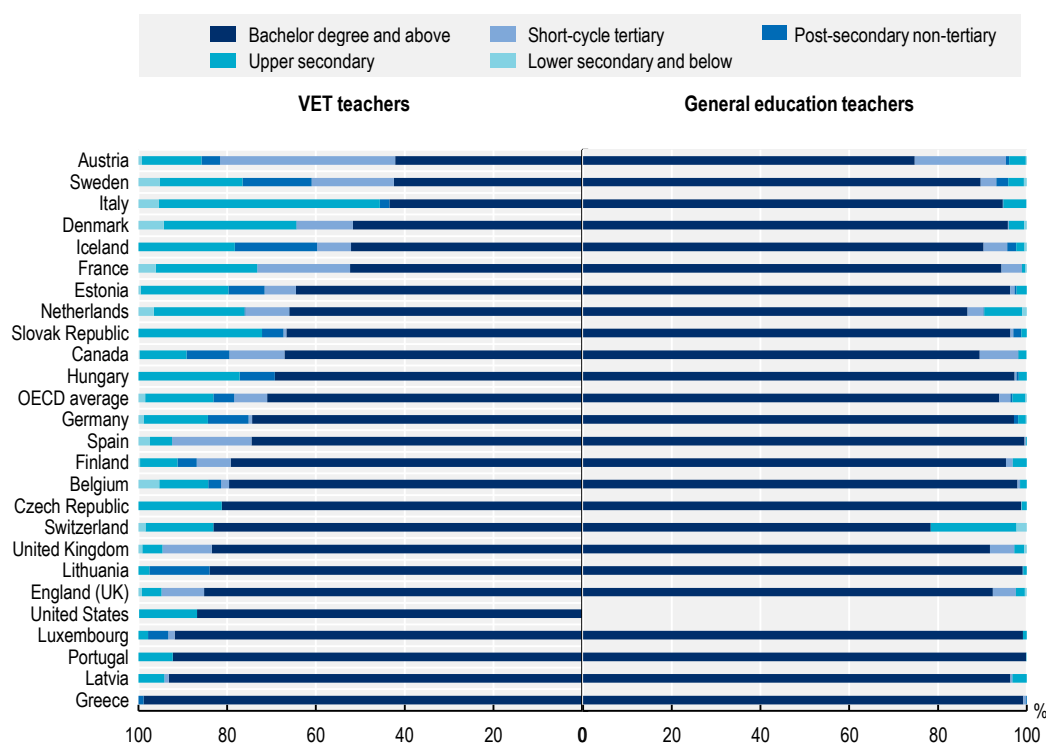
Teachers in VET require multiple layers of skills and experience. VET teachers need to have both theoretical and practical knowledge and skills, and sometimes require relevant experience for the profession they teach. They also need to have the capacity to effectively transfer their knowledge and skills to students. Given that students in VET are often very diverse – including young people in initial education and adults who are upskilling or reskilling –, VET teachers also need to be able to work with students with

very different backgrounds, motivations and aspirations. VET can attract some learners who are less engaged by traditional forms of teaching and learning or who are at risk of dropout, and VET teachers need the pedagogical knowledge and skills to effectively engage with these learners. In many countries, learners in VET have weaker basic skills – such as literacy or numeracy – than those in general education, and thus VET teachers need to be able to identify possible basic skills gaps and contribute to closing them. Moreover, teachers in VET increasingly need to develop the digital and socio-emotional skills of their students, as these are increasingly in demand in the labour market. To do this, teachers need to have knowledge of innovative pedagogical approaches that foster the development of these skills. They also need to have strong digital skills themselves, to be able to use new technologies in teaching, and remain up to speed with technological innovations in the workplace. As an example of the required mix of skills, Box 1.2 describes the essential¹ skills and knowledge for VET teachers in the fields of hairdressing and business administration according to the European Skills, Competences, Qualifications and Occupations (ESCO) framework.

VET teachers usually acquire their knowledge and skills through years of study and practice, leading to a VET teaching qualification. Most VET teachers have a tertiary degree, although in most OECD countries their level of attainment is lower compared to general education teachers (Figure 1.2). However, the majority of countries require VET teachers to have teaching qualifications of at least ISCED Level 5 (short-cycle tertiary) or above (OECD, 2021^[1]).

Figure 1.2. The educational attainment of VET teachers varies greatly across countries

Share of teachers by highest qualification attained



Note: The OECD average does not include the United States and England (UK). The data for the United States refer to teachers who teach career and technical education (CTE) at the secondary education level. In other countries, VET teachers refer “vocational education teachers who teach or instruct vocational or occupational subjects in adult and further education institutions and to senior students in secondary schools and colleges”.

Source: OECD (2021^[1]), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

Box 1.2. Skills and knowledge requirements of VET teachers and trainers according to ESCO

The European classification of skills, competences, qualifications and occupations (ESCO) describes, identifies and classifies occupations and skills relevant for the European Union (EU) labour market. ESCO profiles show whether certain skills and knowledge are essential or optional for certain occupations and what qualifications are relevant for each occupation. 'Essential skills' are the skills usually required when working in an occupation, independent of the work context or the employer. 'Optional skills' refer to skills that may be required or occur when working in an occupation depending on the employer, working context or country.

ESCO contains occupational profiles for various VET teachers. Table 1.1 shows the essential skills and knowledge listed in the profiles of hairdressing teachers and business administration teachers. The skills and knowledge requirements reflect that VET teachers need a mix of pedagogical skills to build course content, develop and assess a range of hard and soft skills among students, support a diverse group of students and manage the classroom; industry-specific skills and knowledge that they can transfer in a safe way; and the ability to keep abreast of changes in the labour market.

Table 1.1. VET teachers need a mix of pedagogical and industry-specific skills and knowledge
Essential skills and knowledge

	Hairdressing vocational teachers	Business administration vocational teachers
Essential skills	adapt instruction to labour market adapt teaching to student's capabilities apply intercultural teaching strategies apply teaching strategies assess students; assign homework assist students in their learning develop course outline facilitate teamwork between students give constructive feedback guarantee students' safety maintain students' discipline manage student relationships monitor developments in field of expertise observe student's progress perform classroom management prepare lesson content work in vocational school assist students with equipment teach customer service techniques	adapt instruction to labour market adapt teaching to student's capabilities apply intercultural teaching strategies apply teaching strategies assess students assign homework assist students in their learning develop course outline facilitate teamwork between students give constructive feedback guarantee students' safety maintain students' discipline manage student relationships monitor developments in field of expertise observe student's progress perform classroom management prepare lesson content work in vocational school
Essential knowledge	assessment processes curriculum objectives learning difficulties teamwork principles customer service hair hairdressing	assessment processes curriculum objectives learning difficulties teamwork principles accounting; economics; business law document management financial management marketing principles

Source: European Commission (2022^[4]), *ESCO database - Occupations: Hairdressing vocational teacher*, <http://data.europa.eu/esco/occupation/93f61216-b9c8-4051-bb1e-32839c1566c1>; European Commission (2022^[5]), *ESCO database - Occupations: Training and staff development professionals*, <http://data.europa.eu/esco/occupation/3db35c88-bcb7-4de4-914a-9a9839a3c911>.

1.1.2. In-company trainers need to be able to support students' learning journeys in the workplace

Teachers in VET institutions are not the only ones in charge of supporting skills development among VET students. Many VET programmes contain elements of work-based learning (WBL), which means that part of the curriculum is delivered by employers in the workplace. To ensure that students make the most of their time in the workplace and effectively develop their skills while working, they need the support of experienced co-workers who take charge of training VET students. These in-company trainers need to transfer their knowledge and practical skills to the student, but also support the student more broadly in navigating the workplace and developing skills that can increase employability. They may also provide on-the-job training to current employees, in addition to apprentices and other VET learners. Box 1.3 describes the essential skills and knowledge for trainers according to the ESCO framework.

Box 1.3. Skills and knowledge requirements of VET teachers and trainers according to ESCO

ESCO (see Box 1.2) contains occupational profiles for corporate trainers (training and staff development professionals), which can in some case correspond with VET trainers. Corporate trainers train, coach, and guide employees of a company to teach and improve their skills, competences and knowledge in accordance with the needs of the company. They develop the existing potential of the employees to increase their efficiency, motivation, job satisfaction, and employability.

Table 1.2 shows the essential skills and knowledge listed in the ESCO profile of corporate trainers. While in-company trainers are often regular employees who combine their normal work activities with training of VET students, the skills and knowledge requirements for the training part of their job will be similar to those of a corporate trainer listed below.

Table 1.2. Corporate trainers need pedagogical and industry-specific skills and knowledge

Essential and optional skills and knowledge

Skills		Knowledge	
Essential	Optional	Essential	Optional
adapt teaching to target group	advise on efficiency improvements	adult education	communication
adapt training to labour market	deliver online training	assessment processes	conflict management
apply intercultural teaching strategies	develop a coaching style	curriculum objectives	customer service
apply teaching strategies	keep personal administration	training subject	financial management
coach employees	observe student's progress	expertise	human resource management
demonstrate when teaching	promote education course		leadership principles
give constructive feedback	teach digital literacy		marketing management
monitor developments in field of expertise	teach public speaking principles		organisational policies
prepare lesson content	work with virtual learning		project management
provide lesson materials	environments		teamwork principles
teach corporate skills			

Source: European Commission (2022^[6]), ESCO database - Occupations: Corporate trainer, <http://data.europa.eu/esco/occupation/0ba06640-e0ac-4911-9e43-289a8e41651e>

Trainers are typically recruited within the company, often as part of their career advancement as trainer (Hensen and Hippach-Schneider, 2016^[7]). The tasks of in-company trainers generally include planning and delivering training, and reflecting on teaching and learning processes in the workplace. They accompany learners, support low-performing learners, manage heterogeneous groups and solve individual problems, such as imminent discontinuation of training, loss of motivation or insufficient integration into the company (BIBB, 2015^[8]; Hensen and Hippach-Schneider, 2016^[7]). In addition, trainers can also be

involved in determining company-wide qualification needs. Cooperation with the staff in human resource development and work organisation is also among the tasks of the trainers (BIBB, 2015^[8]). In-company trainers have an important role in helping students and apprentices in the work environment develop a professional identity and occupational profile. In small enterprises, the trainer is a crucial role model for the following generation of employees (Cedefop, 2019^[9]).

1.1.3. Shortages of teachers and trainers in VET are common

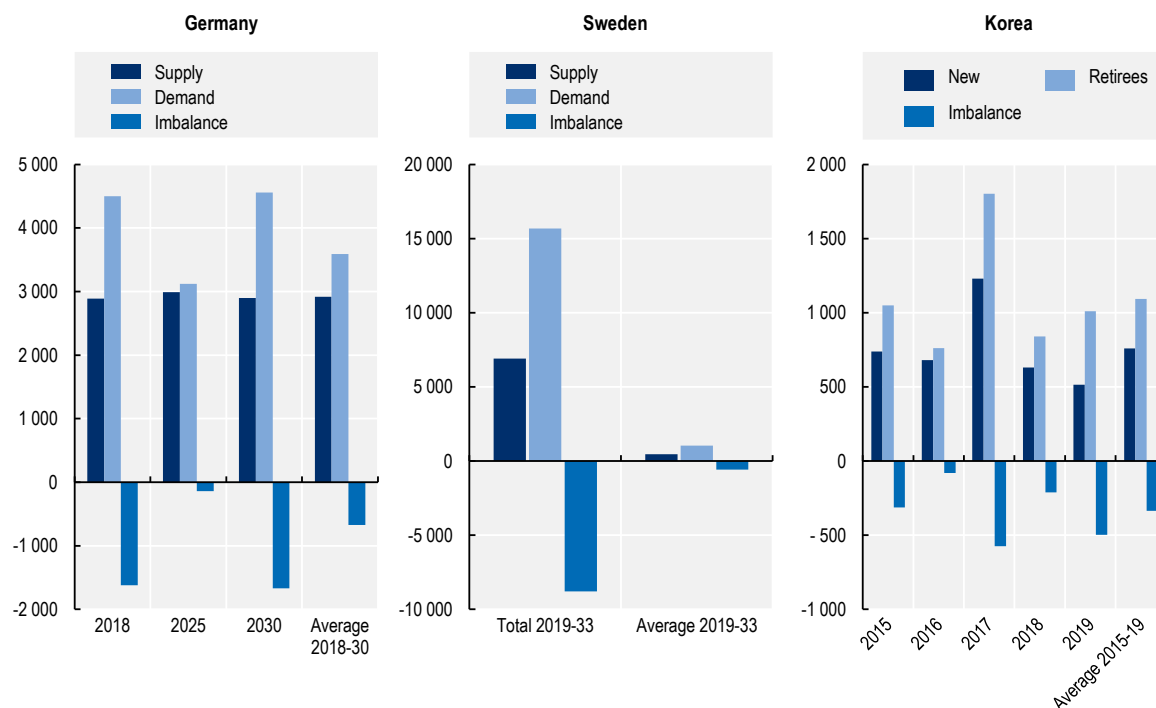
A well-prepared teaching and training workforce that holds the right set of skills is vital for quality VET provision. Nonetheless, various countries struggle in bringing on board a sufficient number of skilled VET teachers and in encouraging employers to provide work-based learning opportunities supported by skilled trainers. There are many factors that contribute to such shortages. Allowing for flexible entry and preparation of teachers and trainers while maintaining the quality of the workforce –which is the focus of this report- is one of the strategies that can help overcome shortages, alongside efforts to make the teaching and training profession more attractive.

In several OECD countries, there is considerable concern about shortages of VET teachers. For example, a survey in the United States reports that for 98% of surveyed state directors of VET addressing shortages of qualified VET teachers had been a key priority for their state and all those state directors indicated that this would be a priority for their state in the future (Advance CTE & CCSSO, 2016^[10]). Other research indicates that as many as half of the states across the country have major shortages of VET teachers, and more than half of states reported that they have teacher shortages in one or more VET subject (2018-19 Teacher Shortage Areas in the United States) (OECD, 2021^[11]). In Germany, it has been estimated that the supply of VET teachers would meet only about 80% of the demand per year between 2018 and 2030 (Figure 1.3, Panel A) (KMK, 2019^[11]). The German Education Union (GEW) estimated an even greater shortage based on a larger estimated number of VET students (Dohmen and Thomsen, 2018^[12]). In Sweden, a forecast by the Swedish National Agency for Education shows a risk of a shortage of trained upper secondary VET teachers. The agency estimated the supply of new VET teachers to be less than half of the demand for 2019-33 (Figure 1.3, Panel B). Alternative calculations have assumed higher retention rates for VET teachers, but even these indicate future shortages (Skolverket, 2019^[13]). In Korea, information based on the number of teacher entrants and retirees shows that the supply of new VET teachers reached only about 70% of the replacement need in the past five years (Figure 1.3, Panel C).

While some countries foresee a falling need for VET teachers, policies on teacher recruitment and initial teacher education and training still play a role in avoiding shortages in certain fields or regions. For example, the Netherlands has succeeded in increasing the number of VET teachers in the past decade, in particular younger teachers – even in the context of declining numbers of primary and secondary education teachers. In the coming decade, due to an anticipated significant drop in student numbers, the Netherlands forecasts a lower demand for VET teachers (Figure 1.4): the required number of upper secondary VET teachers is expected to decrease by about 9% between 2020 and 2030 (OCW, 2020^[14]). However, new entrants will still be required to offset retirements and other exits from the profession, and subject-specific shortages may still emerge (CentERdata, 2021^[15]). In Denmark, while there are fewer students entering VET than in the past (upper-secondary VET enrolment has decreased from 43% of all upper-secondary students in 2013 to 38% in 2018), this does not automatically lead to a lower demand for VET teachers because specialised courses are still maintained despite reduced enrolment – which may not be sustainable in the long run. 37% of VET school leaders in Denmark reported that shortages of qualified teachers significantly hinder their school's capacity to provide quality instruction, according to data from the 2018 Teaching and Learning International Survey (TALIS). These examples show that even when it is expected that the number of VET teachers will go down, shortages are likely in certain fields. Moreover, the age profile of the VET teacher population implies that there remains a need for new VET teachers – in these two countries, more than half of VET teachers are 50 years old or over (OECD, 2021^[11]).

Figure 1.3. Several OECD countries face VET teacher shortages

Estimated number of qualified upper secondary VET teachers



Note: The data for Germany and Sweden refer to estimates of the future demand and supply of VET teachers, whereas the data for Korea refer to observed VET teacher entrants and retirees. As the Korean data do not capture demand and supply in a similar sense as the German and Swedish data, the imbalances cannot be compared. The averages in the charts refer to annual averages.

Source: OECD (2021^[1]), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

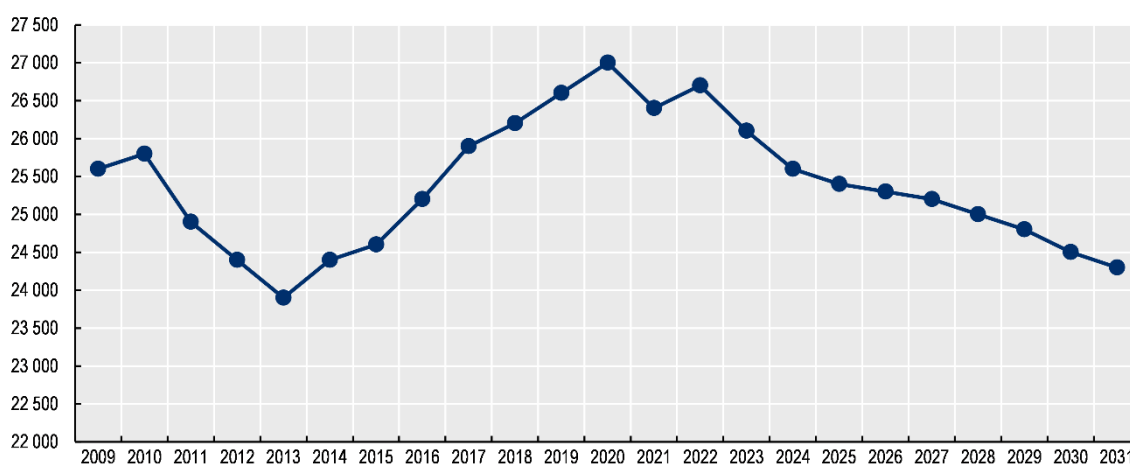
There are many factors that contribute to teacher shortages, many of them related to limited attractiveness of the VET teaching profession, including employment conditions, salaries, and a lack of financial incentives and career support (OECD, 2021^[1]). There can be fierce competition for talent with other sectors or roles which may offer more attractive working conditions. Various strategies are being adapted to make the teaching profession more attractive, combined with efforts to overcome possible barriers to entry. Restrictive entry requirements and lengthy and intensive preparation could be part of the problem, as they may discourage potential VET teachers – especially those coming from industry – to enter the profession. Attracting industry professionals into the teaching profession is one of the key strategies for ensuring an adequate supply of VET teachers with relevant skills and knowledge, and this requires providing flexible pathways into the profession and mechanisms to ensure that these professionals have the right mix of skills – including pedagogical skills.

Hiring part-time VET teachers – which often coincides with “side entry”, “lateral entry” or “hybrid teaching” in VET by professionals from industry (see case studies for Germany and the Netherlands) – can facilitate flexible teaching in VET, if teachers’ working conditions are not compromised. Part-time VET teachers with industry backgrounds can bring a number of benefits to the VET system, such as overcoming teacher shortages, reducing costs, increasing flexibility in VET provision and bringing in up-to-date knowledge from industry. Part-time teaching can also allow teachers to combine teaching with training to obtain a VET teaching degree. According to the 2018 TALIS data, a flexible working schedule such as part-time teaching was the most commonly reported reason for becoming a VET teacher (68% of respondents) across the countries with available data. Moreover, VET teachers were more likely to be attracted to the profession

by the flexible working hours than general education teachers (60%) (OECD, 2021^[11]). The Netherlands is one country that makes extensive use of flexible entry, including lateral entries and part-time employment. It has one of the highest shares of part-time employment among upper-secondary VET teachers among EU countries in 2019 (Figure 1.5) – in line with an overall relatively high share of part-time workers in the Dutch labour market.

Figure 1.4. The number of VET teachers in the Netherlands is expected to decline, after a successful increase in the past decade

Actual (2009-20) and projected (2021-31) MBO teaching staff numbers



Note: Expressed in full-time equivalents (FTE).

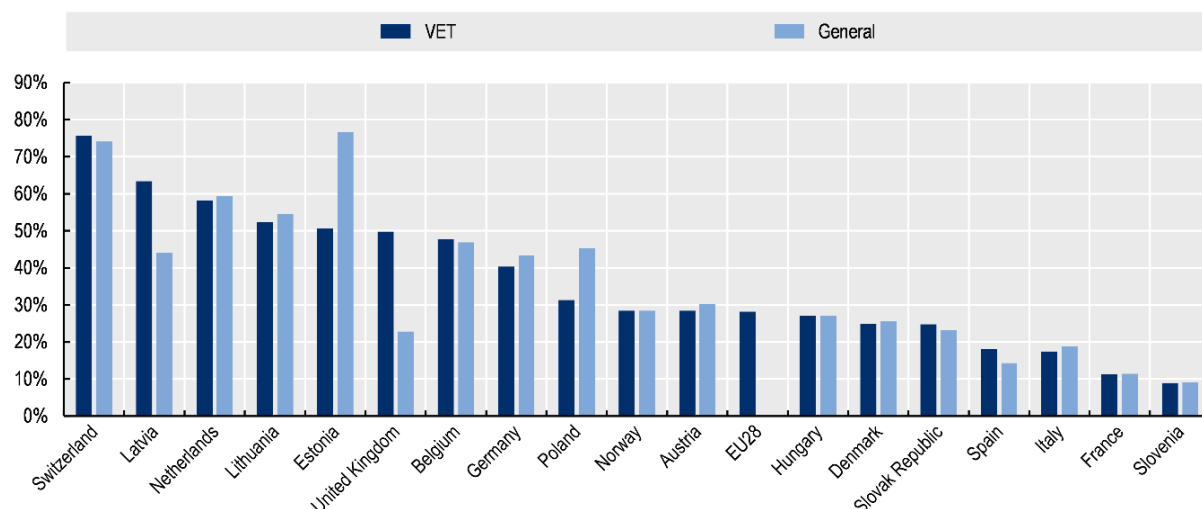
Source: OCW (2020^[14]), Forecasts of the MBO labour market, <https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/personeel/prognoses-arbeidsmarkt-mbo>.

Imbalances for in-company trainers are harder to assess. While there are no data available on the supply of and demand for trainers or firms' training capacity, there is generally a close connection to overall skills shortages in the relevant sectors and occupations. In-company trainers are usually skilled workers who combine regular work with training responsibilities. Hence, in sectors and occupations that are facing labour or skills shortages, there are likely also trainer shortages – and firms may even cut training activities due to shortages. At the same time, companies tend to train their workers when facing skill shortages, which could increase the demand for in-company trainers.

However, it should be noted that as with VET teachers, the shortage issue among in-company trainers, if any, is not only about the labour availability, but other factors such as salaries and working conditions also matter (OECD, 2021^[11]; Huismann and Hippach-Schneider, 2021^[16]). In addition, the shortage may be related to the skills of trainers themselves, especially when they are not specifically trained to provide and manage in-company training.

Figure 1.5. Part-time teaching in VET is common in some countries

Share of classroom teachers and academic staff in upper secondary education who work part-time, 2019



Source: Eurostat (2021^[17]), European Union Labour Force Survey (EU-LFS) 2019, <https://ec.europa.eu/eurostat/web/microdata/labour-force-survey>.

1.2. Strategies to ensure that VET teachers and trainers are well-prepared

1.2.1. Entry requirements for the VET teaching and training profession are set to ensure quality

Many countries set entry requirements for the VET teaching and training profession, such as having a teaching qualification, vocational qualification and/or work experience, in order to ensure quality of teaching and training in VET. Entry requirements and training standards differ across countries. They also differ across programmes and subjects taught – and even across VET providers – and sometimes depend on the level of teacher shortages in the field (OECD, 2021^[11]).

It is important to provide multiple and flexible ways to recruit and qualify VET teachers (OECD, 2021^[11]). For example, for skilled professionals in the middle of their career, having to start full-time education leading to the required teaching qualification can constitute too big of a barrier. These professionals have valuable work experience or new types of skills and knowledge that the current entry requirements or training programmes of teachers do not yet cover (OECD, 2021^[11]). To avoid that candidates with relevant skills are discouraged from entering the profession, several countries provide alternative pathways for industry professionals to join the VET teaching workforce. These entry routes generally have relatively less stringent requirements or give more flexibility to achieve the standard requirements.

Likewise, in order to ensure that the work-based learning on offer in VET programmes is of high quality, countries introduce standards and regulations regarding the organisation and delivery of in-company training, including in some cases requirements for trainers. For example, Austria and Germany impose a number of prerequisites for apprenticeship training including a sufficient number of professionally and pedagogically qualified trainers (e.g. five apprentices per part-time trainer or 15 apprentices per full-time trainer in Austria, and at least one qualified trainer in each company in Germany). This is based on the recognition of the fact that the success of company-based apprenticeship training is determined by the trainer's professional competence and pedagogical skills (Cedefop, 2019^[18]). However, the degree of regulation and training provision for trainers varies significantly across countries. Some countries set

requirements for trainers in terms of qualifications, skills and work experience. For example, it is often required or advised that trainers have a relevant vocational qualification. In some cases, in-company trainers need to have obtained a specific training qualification or certification, as is the case in Austria and Germany for example. Box 1.4 describes how a few countries (not covered by the case studies in this report) impose requirements on the qualifications or skills of in-company trainers to be able to provide work-based learning. Nonetheless, many countries do not impose any specific requirements on in-company trainers related to pedagogical or training-relevant qualifications or skills, as imposing such requirements could create barriers, particularly among SMEs, and imply costs.

Box 1.4. Examples of requirements and training of in-company trainers

Austria

Trainers at workplaces in Austria must be qualified to provide apprenticeship training. One of the ways to be qualified as an in-company trainer is to obtain a trainer qualification. This can be acquired as part of a trainer examination or a successfully completed trainer course. The trainer examination is organised by the master's examination offices of the Chamber of Commerce. Preparatory courses for the trainer examination are offered by the economic development institutes of the Chamber of Commerce (WIFI) and the professional development institutes (bfi). The following specialist knowledge must be proven within the framework of the trainer examination or the technical discussion after the trainer course:

- Establishing training goals based on the job description
- Training planning in the company
- Preparation, implementation and control of the training
- Behaviours towards the apprentice
- Knowledge of the Vocational Training Act (BAG), the Child and Youth Employment Act, employee protection and the position of the dual system in vocational training in Austria.

Trainer exams can be as part of the master craftsman's examination or qualification examination, or be organised as a separate examination in front of an examination committee. Other ways for trainers to be qualified are attending a 40-hour course or passing an exam organised by the economic chambers to prove professional pedagogical skills and legal knowledge. In certain professional fields such as notary, auditor or civil engineer, specialised examinations or training courses (e.g. notary examination, specialised examination for auditors and tax consultants, or civil engineer examination) may qualify professionals in these fields as trainer.

Estonia

The national legislation of Estonia does not require in-company trainers (vocational trainers and apprentice trainers) to have specific qualifications or competences. However, VET institutions are responsible for providing in-company trainers with the necessary training. They organise seminars and training courses, supervise and support in-company trainers. The purpose of the training is to raise the quality of supervision during work placement and the efficiency of training. The course is between 8 to 40 hours long and participants receive a certificate. Training relates to preparing, administering and evaluating work practice, and includes for example didactics, supervision and training provision; curriculum objectives and assessment principles; work practice and supervision for special education needs students.

Switzerland

In Switzerland, trainers at companies providing apprenticeships have to have a special qualification, which is awarded upon completing a course for vocational trainers in training companies lasting 40 hours (five days) or attending 100 hours (spread over six to eight months) of training in pedagogy, VET law, VET system knowledge, and problem solving methods for adolescents. The candidates receive a federally recognised certificate or diploma, respectively. VET trainers for intercompany courses have to complete 600 hours of pedagogy preparation and there are also special requirements for examiners. In addition to formal requirements, Switzerland provides in the QualiCarte a checklist of 28 quality criteria whereby host companies can self-assess their training capacity and quality for improvement.

Source: WKO (2019^[19]), *In-company trainers*, <https://www.wko.at/service/bildung-lehre/Ausbilder.html>; Ministry of Education and Research of Estonia (2017^[20]), *Background Report for OECD on Vocational Education and Training*; Hoeckel, Field and Grubb (2009^[21]), *A Learning for Jobs Review of Switzerland 2009*, <https://doi.org/10.1787/9789264113985-en>; OECD (2010^[22]), *Learning for Jobs*, <https://doi.org/10.1787/9789264087460-en>.

1.2.2. Initial education and training for VET teachers and trainers takes many shapes and forms

Initial teacher education and training (ITET), which allows future teachers to obtain necessary skills and qualifications, is a vital element of teaching in VET. Designing appropriate ITET programmes for VET teachers is important to ensure a good mix of pedagogical skills, vocational competence and industry knowledge. VET teachers' educational attainment, together with work experience and continuous learning opportunities, have a significant effect on their teaching competence (OECD, 2021^[11]). In particular, training in pedagogical skills is key for VET teachers who are joining the teaching sector from industry.

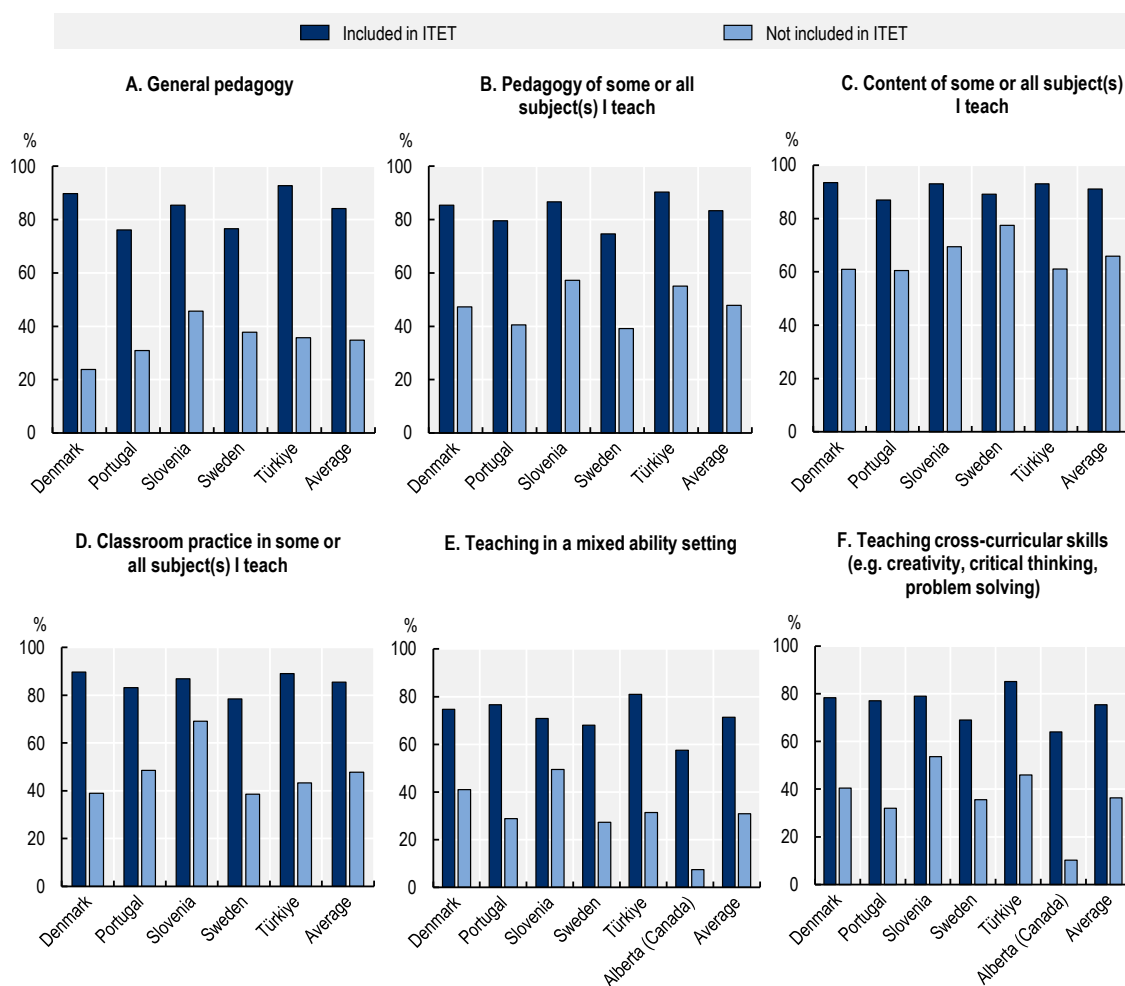
ITET is organised differently across OECD countries. It usually takes the form of a teacher-training degree course at the tertiary education level. In some cases, this includes practical training. Some countries have national or sub-national examination(s), usually at the end of the programme. In these countries, the design and content of ITET is closely linked to national or sub-national qualification requirements. ITET is often provided by institutions of higher education or a public agency specialising in ITET, but could consist of multiple components that are provided by different institutions. Different organisations may provide training in vocational subjects or pedagogical knowledge while certification of knowledge and skills may be awarded by other organisations. Several countries provide targeted financial support to help future VET teachers benefit from ITET (OECD, 2021^[11]). ITET may be organised differently for those coming from industry through more flexible pathways, in recognition that they often already hold some of the skills targeted by ITET and that they may need the flexibility to combine a teaching job and ITET.

The effectiveness of ITET is well evidenced. TALIS data show that VET teachers who benefitted from training in specific teaching responsibilities or tasks in their ITET felt more prepared for taking up these responsibilities in their teaching (Figure 1.6). In some countries, existing arrangements for ITET do not seem to provide the full mix of skills VET teachers require (OECD, 2021^[11]). For example, ITET for VET teachers appears to be weaker at developing pedagogical skills than ITET for general education teachers. A non-negligible share of VET teachers in selected OECD countries still felt unprepared in general pedagogy (16%) and subject-specific pedagogy (17%) even if they had undertaken ITET in those areas (Figure 1.6). In general, ITET for VET teachers appears to be weaker at developing pedagogical skills than ITET for general education (Figure 1.7). It should be noted that these data cover a limited set of countries and that more data and research would be needed to analyse the link between the design and content of ITET and the feeling of preparedness of VET teachers.

Dedicated preparation for in-company trainers does not always exist. However, there are some countries, including Austria, Germany and Switzerland, that regulate certain minimum requirements for trainers and have a dedicated training offer for trainers (Box 1.4). For example, Germany offers extensive optional training for trainers: training courses for trainers that prepare for the trainer aptitude exam are often provided by the Chambers of Industry and Commerce and Crafts, they are built into Mastercraftsperson courses) and many programmes at universities of applied sciences also offer the training courses for trainers (see Chapter 4). Even in countries where trainers are not required to have a specific training qualification, optional training programmes are often provided. Providers and content of training varies from country to country.

Figure 1.6. VET teachers whose ITET covered key elements of teaching practice felt more prepared

Share of upper secondary VET teachers who felt prepared by the time they completed their education or training, by whether or not the item was included in ITET

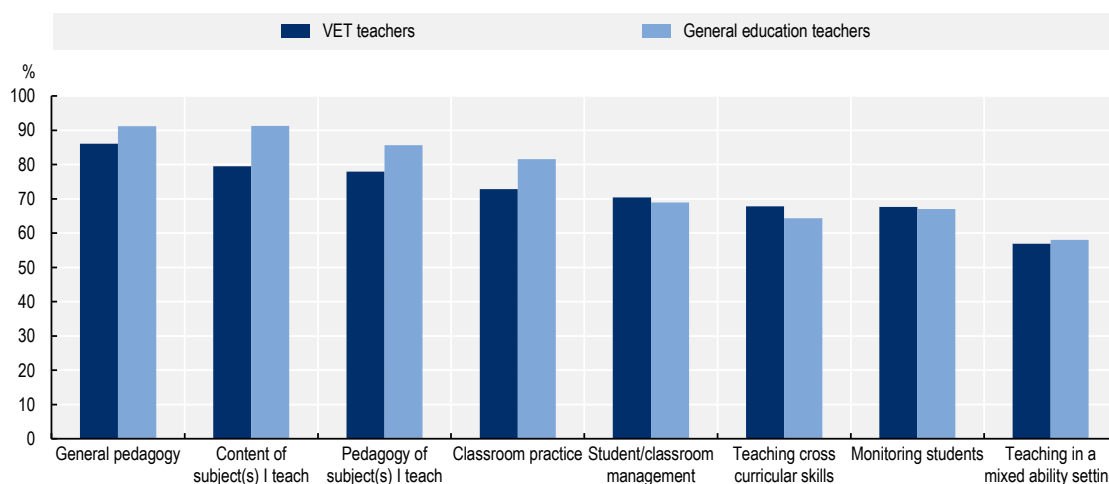


Note: Data for Alberta (Canada) are not included in all panels because of sample size restrictions.

Source: OECD (2021^[1]), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

Figure 1.7. ITET for VET teachers appears to be weaker at developing pedagogical skills than ITET for general education teachers

Share of upper secondary teachers who reported that the following elements were included in ITET, average of six countries/regions



Note: VET teachers are those who reported in TALIS that they were teaching practical and vocational skills in the survey year in upper secondary programmes (ISCED 3), regardless of the type of school where they teach. The average represents the unweighted average of the six countries/regions: Alberta (Canada), Denmark, Portugal, Republic of Türkiye, Slovenia, Sweden.

Source: OECD (2021^[1]), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

1.3. Balancing quality and flexibility: Lessons learnt from the five case studies

The remaining chapters of this report describe how entry requirements and preparatory training for teachers and in-company training are implemented in five case study countries: Canada, Denmark, Germany, the Netherlands and Norway. This section describes the lessons learnt from across these five countries, with a focus on how they manage to develop a skilled teaching and training workforce through entry requirements and training, while maintaining sufficient flexibility to be able to attract teachers and trainers to the profession.

1.3.1. Entry requirements for VET teachers

The five countries covered in this report all have different entry requirements for VET teaching professionals. Differences within countries also exist, and this is especially the case in Canada where provinces and territories as well as individual training providers are the main actors determining requirements and training. In general, all five countries require teachers to have a vocational and pedagogical qualification, either separately (Denmark, Norway, most provinces in Canada) or combined into one single qualification (Germany, Norway and Netherlands – depending on the pathway). Relevant work experience is also required in some cases, and this can be obtained as a mandatory part in the ITET (Germany) or outside of ITET (Norway, Denmark). Entry requirements often vary depending on the field, entry route and characteristics of the teacher candidate. Moreover, some countries also impose different requirements for those teaching vocational theory and practice (Germany, Denmark and Norway) or for teaching support roles (“instructors” of vocational practice in the Netherlands). Countries that have relatively strict regulations for the qualification of VET teachers, such as Germany and the Netherlands, provide alternative -more flexible pathways- (side entry) to the profession for individuals coming from industry.

Setting clear entry requirements that contribute to the quality of teaching

All five countries analysed in this report impose entry requirements to the VET teaching profession in terms of qualifications and/or experience. Nonetheless, they differ in how demanding these requirements are:

- In Germany, teachers of vocational theory have to pass two state examinations following a university teacher training and a preparatory service (i.e. teaching practicum). Teachers of vocational practice, who usually already have a vocational qualification, have to complete a pedagogical training and a preparatory service, and pass a state examination.
- In Norway, an educational or vocational qualification in the relevant subject, four years of work experience (with some exception) and a teaching qualification (pedagogics and didactics) are required to teach in VET.
- In Denmark, while the requirements depend on the type of VET programme, the subject taught and VET provider, prospective VET teachers in upper-secondary VET are required to have a formal qualification related to the subject area (typically a journeyman's certificate or a bachelor degree). At the post-secondary level, the majority of teachers typically hold bachelor's or master's degree. The Diploma in VET-pedagogy (DPE), at the professional bachelor level, is usually required to teach at both levels. The DPE must be started in the year after the VET teacher begins the job at the VET institution and must be finished within four years.
- In the Netherlands, a teaching qualification at bachelor or master level is required for upper secondary VET teachers (or a pedagogical and didactic certificate for those coming from industry, see below). Instructors of vocational practice in upper secondary VET require pedagogical and didactic competence, which they can acquire through dedicated training programmes (at ISCED level 4 or 5). Teachers of professional bachelor or master programmes in universities of applied science usually have to obtain a didactical qualification together with work experience, although requirements vary across VET providers.
- In Canada, requirements vary across provinces and territories, VET providers, teaching fields or programme levels, with no single standard for VET teacher credentials. The completion of apprenticeship training, a trade certification, Bachelor of Education and/or practical work experience are usually required. For example, in the province of Quebec, a teaching qualification is required for secondary VET teachers, which can be obtained through a Bachelor of Education or a combination of other qualifications. In Manitoba, VET teachers in post-secondary level institutions require both trade certification and experience in the trade as well as a teaching certificate (which could be obtained after hiring), while in the province of Saskatchewan a vocational certificate confers eligibility to teach a specified subject in all school grades at upper secondary and below levels, although additional qualifications may also be needed depending on the provider.

Table 1.3 provides a general overview of requirements for upper-secondary VET teachers, and further details are provided in the case study chapters.

As most countries have various teacher qualifications or require a set of qualifications and skills, aspiring teacher candidates need to receive information about the requirements and training courses and how they can be prepared for and involved in the recruitment and training process. In particular, Canada has different requirements for VET teachers across provinces and territories and even across VET providers within the same province, which makes the landscape hard to navigate. Therefore, aspiring candidates should be well informed about different qualification and experience requirements.

Table 1.3. Indicative summary of upper-secondary VET teacher qualification requirements in five countries

	General requirements			Alternatives
	Vocational/subject-related qualification	Pedagogical qualification	Relevant work experience	
Canada	Specific requirements vary across provinces and territories			
Denmark	Typically a journeyman's certificate or a bachelor's degree in a relevant subject.	Diploma in VET-pedagogy (DPE).	Multiple years of experience	
Germany	Vocational theory: two state examinations following a university teacher training at Master level and a preparatory service.		University training at Master level includes work placement.	Side entrants have access to shortened and tailored training, leading to a teaching qualification (varies across Länder).
The Netherlands	A bachelor- or master-level teaching qualification for a specific VET field			A specific side entry pathway exists for individuals with work experience in industry. They are required to obtain a pedagogical certificate within two years.
Norway	A subject-related qualification (including vocational)	A teaching qualification (pedagogics and didactics) at bachelor level.	Teachers for vocational practice need a certain number of years of work experience.	

Note: The general requirements described in this table refer to the most common or standard requirements. Alternative requirements may exist. The full details are described in the case study chapters.

Allowing for some flexibility without compromising on quality

All of the five countries offer multiple routes to enter the profession in an effort to overcome possible barriers. Such alternative and generally more flexible routes are always coupled with mechanisms to ensure that the pedagogical and professional knowledge and skills of (prospective) VET teachers are up to standards.

One common element of flexibility is to allow (certain) individuals to enter the teaching profession without the required qualification, under the condition that they obtain said qualification within a given time period. For example, Manitoba (Canada) and Denmark provide the option of obtaining the required teaching qualification while already teaching. Similarly, Norway allows candidates to temporarily fill teaching positions in times of teacher shortages even if they have not acquired the necessary teaching qualification yet. In the Netherlands, one of the pathways offers tailored training courses for teaching in VET without the standard required qualifications, by selecting candidates who already demonstrate professional competencies and focusing training on pedagogical and didactic elements, and allowing work-study combination. In Germany, while the entry requirements are quite demanding, side entrants have access to shortened and tailored training that helps them to meet pedagogical requirements and leads to a teaching qualification.

Given that many VET teachers are recruited and trained from industry, the teacher candidates should be well informed about varying entry routes and the additional training required to become a fully qualified teacher. In addition, this training should be tailored to the learning needs of the training participants (and shortened if necessary), based on rigorous assessment of their prior knowledge and work experience. In order to attract competent industry professionals and retain them, governments would need to ensure that these teachers also enjoy the same level of respect and working conditions and raise awareness about the value of bringing industry experience to the VET sector (OECD, 2021^[1]).

1.3.2. Entry requirements for in-company trainers

Entry requirements for trainers are mostly related to vocational qualifications & experience

In general, in-company trainers in all five countries are expected to have a vocational qualification and years of experience, at varying degrees (see Figure 1.8). Only Germany imposes specific requirements regarding a training qualification – although some sectors, regions or companies in the other four countries may impose such requirements. In Canada, Denmark, the Netherlands and Norway, there is no specific trainer qualification required for trainers, and they are generally only expected to have a relevant vocational qualification and work experience. Moreover, there is no obligatory training for trainers in these countries. Nonetheless, in the Netherlands trainers are expected to have certain didactic skills and pedagogical competences, and sectors, such as commercial service and safety, specify as requirements for trainers that these competences need to be validated by diplomas or certificates. In Germany, trainers must have a relevant professional qualification and pass a trainer aptitude examination to demonstrate one's vocational and pedagogical knowledge. Training companies need to be accredited in order to offer work-based learning for VET students and they must have at least one 'qualified' trainer (i.e. a trainer who passed the trainer aptitude examination).

While Denmark and Norway also assess companies on whether their trainers are able to provide quality work-based learning, these countries do not have formal criteria as Germany does. For example, companies interested in providing apprenticeship placements in Norway have to be assessed by the county vocational training board and receive the county authority's approval to act as a training establishment. The company needs to appoint a training supervisor who bears the overall responsibility of the apprenticeship as well as one or more trainers.

Figure 1.8. Qualification and training requirements for in-company trainers in five countries

Germany (regulated through an examination)	Denmark, the Netherlands and Norway (with vocational qualification or company requirements)	Canada (with vocational qualification or provincial approval)
<ul style="list-style-type: none"> • At least one qualified trainer is required in a training company, which means that the trainer has to pass the trainer aptitude examination (assessing vocational and pedagogical skills). • Skilled workers can also train and support apprentices (no training or qualification requirement). • Existing training courses for trainers are not mandatory. 	<ul style="list-style-type: none"> • No specific pedagogical qualification or training requirement is defined. • Trainers are usually vocationally qualified skilled workers with years of experience. • Companies are accredited based on the availability of well-prepared trainers in Denmark and the Netherlands. • To be approved, companies in Norway should have a qualified training supervisor (who typically has a trade certificate, master craftsman certificate, relevant higher education or usually six or more years of work experience) and skilled workers with a vocational qualification with work experience. 	<ul style="list-style-type: none"> • No specific pedagogical qualification or training requirement is defined, but usually a person with a trade certificate and years of experience can train apprentices, but this varies across provinces. • Some provinces approve 'designated trainers', i.e. experienced workers without a trade certification who are allowed to supervise, train and mentor apprentices.

Setting guidelines on skills of in-company trainers can foster training quality

Developing the training capacity of in-company trainers is beneficial for the quality of work-based learning, and therefore of the overall VET system. This can begin by establishing guidelines or standards for the pedagogical skills, knowledge and training practice of in-company trainers. These guidelines and standards could inform the development of optional or mandatory training programmes. Imposing strict entry requirements may discourage workers from wanting to engage in training of VET students, and could reduce the offer of work-based learning opportunities altogether if companies do not have qualified trainers. While flexibility in terms of entry requirements can help ensure that there is a sufficient number of trainers, it should not have negative consequences on the quality of training.

Among the five countries analysed in this report, only Germany established an examination to qualify trainers. Nonetheless, the requirement for in-company training provision does not require all the trainers to be qualified, but only to have at least one qualified trainer in the company who bears the overall responsibility for the apprenticeship. While the qualified trainer is in charge of developing, scheduling and conducting the training, skilled workers who do not possess a training qualification may provide daily workplace training and, thereby, support the qualified trainer. Germany experienced that removing the requirement of passing the mandatory examination to become a qualified trainer did not significantly increase the training offers while it did decrease the training quality. Based on this lesson, Germany has put in place various initiatives and incentives to support prospective in-company trainers to get relevant training and pass the examination to be qualified. For example, the trainer aptitude examination is part of Master craftsman examination. The examination and trainer training courses are also an optional module for students in many universities of applied sciences. Germany also has a number of schemes that financially support individuals who take training courses in order to become trainer.

Rather than imposing specific training qualification requirements, other countries have introduced different strategies to ensure that trainers are well prepared for their role. Several countries provide dedicated training for trainers, without making participation and/or certification mandatory. Moreover, in some countries, workplaces need to get approved before they are allowed to deliver work-based training, and the quality or skills of trainers is often an element at play. In Denmark, the Netherlands and Norway, for example, skilled workers who are qualified in their trade usually offer work-based training. Although these countries do not require in-company trainers to have a specific trainer or pedagogical qualification, they ensure the training quality more generally by accrediting companies to be able to offer work-based learning – one of the criteria of such an accreditation is to have well prepared trainers. Similarly in Canada, certified journeypersons or other qualified trades workers train apprentices on the job without any specific pedagogical qualifications. However, in Canada, the interprovincial Red Seal Occupational Standards do specify mentorship activities and outline the skills and knowledge requirements to perform mentorship. Provinces and territories use these interprovincial standards to develop their respective apprenticeship programmes (both in-school and on-the-job training).

1.3.3. Initial training and preparation for VET teachers

All five countries covered in this report operate very different initial teacher education and training (ITET) systems:

- In Canada, ITET is usually done through a bachelor's degree programme in education with the option to follow a master's and doctoral programme to expand their knowledge and expertise. The bachelor in education programmes mostly focus on pedagogy as VET teachers are usually expected to already have a VET qualification and relevant work experience – depending on the province, some Bachelor of Education programmes are 1-2 years and meant to be taken after completion of a 4-year Bachelor degree while some institutions offer a Bachelor of Technical Education or similar that only requires certification/experience in a technical field. In some cases, different types of tertiary institutions collaborate to offer initial teacher education and training (ITET)

for VET teachers. For instance, while many universities offer 4-year Bachelor of Education programmes as ITET, very few universities provide ITET that trains prospective teachers to teach VET subjects at the same time. In contrast, colleges and technical institutes offer diploma programmes in vocational subjects, yet they cannot grant the Bachelor of Education degree, which is often a requirement or an advantage to become a VET teacher. For this reason, some universities, colleges and technical institutes form a partnership to offer a vocational teaching diploma by combining the pedagogic training from the university and vocational or technical teaching from the college or technical institute.

- In Denmark, the VET-pedagogy diploma programme (DPE) is offered by university colleges, as part of the higher adult education system. It focuses on pedagogy adapted to the VET context, such as vocational pedagogical development work or digital technologies in VET. The duration of the programme can vary as teachers participate in this programme while working in a school, thus depending on how they adjust the teaching hours.
- In Germany, a teacher training at a university includes a bachelor and a master programme and 52 weeks of practical work, followed by a preparatory service at a teacher-training college as teaching practicum. The process may vary depending on the subjects to teach and *Länder*.
- In the Netherlands, ITET for prospective upper-secondary VET teachers is delivered by universities and universities of applied sciences. Teacher training in professional bachelor programmes is focused on a specific VET field, combining subject matter and pedagogy, ending with a compulsory teaching practice placement. Students with a non-teaching bachelor's or master's degree can also enrol in postgraduate or top-up programmes (with an important focus on pedagogy) to obtain a teaching qualification in the field related to their studies. The Pedagogical Didactic Certificate (PDG) for side entrants is delivered by professional tertiary institutions and is fully focused on pedagogy/didactics. Likewise, the training for vocational practice instructors focuses mostly on pedagogy and didactics, as participants are expected to have a relevant vocational qualification and/or work experience.
- In Norway, universities and university colleges offer two bachelor-level ITET programmes: a vocational practical pedagogical education (PPU-Y) that focuses on pedagogy (1 year) and a vocational teacher education (YFL) that covers both vocational training and pedagogy (3 years). PPU-Y is for those who already have a professional bachelor's or master's degree; or a vocational certificate, a post-secondary qualification (ISCED Level 5) and a general university and college admission certification.

Flexibility is key in ITET for VET teachers

Flexibility is a key feature in ITET in all five countries. For example, mechanisms for recognition of the prior learning are well developed, and allow individuals with relevant skills and experience to take courses that are shorter than the regular ones.

In Denmark, the required DPE qualification can be obtained through full-time (one year) or part-time (up to 3 years) studies. VET teachers who do not meet the entry requirements for DPE can also start the DPE and complete some parts of it. This flexibility recognises that some professionals working in VET fields, such as plumbing or construction, do not have a post-secondary qualification and otherwise they would not be able to teach, and thus provides more opportunities for them to teach in VET with a full qualification.

In Norway, vocational practical pedagogical education (PPU-Y) can be completed through a one year full-time programme or two years part-time. While students in Norway may choose to follow an online ITET programme, they are still required to complete their practical training at schools, or in companies if they opt for the vocational teacher education.

Financial support schemes increase the accessibility of ITET

In most countries, ITET for VET teachers is part of the higher education system. ITET is usually financed by both the government and student tuition fees, with the balance between those two funding sources varying across countries and also between types of institutions in the same country. For instance, in Norway, students in a public institution do not pay tuition fees. All five case study countries have financial support schemes in place to help cover tuition fees and living costs. The support schemes comprise grants, loans (sometimes interest-free), scholarships and tax deductions – or some combination of these. Typically, these schemes have a set of eligibility criteria such as age or socio-economic status. For example, grant amounts are often contingent on the student's financial and family situation and, depending on the type of grant, a certain standard of academic performance needs to be upheld. When teachers are participating in ITET while already teaching, it is sometimes the employing school that receives the financial support. In Norway, for example, school owners apply for education and recruitment grants for those teachers or teacher candidates who have not obtained their necessary teacher education yet.

Balancing the autonomy of ITET providers with quality assurance mechanisms

The ITET providers in all studied countries have a certain level of autonomy in designing their own ITET programmes, though at varying degrees across countries and sub-national entities. In this context, to maintain and improve the overall quality of ITET and to achieve consistency and coherence in the qualification and training system for ITET, quality assurance mechanisms have been established. These mechanisms are organised at different levels – from the national or sub-national level, to the level of (associations of) providers.

- In Canada, due to provincial autonomy regarding academic matters, each university can define its own standards and procedures for quality assurance; yet, these have to be reviewed by relevant provincial or territorial quality assurance authorities – e.g. agencies or organisations that represent the provincial or territorial universities, the provincial or territorial governments, or even a combination of these. For example, the Ontario College of Teachers reviews and accredits teacher education programmes based on the province's regulation requirements, including the provision of mandatory courses and teaching practicum.
- In Denmark, while higher education institutions can decide which approach and method for quality assurance they want to apply, they are legally required to establish internal quality assurance procedures and to conduct systematic quality assurance of their provision. They are also legally obliged to make the quality evaluation results public, and their internal quality assurance work will be assessed through accreditation procedures. In addition, the ministry in charge of higher education has to approve diploma programmes for VET teachers and social partners are also involved in developing those programmes.
- In Germany, each state ministry governs its ITET through their own regulations, which teacher training providers use to set the programme requirements. While each state has established their own regulations, the Standing Conference of the Ministers of Education and Cultural Affairs (*Kultusministerkonferenz*, KMK) defines common content requirements, recommends completion requirements of the programmes, and adopts resolutions to ensure the quality and coherence of ITET.
- In the Netherlands, the curriculum, teaching methods and requirements of teachers differ across the ITET providers, but there are several mechanisms to ensure the quality of ITET, and coherence in course requirements and instruction methods in different programmes. For example, self-evaluation mechanisms for the quality of ITET in each institution are complemented by an accreditation body (NVAO) that accredits ITET to ensure its quality and relevance.

- In Norway, national regulations define the formal qualification requirements for VET teachers. Moreover, they stipulate that universities and university colleges need to have an internal quality assurance system. In addition, there is a professionally independent agency, the Norwegian Agency for Quality Assurance in Education, under the Norwegian Ministry of Education and Research that supervises the quality development of the country's higher education institutions, which provide ITET.

Co-ordinating between VET institutions and teacher-training institutions for better design and delivery of VET teacher training

The co-ordination between VET institutions and teacher-training institutions is important in many aspects for the quality of ITET. When designing and delivering ITET, the learning needs of the teacher candidates and the training needs of the VET institution that would eventually hire those candidates need to be taken into account. Teacher-training providers can better keep the ITET curriculum for VET teachers up to date when they collaborate with VET institutions, and together develop research and innovation in pedagogical approaches (OECD, 2021^[11]). As described above, in Canada universities collaborate with VET providers to design and deliver ITET. Moreover, in the cases of teacher-training programmes that have an element of practical training in a VET institution, guidance and supervision both from the VET institution and the teacher-training institutions should be well coordinated.

Such collaboration exists in the Netherlands, for example. VET institutions assess candidates for lateral entry into the VET teaching profession for their competency and professional strength. This assessment is the main source to define the specific learning needs to be addressed by teacher training programmes offered by the universities of applied sciences (UAS). The UASs accommodate the different needs of both the VET institution and the candidates. That is, the VET institution- the future employer- assesses the skills and training needs of the candidate, and then based on this assessment, the UAS develops a personalised training programme for this candidate.

In Norway, VET teachers can participate in an exchange programme with trainers whereby VET teachers are sent to enterprises to have a better understanding of how on-the-job training works, and training supervisors and trainers are sent to schools to familiarise themselves with school-based VET (Haukås and Skjervheim, 2018^[23]). Although this is not part of ITET, this helps improve the collaboration between VET teachers and trainers as well as the broader cooperation between schools and companies.

1.3.4. Initial preparation for in-company trainers

Providing accessible and flexible training options

Training for in-company trainers comes in many shapes and forms. In all of the five countries analysed in this report, training for trainers is optional rather than mandatory. Even in Germany, where trainers are required to pass a specific examination to be a qualified training, the training to prepare for this is optional and eligible individuals can take the trainer aptitude examination without taking these courses.

Available training programmes are mostly non-formal, delivered by a variety of institutions. In Canada, provincial and territorial apprenticeship authorities, apprentice employers, industry associations as well as universities provide workshops or guidelines for in-company trainers. The training courses for trainers in Germany are usually offered by the chambers of commerce and crafts but also by universities of applied sciences. In Denmark, trainers can participate on a voluntary basis in adult vocational training courses. In the Netherlands, the Organisation for the Cooperation between VET and the Labour Market (SBB) offers free training courses and support for in-company trainers in taking these courses and in better organising their workplace training. In Norway, the Norwegian Directorate for Education and Training offers resources together with sub-national entities and private sector stakeholders.

As participants in such training programmes are usually in employment, flexibility in delivery is key to enable and encourage participation. In Germany, the preparatory training programmes for the aptitude examination are offered in a flexible way – e.g. in different learning formats, lengths and intensities. Quebec (Canada) has university-offered certificate courses for in-company trainers that are delivered on a part-time basis and offered on weekends or in the evening. The SBB training courses provided in the Netherlands have online components. The Norwegian Directorate for Education and Training offers free online resources for apprentice trainers, which include lectures and short movies showing how instruction can be carried out in practice. Together with this, county municipalities, training offices, university colleges, and some enterprises provide optional courses or practice-oriented online courses for training supervisors and in-company trainers.

Some countries provide financial support to facilitate and encourage training participation. In Denmark, the adult vocational training courses are partially publicly funded and subsidies for course participation are available. In the Netherlands and Norway, the training resources described above are free of charge. In Germany, employers of the trainers often pay their training course and examination costs and federal funding programmes are in place for prospective in-company trainers or their employers.

Providing relevant and high-quality training

In-company trainers should be equipped with vocational and pedagogical skills, knowledge about the workplace and the occupation, and the skills to co-ordinate with the provider of school-based VET. Available training programmes aim to train prospective trainers in these areas.

In Canada, training for in-company trainers is designed to learn about the entire process of apprenticeships, trainers' duties and best practices, basic concepts and principles of work-based learning, and efficient mentoring for apprentices. In Denmark, adult vocational training courses prepare trainers for their role, providing training on various aspects of apprenticeship, including, how to organise and provide work-based training, motivate students and ensure quality of the training. In Germany, courses that prepare for the trainer aptitude examination can be tailored to the existing skills of the candidate. These courses focus on the competences that are tested by the trainer aptitude examination: checking training requirements, planning and preparing training, assisting in the recruitment of trainees, and conducting and completing training. In the Netherlands, SBB courses provide a mix of theory and practical tips for trainers as well as online and offline tools such as e-learning or webinars to learn about supervising VET students, discussion on practical learning with SBB advisors on work placement, workshops aimed at beginner practical trainers, and an online portal that provides comprehensive advice, information and guidance for trainers.

As the landscape of training for trainers is highly diverse, with training taking many forms and delivered by a variety of providers, quality assurance is essential to ensure a certain level of quality and to make the offer transparent to prospective trainers. Different from the other countries, Germany has regulations on the qualification and training of in-company trainers: the Ordinance on Trainer Aptitude governs the trainer training and qualification. In 2009 an advisory committee under the direction of the BIBB created a modernised framework plan, in order to ensure that quality standards of training for trainers are uniform across the federal states and that prospective trainers are better prepared for their future duties. Germany continues to improve its trainer examination frameworks and the corresponding training mechanisms. Following a BIBB study that examined those frameworks and mechanisms in 2020/21, in particular against the emerging trends such as digitalisation and environmental sustainability, efforts are underway to complement the examination with further training and refresher courses and concretise content in line with the current challenges (Bundesinstitut für Berufsbildung (BIBB), 2021^[24]).

In Denmark, various actors contribute to development and quality assurance of adult vocational training (AMU) courses for trainers. The Ministry of Education approves new training programmes, social partners are responsible for developing AMU courses and associated tests in line with skill needs and advise from the Ministry. The Danish Agency for Education and Quality ensures the programmes comply with the applicable rules and oversees the AMU providers.

Key policy messages

- Entry requirements help ensure that VET teachers hold the necessary skills and knowledge, and these requirements need to be transparent and clear. At the same time, flexibility is needed, so that individuals with relevant skills and knowledge can enter the profession even when they do not (yet) fulfil all requirements.
- Prospective or new VET teachers need to be able to enrol in high-quality ITET that allows them to develop the right set of skills. These ITET opportunities need to be easy to access, and should therefore be organised in a flexible way and coupled with targeted financial support.
- Allowing the providers of ITET for VET teachers to have a certain autonomy over how they organise and deliver training can help ensure that the training fits the needs of their learners. Such autonomy should be supported by a solid quality assurance mechanism.
- Coordinating between VET institutions and teacher-training institutions contributes to a better design and delivery of VET teacher training. This includes partnering for the development of subject-specific skills and knowledge, as well as collaborating to provide opportunities for aspiring VET teachers to put their teaching skills into practice in a VET institution.
- Equipping in-company trainers with pedagogical skills will support them in transferring their knowledge and skills and supporting the learning journey of the learner. Flexible pedagogical training and materials should therefore be made available, and when such training is optional incentives need to be provided to encourage trainers and their employers to take up the training. Moreover, training should be provided on all relevant aspects of in-company training - from the start to completion of work-based learning.
- Regulations on the quality of work-based learning can also foster the quality of the trainers. Such regulations takes a more holistic approach to achieving high-quality training at the workplace, while possibly also allowing for more flexibility than when strict qualification or skills requirements are imposed on in-company trainers.

References

- Advance CTE & CCSSO (2016), *The State of Career Technical Education: Increasing Access to Industry Experts in High Schools*, [10]
https://cte.careertech.org/sites/default/files/files/resources/State_of_CTE_Industry_Experts_2016_0.pdf.
- BIBB (2015), *COMPENDIUM: Quality of in-company vocational education and training*, [8]
https://www.bibb.de/dokumente/pdf/compendium_quality-vet_en.pdf.
- Bundesinstitut für Berufsbildung (BIBB) (2021), *Projekt 2.2.355: Kurzstudie zur Prüfung des Evaluierungsbedarfs der AEVO*. [24]

- Cedefop (2019), *Cedefop European database on apprenticeship schemes*, [18]
<https://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/apprenticeship-schemes/country-fiches>.
- Cedefop (2019), *Vocational education and training in Europe - Germany*, [9]
<https://www.cedefop.europa.eu/en/tools/vet-in-europe/systems/germany-2019>.
- CentERdata (2021), *De toekomstige arbeidsmarkt voor onderwijspersoneel: po, vo en mbo 2021-2031*, [15]
<https://www.voion.nl/media/4088/toekomstige-arbeidsmarkt-onderwijspersoneel-po-vo-mbo-1.pdf>.
- Dohmen, D. and M. Thomsen (2018), *Prognose der Schüler*innenzahl und des Lehrkräftebedarfs an berufsbildenden Schulen in den Ländern bis 2030 [Forecast of the number of pupils and the need for teachers in vocational schools in the federal states up to 2030]*, GEW, [12]
[https://www.gew.de/fileadmin/media/publikationen/hv/GEW/GEW-Stiftungen/MTS - Gefoerderte Projekte/2018-11 Prognose Schuelerzahl Lehrkraeftebedarf BB-Schulen.pdf](https://www.gew.de/fileadmin/media/publikationen/hv/GEW/GEW-Stiftungen/MTS_-_Gefoerderte_Projekte/2018-11_Prognose_Schuelerzahl_Lehrkraeftebedarf_BB-Schulen.pdf).
- European Commission (2022), *ESCO database - Occupations: Hairdressing vocational teacher*, [4]
<http://data.europa.eu/esco/occupation/93f61216-b9c8-4051-bb1e-32839c1566c1>.
- European Commission (2022), *ESCO database - Occupations: Business administration vocational teachers*, [5]
<http://data.europa.eu/esco/occupation/3db35c88-bcb7-4de4-914a-9a9839a3c911>.
- European Commission (2022), *ESCO database - Occupations: Corporate trainer*, [6]
<http://data.europa.eu/esco/occupation/0ba06640-e0ac-4911-9e43-289a8e41651e>.
- Eurostat (2021), *European Union Labour Force Survey (EU-LFS) 2019*, [17]
<https://ec.europa.eu/eurostat/web/microdata/labour-force-survey>.
- Haukås, M. and K. Skjervheim (2018), *Vocational education and training in Europe - Norway*. [23]
- Hensen, K. and U. Hippach-Schneider (2016), *Supporting teachers and trainers for successful reforms and quality of vocational education and training: mapping their professional development in the EU - Germany*, Cedefop ReferNet thematic perspectives series. [7]
- Hoeckel, K., S. Field and W. Grubb (2009), *A Learning for Jobs Review of Switzerland 2009*, [21]
 OECD Reviews of Vocational Education and Training, OECD Publishing, Paris,
<https://doi.org/10.1787/9789264113985-en>.
- Huisman, A. and U. Hippach-Schneider (2021), *Teachers' and Trainers' professional development to support inclusive and sustainable learning: Germany*, Cedefop ReferNet thematic perspectives series. [16]
- Jeon, S. (2019), *Unlocking the Potential of Migrants: Cross-country Analysis*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, [2]
<https://doi.org/10.1787/045be9b0-en>.
- KMK (2019), *Compact data on education*, [11]
[https://www.kmk.org/fileadmin/Dateien/pdf/Statistik/KMK Statistik Folder 2019 en RZ_web.pdf](https://www.kmk.org/fileadmin/Dateien/pdf/Statistik/KMK_Statistik_Folder_2019_en_RZ_web.pdf).

- Ministry of Education and Research of Estonia (2017), *Background Report for OECD on Vocational Education and Training*. [20]
- OCW (2020), *Staff in MBO*, <https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/personeel>. [14]
- OECD (2021), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/59d4fbb1-en>. [1]
- OECD (2020), *Education at a Glance 2020: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/69096873-en>. [3]
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/9789264087460-en>. [22]
- Skolverket (2019), *Lärarprognos 2019*, <https://www.skolverket.se/getFile?file=5394>. [13]
- WKO (2019), *In-company trainers*, <https://www.wko.at/service/bildung-lehre/Ausbilder.html>. [19]

Note

¹ ESCO distinguishes essential and optional knowledge, skills and competences in occupational profiles. "Essential" are those knowledge, skills and competences that are usually required when working in an occupation, independent of the work context or the employer. These are different from essential skills terminology that is used in countries like the United Kingdom.

2 Case study: Entry requirements and initial training of vocational teachers and trainers in Canada

This chapter looks at teachers and trainers in the Canadian vocational education and training (VET) system. It zooms in on the requirements to join the VET teaching and training workforce and on the initial education and training to prepare teachers and trainers for their role. Particular attention is paid to ways to make pathways into the teaching and training profession accessible and flexible.

2.1. A snapshot of vocational education and training in Canada

2.1.1. The structure of the Canadian VET system

Canada's vocational education and training (VET) system, as other parts of its education system, is highly diverse across its provinces (see Box 2.1 for examples). The ten provinces and three territories are in charge of their own educational system. Students wishing to follow VET can do so in: (i) secondary schools, (ii) colleges and institutes at the post-secondary level (such as technical and vocational schools/institutions/training centres, community colleges, institutes of technology, union training centres, or industry associations), (iii) private for-profit colleges, and (iv) workplaces through apprenticeship programmes (UNESCO-UNEVOC, 2013^[1]).

In most provinces, after eight years of primary education, students continue in secondary education typically lasting four years. There is no distinct vocational path at the upper secondary level, although optional vocational courses are offered within the general track. The exception is Quebec, which offers separate VET programmes at the upper-secondary level: 9% of upper secondary students were enrolled in VET in 2018, all of which are enrolled in programmes that offer the chance of direct access to tertiary education (OECD, 2020^[2]). The VET courses offered at upper-secondary level across provinces and territories prepare students for entry into the job market or to enrol in apprenticeships, post-secondary colleges or universities (Council of Ministers of Education, Canada, 2022^[3]).

VET programmes at the post-secondary level are found across the country, offering by far the broadest range of VET options (OECD, 2020^[2]). Colleges and institutes offer three different lengths of VET programmes: a one-year certificate programme (mostly at ISCED Level 4), a two-year technical diploma (generally assigned to ISCED Level 5) and a three-year diploma programme (mostly at ISCED Level 5). The range of trades taught in colleges and institutes depends on local labour market needs (OECD, 2015^[4]). Colleges and institutes offer predominantly vocational programmes, and some certificate and diploma programmes include work-based learning (Skolnik, 2021^[5]).

In apprenticeship programmes, which are generally delivered at the post-secondary level and lead to a trade qualification, the related industry is responsible for practical training delivered in the workplace, and post-secondary institutions provide the theoretical components (i.e. colleges and institutes, and private for-profit colleges). An apprenticeship takes two to five years to complete (typically lasting four years). An upper-secondary qualification is usually required to start an apprenticeship – in 2015 only a tenth of apprenticeship completers had at most lower secondary education as their highest level of education when starting an apprenticeship (Frank and Jovic, 2017^[6]).

Box 2.1. VET at upper secondary and post-secondary levels in selected provinces in Canada

Ontario

Students in upper-secondary education in Ontario have various options to develop vocational skills, including:

- Co-operative education is a work-study programme for secondary school students, which enables students to earn school credits for learning on the job. Students starting from Grade 11 may apply for the Youth Apprenticeship Program to earn these credits through practical training in a skilled trade (i.e. a career path that requires hands-on work and specialty knowledge).
- A Specialist High Skills Major also enables secondary school students to develop industry-relevant skills and knowledge and obtain industry certifications alongside their school diploma.

- Dual credit programmes allow secondary school students to take college or apprenticeship credit courses counting towards their school diploma, as in the United States.

Post-secondary VET programmes, mostly apprenticeships, take two to five years to complete and often combine in-company training and classroom lectures. Programme requirements and the obtained qualification vary by type of trade (e.g. compulsory trades, which require a certification to work, will have different requirements and deliver different qualifications than voluntary trades).

Québec

In Quebec, upper-secondary VET is offered in secondary schools by school service centres (school boards prior to 2020) and private establishments. The types of vocational qualifications at this level are: diploma of Vocational Studies (*diplôme d'études professionnelles*, DEP), professional specialisation certificate (*attestation de spécialisation professionnelle*, ASP) and vocational training certificate (*attestation d'études professionnelles*, AEP). These programmes may begin during the third year of the 5-year-long upper-secondary education programmes, varying from a few weeks to two years.

General and vocational education colleges (*collèges d'enseignement général et professionnel*, CÉGEP) are public institutions offering post-secondary programmes at ISCED Level 4: two-year pre-university and three-year technical programmes, both leading to a Diploma of College Study (*Diplôme d'Études Collégiales*, DEC). Technical programmes focus on specific competencies (60-70%), while also covering elements of general education (30-40%).

Source: OECD (2014^[7]), *Employment and Skills Strategies in Canada*, <https://doi.org/10.1787/9789264209374-en>; OECD (2021^[8]), *Teachers and Leaders in Vocational Education and Training*, <https://doi.org/10.1787/59d4fbb1-en>; Les Cégeps du Québec (2022^[9]), *Des études supérieures au cégep, un choix judicieux pour l'avenir!*, www.cegepsquebec.ca; Éducation internationale (2022^[10]), *Vocational Training in Québec*, www.education-internationale.com/en/vocational-training-in-quebec/; Government of Ontario (2022^[11]), *Apprenticeship in Ontario*, www.ontario.ca/page/apprenticeship-ontario.

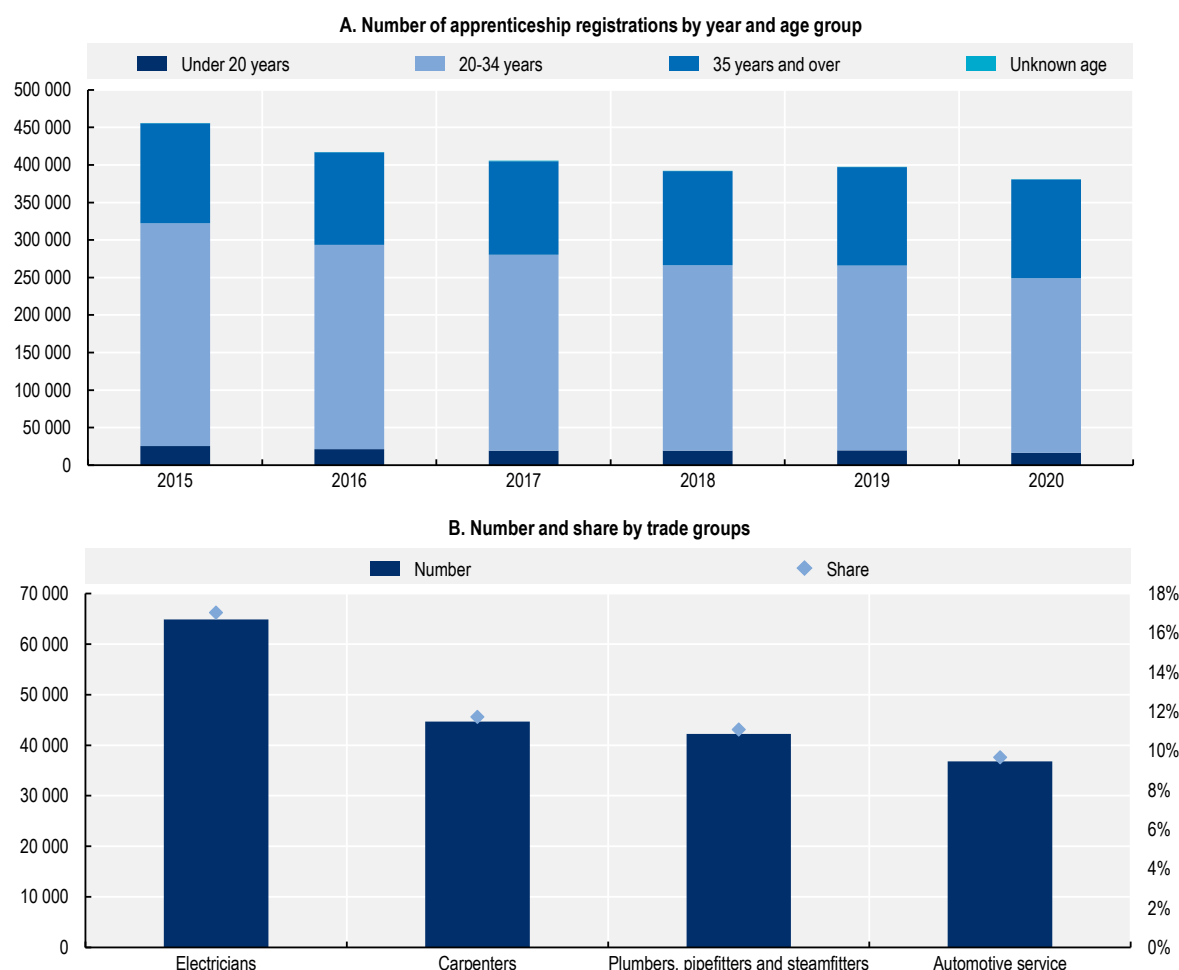
Work-based learning and school-based learning

Work-integrated learning (WIL) is the term in Canada often used for work-based learning. WIL covers cooperative education (school-based learning that integrates work-based learning), apprenticeships (combination of on-the-job training with classroom learning), entrepreneurship support,¹ internships and work placement (CEWIL, 2021^[12]). According to the 2018 National Graduates Survey, of all the 2015 postsecondary graduates who did not pursue further education in the three years following graduation, 50% reported having participated in WIL during their postsecondary studies (excluding those who did apprenticeships) (Galarneau, Kinack and Marshall, 2020^[13]). College graduates were the most likely to have participated in WIL during their studies (61%), compared to bachelor's (49%), master's (37%) and doctoral graduates (19%) (Galarneau, Kinack and Marshall, 2020^[13]).

Apprenticeship programmes in most provinces usually dedicate about 85% of the programme duration to workplace learning and the remaining 15% to learning in the classroom. In-class training usually takes about 6 to 12 weeks per year (e.g. in Ontario, Saskatchewan and Yukon). Apprenticeships are set up according to industry standards and government legislation, informed by craft unions, trade jurisdictions (e.g. in Quebec), and provincial and regional trade-specific apprenticeship committees, all of which are approved by the governing provincial apprenticeship board. Each apprenticeship programme outlines specific certification requirements to achieve government-issued certification of qualification, and these may vary by apprenticeship board (Barabasch and Watt-Malcolm, 2013^[14]).

Apprenticeship registrations have shown a decrease in recent years, from over 455 800 in 2015, to almost 398 000 in 2019 and 381 000 in 2020 (see Figure 2.1, Panel A) (Council of Ministers of Education, Canada, 2022^[3]; Statistics Canada, 2021^[15]). The decrease in 2020 is likely to be at least partially attributed to the COVID-19 pandemic. Apprenticeship programmes in Canada have been mostly geared toward young adults. In 2020, 61% of registered apprentices were aged between 20 and 34 (65% in 2015) and 35% were 35 or older (29% in 2015). Half of apprenticeships are concentrated on in the trade groups of electricians (17%), carpenters (12%), plumbers, pipefitters and steamfitters (11%), and automotive service (10%) (Figure 2.1, Panel B).

Figure 2.1. Apprenticeship registrations in Canada are on the decline



Note: Registered apprentices are persons who are in a supervised work training programme in a designated trade within their provincial or territorial jurisdiction (i.e. the provincial and territorial jurisdictions determine the trades for which apprenticeship training is made available). The apprentice must be registered with the appropriate governing body (usually a Ministry of Education or Labour or a trade specific industry governing body) in order to complete the training. The requirements for granting a certificate vary by jurisdiction in Canada.

Source: Statistics Canada (2021^[15]), Canadian Apprenticeship Registrations and Certifications, <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020016-eng.htm>.

VET teachers and trainers

In Canada, VET teachers -who teach trades in school-based settings- are often referred to as instructors. These VET teachers provide instruction of trades to young people and adults at the post-secondary level, such as colleges and institutes, and at the upper-secondary level where they teach optional vocational courses (except in Quebec where they teach in the separate VET track).

The equivalents of in-company trainers are journeypersons, supervisors, mentors, teachers or trainers. On-the-job training in apprenticeships is usually delivered by journeypersons, i.e. workers who have received provincial or territorial certification in their trade (e.g. in Alberta, New Brunswick, Ontario, Saskatchewan, and Yukon). They may act as a mentor to a registered apprentice in addition to working in their trade. They provide opportunities for their apprentice to complete the tasks required at each level of the apprenticeship programme and will sign-off when these competencies are achieved (CAF-FCA, n.d.^[16]). They are typically highly skilled workers who have a significant amount of work experience and competence in their trade. Employers can support their journeypersons by hiring a co-ordinator who manages the administrative matters and helps structure the training (CAF-FCA, 2017^[17]).

The distinction between VET teachers and in-company trainers is not always clear-cut in Canada, especially in data collected by occupation. The occupation group 'College and other vocational instructors' (which can be interpreted as VET teachers but also include in-company trainers, see Box 2.2) may include those who teach applied arts, academic, as well as technical and vocational subjects and sometimes include those who train in private training establishments or companies (Government of Canada, 2022^[18]). For example, in Quebec, college and vocational training teachers teach techniques and develop skills of their students according to their specialisation (Gouvernement du Québec, 2022^[19]) – including both VET teachers and trainers. They work for Cégeps (public college, see Box 2.1) and other colleges, technical institutes, vocational training centres and businesses (Gouvernement du Québec, 2022^[19]).

Box 2.2. College and other vocational instructors in Canada

According to the Canadian National Occupational Classification, "College and other vocational instructors" teach applied arts, academic, technical and vocational subjects to students at community colleges, CEGEPs, agricultural colleges, technical and vocational institutes, language schools and other college level schools. This occupation group also includes trainers who are employed by private training establishments, companies, community agencies and governments to deliver internal training or development courses. College teachers who are heads of departments are included in this group. This group performs some or all of the following duties:

- Teach students using a systematic plan of lectures, demonstrations, discussion groups, laboratory work, shop sessions, seminars, case studies, field assignments and independent or group projects
- Develop curriculum and prepare teaching materials and outlines for courses
- Prepare, administer and mark tests and papers to evaluate students' progress
- Advise students on program curricula and career decisions
- Provide individualized tutorial or remedial instruction to students who require it
- Supervise independent or group projects, field placements, laboratory work or hands-on training
- Supervise teaching assistants
- May provide consultation services to government, business and other organizations
- May serve on committees concerned with matters such as budgets, curriculum revision, and course and diploma requirements

- These instructors specialise in particular fields or areas of study such as visual arts, dental hygiene, welding, engineering technology, policing, computer software, management and early childhood education.

Job titles within this occupation group may include instructor in technology institute, teacher in institute of technology, lecturer or college teacher in college, training officer or company trainer in company and vocational institute teacher. In Quebec, they include CEGEP teacher and department head in CEGEP. They could also include department chairperson in a college.

Source: Government of Canada (2022^[18]), College and other vocational instructors, <https://www.jobbank.gc.ca/marketreport/occupation/22989/ca>.

2.1.2. Governance of the Canadian VET system

Provinces and territories are responsible for their own VET system. They are in charge of regulating and administering VET, including apprenticeship programmes, as well as certifying tradespeople as journeypersons. The ministers of education from all provinces and territories coordinate their policy, programmes, international engagements, and other matters of common interest, including VET, and undertake relevant initiatives cooperatively through the Council of Ministers of Education, Canada (CMEC) (OECD, 2015^[4]). Furthermore, the federal government works with the provinces and territories through the Canadian Council of Directors of Apprenticeship (CCDA) – a forum for inter-jurisdictional collaboration on trades and apprenticeship – to support their development of qualified skilled trades, which can be trained by apprenticeship. The CCDA is responsible for the Red Seal Program, which sets common standards to assess the skills of tradespeople across Canada (see Box 2.3).

Industry and employers play a critical role in the delivery and shaping of apprenticeship training by hiring apprentices and providing them with on-the-job training and work experience. Colleges, technical schools, unions and private trainers provide the in-school technical training part of an apprenticeship, often through course work in classrooms but also in web-based or hybrid format (Frank and Jovic, 2017^[6]). These institutions are accredited by their provincial/territorial apprenticeship authority to deliver technical training. Most colleges and institutes are public and can set their own admissions standards and degree requirements, however, this varies across provinces. Provincial and territorial governments often have responsibilities in the areas of funding, fees, quality assurance, and the introduction of new programmes, with level of involvement varying from one province and territory to another. In publicly-funded colleges, government involvement can sometimes extend to admissions policies, programme approval, curricula, institutional planning, and working conditions, whereas private institutions enjoy a more independent status (OECD, 2015^[4]).

Box 2.3. Terminology on apprenticeships in Canada

Tradesperson, journeyperson and skilled trade

A tradesperson is a worker in a skilled trade. A journeyperson is a certified tradesperson. A skilled trade is a career path that requires hands-on work and specialty knowledge, and generally falls within construction, transportation, manufacturing and services.

Red Seal Programme

The 'Red Seal' Programme sets common standards and examinations, in close collaboration with industry, to assess the skills of tradespersons across Canada in specific trades, referred to as the Red Seal trades. Among more than 300 designated trades in Canada, 55 can have a Red Seal Trade designation, which include automotive service technician, baker, carpenter and industrial electrician. Those who meet these interprovincial Red Seal standards through examination receive a Red Seal

endorsement on their provincial/territorial trade certificates. The Red Seal Programme also serves as a forum for intergovernmental collaboration with industry on common matters related to apprenticeship.

Designated trade, designated trainers and registered apprentices

- Designated trades refer to trades for which the provincial and territorial jurisdictions determine that apprenticeship training is made available.
- A designated trainer is an experienced tradesperson without provincial or territorial certification in their trade who is allowed to supervise the work of and train and mentor an apprentice.
- Registered apprentices are persons who are in a supervised work training programme in a designated trade within their provincial or territorial jurisdiction. The apprentice must be registered with the appropriate governing body (usually a Ministry of Education or Labour or a trade-specific industry governing body) in order to complete the training. The requirements for granting a certificate vary by jurisdiction in Canada.

Source: Statistics Canada (2020^[20]), Registered Apprenticeship Information System (RAIS) Guide, https://www.statcan.gc.ca/en/statistical-programs/document/3154_D2_V5; Statistics Canada (2020^[21]), New registrations in apprenticeship programs, <https://www150.statcan.gc.ca/n1/daily-quotidien/201209/cq-c001-eng.htm>.

2.2. Entry requirements for teachers and trainers in VET in Canada

This section discusses the skills, qualifications and/or experience that VET teachers and in-company trainers in Canada are required to have to take up their role. At the upper-secondary level, where VET teachers refer to those who offer optional vocational courses (except for in Quebec where they teach in the separate VET track) the entry requirements for VET teachers are defined at the level of provinces and territories. At the post-secondary level, entry requirements for VET teachers are defined by VET providers (i.e. teachers' employers such as colleges). Colleges and institutes at the post-secondary level generally operate independently from the provincial government and are responsible for establishing those requirements themselves. Therefore, there is no single standard for VET teacher credentials among numerous post-secondary institutions across Canada. As VET in Canada is predominantly offered at the post-secondary level, this section largely focuses on entry requirements for VET teachers and trainers teaching and training at this level. For in-company trainers, their required qualifications to train registered apprentices (see Box 2.3) are defined in provincial legislation in most provinces and territories.

2.2.1. Qualification, experience and skill requirements for teachers in VET

While the exact requirements differ between provinces and territories, for VET teachers (i.e. instructors of trades in school-based settings) the completion of apprenticeship training and a trade certification are usually required, and it is common for them to have practical workplace experience (Barabasch and Watt-Malcolm, 2013^[14]). On the pedagogical or didactic front, additional courses in teaching or in adult education, a provincial teaching certificate, a bachelor or master's degree in education, a college diploma, demonstrated expertise in the field of instruction or relevant work experience may be required (OECD, 2021^[8]), with a bachelor of education being the most commonly required pedagogical qualification.

For example, in Ontario, every public school teacher at the upper secondary level must be certified by, and become a member of, the Ontario College of Teachers, which is a self-regulatory body for the province's teaching profession from primary to secondary levels (including VET courses).² To join that body, for instance, a technological education teacher at a secondary school needs to fulfil a number of requirements, including: i) an Ontario Secondary School Diploma (or equivalent), ii) the completion of a four-semester teacher education programme at the post-secondary level, and iii) proof of technical competence in the relevant technological area, which can be demonstrated by five years of work experience (with 1 700 hours

being equivalent to one year) or a combination of post-secondary education and work experience (with at least two years of continuous employment) (Ontario College of Teachers, 2022^[22]).

In Saskatchewan, a Vocational or Technical Certificate (ISCED Level 4) allows its holder to teach a specified or related subject at all school levels (i.e. upper-secondary and below). Additional requirements may include a senior matriculation at Grade 12, journey person certification, work experience, or one year of teacher education including a practicum. These additional requirements may differ depending on the type of the certificate. For example, those who have a vocational certificate need to have a journey person certificate (or equivalent training), whereas those who have a technical certificate need to have studied the relevant field for two years at the post-secondary level and have gained two years of work experience (Saskatchewan Professional Teachers Regulatory Board, n.d.^[23]).

In Québec, a teaching diploma is required to teach in secondary VET – this is a permanent teaching licence. The standard method of obtaining a teaching diploma is to take the four-year certified bachelor of education programme. However, there are other pathways, too. For example, those who have earned a Diploma of Vocational Studies (DVS at ISCED Level 3) can also become a VET teacher, with the following two conditions:

- Have 3 000 hours of practical or teaching experience directly related to the trade or occupation to be taught;
- Complete a bachelor's degree in vocational training (some university programmes allow for recognition of prior learning based on vocational training and workplace experience) while still working.

Alternatively, those who have a technical Diploma of College Studies (DCS), a university certificate (minimum 30 credits)³ or a university degree related to a VET programme can also enter the VET teaching profession but they still need to obtain the teaching diploma while already teaching (Gouvernement du Québec, 2022^[24]). Specific requirements hold for immigrant teachers, see Box 2.4.

There are various cases in which prospective teachers may already start teaching before they fulfil the entry requirements, often due to a vocational teacher shortage. For example, in Québec, prospective teachers may already work as substitute teachers before finishing or even starting their bachelor of education programme at a university (Québec, 2022^[25]). Similarly, in Manitoba, prospective teachers may be hired as teachers on a provisional licence while still completing their university teacher training (Miesera and Gebhardt, 2018^[26]).

Box 2.4. VET teaching permit for immigrants in Québec (Canada)

Québec encourages and supports immigrant teachers to become VET teachers, allowing lower requirements than on general education teachers. Those who are a teacher outside of Canada only require the 3 credits in Québec's school system and the probationary period (600 to 900 hours) to obtain a teaching diploma in vocational training, compared to the 15 credits required for teachers of general subjects. For those who are not a teacher but completed VET outside of Canada, the same requirements are applied as those who have earned a Diploma of Vocational Studies (DVS), i.e. 3 000 hours of practical or teaching experience directly related to the trade or occupation to be taught and a bachelor's degree in vocational training.

Source: MICC (2012^[27]), Practising the profession of vocational education teacher, www.immigration-quebec.gouv.qc.ca/publications/en/professions/vocational-education-teacher.pdf Gouvernement du Québec (2021^[28]), Immigrating to Québec to teach, www.quebec.ca/en/employment/trades-occupations/exploring-trades-occupations/teaching-general-education-youth-sector-vocational-training-adult-education/immigrating-quebec-teach.

At the post-secondary level, the requirements for VET teachers differ across providers and teaching fields, although there are often similarities between the providers within the same province or territory. Each post-secondary institution hires its own teaching staff and evaluates their teaching qualifications according to its own rules (MICC, 2012^[27]). VET providers may adapt qualification requirements depending on the competition for their VET teacher position. Many post-secondary VET institutions require VET teachers to have a bachelor of education. For example:

- In *Alberta*, most college instructors of technical, trade or vocational programmes have post-secondary education related to their field of expertise and hold a professional or technical certification. The employing colleges offer staff development programmes that teach instructional methods to instructors who have not completed a formal teacher training (Government of Alberta, 2022^[29]).
- In *British Columbia*, while each trade programme outlines its own requirements for post-secondary VET teachers, for most trades VET teachers require an occupational qualification (preferably with Red Seal endorsement), a minimum of five years' work experience as a journey person, instructional experience and a teaching diploma, such as instructor's diploma, bachelor or master of education.
- In *Manitoba*, college instructors usually need to have both a trade certification and experience in the trade. For example, prospective vocational teachers should have six years of training and work experience. Moreover, they are required to obtain a teaching certificate (Vocational Education Diploma or Adult Education Certificate) – although in some trades they might still get hired before receiving their teaching qualification.
- In *Saskatchewan*, a requirement to teach a trade in Saskatchewan Polytechnic is to have a Red Seal certificate in the trade with a minimum of three years of experience as a journey person in the trade. Once hired, teachers should take an accredited Adult Education training programme to develop pedagogical skills.

2.2.2. Qualification, experience and skill requirements for in-company trainers

While in-company trainers in Canada are usually those who have provincial or territorial certification in their trade (i.e. they are journey persons), the exact requirements for trainers varies across provinces and territories. For instance, an experienced worker without a vocational certification can also train apprentices in certain provinces and territories (e.g. Alberta, Manitoba, British Columbia and Saskatchewan), referred to as designated trainers. Examples of requirements include:

- *Alberta*: Only certified journey persons can supervise and mentor an apprentice in a trade that requires a certification to be employed, while in a trade for which a certification is optional this condition does not apply (Government of Alberta, 2022^[30]).
- *Manitoba*: 'Designated trainers' can act as in-company trainers (see Box 2.3). They need to have experience in 70% of the scope of the trade and have relevant work experience that is at least equal to 1.5 times the duration of the apprenticeship within the past 10 years (Manitoba, 2021^[31]).
- *British Columbia*: Certified journey persons are responsible for supervising their apprentice's work-based training. Those who are not certified but have extensive experience in the trade may apply for equivalent journey person certification, called "Supervision and Sign-Off Authority" (Industry Training Authority British Columbia, 2019^[32]). They can be certified in the trade, if they pass the Interprovincial or Certificate of Qualification exam within 12 months of being approved for Supervision and Sign Off Authority (Industry Training Authority British Columbia, 2019^[33]).

Hence, in general, in-company trainers should have a qualification that is relevant to their trade and sufficient relevant work experience. While not a requirement, trainers are expected to exhibit a set of skills that go beyond their technical competence, including the ability and desire to teach, openness to work with younger people, management of the workload under time pressure, and leadership and communication

skills. While these skills are crucial for the mentor role, only few trainers have received training or guidance in these areas (Canadian Apprenticeship Forum, 2013^[34]; Canadian Apprenticeship Forum, 2016^[35]).

2.3. Initial preparation for teachers and trainers in VET in Canada

This section looks at the education and training programmes that prepare VET teachers and in-company trainers for their role. The governance of VET teacher education and training is at the discretion of the faculty of education at universities in consultation with, and in line with policies set out by, Ministries of Education in the provincial governments as well as teacher unions and associations at the provincial level. To warrant the development of a teacher education and training programmes, each education faculty will determine whether: (i) there is a demand for the programme and (ii) the faculty has the expertise and resources to develop and deliver the programme (Barabasch and Watt-Malcolm, 2013^[14]). For in-company trainers no specific training programmes are required (as discussed above). Nonetheless, different stakeholders provide several opportunities for in-company trainers to learn about the entire process of apprenticeships, trainers' duties and best practices, basic concepts and principles of work-based learning.

2.3.1. Initial teacher education and training

Initial education and training for VET teachers in Canada is usually done through a bachelor's degree programme in education with the option to follow a master's and doctoral programme to expand their knowledge and expertise. The four-year bachelor in education programmes include pedagogy, school curriculum, systems and administration, leadership and technology. Master's and doctoral programmes follow up on these topics (Barabasch and Watt-Malcolm, 2013^[14]). These programmes usually focus on pedagogical content, as VET teachers are usually expected to already have a VET qualification and relevant work experience.

Teacher training providers and programmes

Universities are the only institutions offering the bachelor in education. In practice, universities, colleges, and technical institutes often form a partnership to offer teaching qualifications, as a way to combine the university's pedagogic training and the college's or technical institute's vocational or technical knowledge. This is because universities usually do not offer vocational or highly technical courses, yet only they can grant the bachelor of (vocational) education degree that enables the degree holders to teach vocational or technical subjects (Barabasch and Watt-Malcolm, 2013^[14]). In Québec, a bachelor in vocational teaching (*Baccalauréat en enseignement professionnel*, BEP) to teach VET in secondary schools or colleges is delivered by five universities. BEP aims both at people who are already teaching a trade in a VET institution and at people who aspire to teach the trade they practice. Therefore, a vocational training diploma (DEP), a technical training diploma (DEC), university or equivalent training as well as relevant practical work or vocational teaching experience of at least two years (or 3 000 hours) is necessary for admission to the programme (UDS, 2021^[36]). This bachelor programme allows students to develop their teaching skills while remaining at the cutting edge of technical and technological developments in their profession.

In some provinces, the requirement for some VET teachers (depending on their background) is a post-secondary teaching certification rather than a bachelor's qualification. Such certificates are generally provided by colleges and institutes. In Saskatchewan, for example, the College of Education offers a one-year-long programme resulting in a Certificate in Secondary Technical Vocational Education (University of Saskatchewan, n.d.^[37]).

Target competences, content and curriculum

The local Ministries of Education have defined teaching standards for their province or territory. For instance, Alberta was the first province that established a [Teaching Quality Standard](#). This standard provides guidance on the competencies that teachers should have and acquire through teacher training. Based on this guidance, ITET providers establish their curriculum. Similarly, Ontario's College of Teachers

has defined [Ethical Standards and Standards of Practice for the Teaching Profession](#) to guide the daily practice of Ontario's teachers, on which the ITET curriculum could be based.

Teacher training taking place at higher education institutions allow the students to expand their expertise while familiarising themselves with topics such as pedagogy, administration, or leadership. In Ontario, for example, courses on human development and learning and education-related legislation and government policies are a mandatory part of ITET of all school teachers. Box 2.5 provides insights on the content of ITET in Alberta based on data from the Teaching and Learning International Survey (TALIS). In general, VET teachers are expected to be aware of job-related norms, safety regulations, and provincial, territorial, and federal employment and occupational policies and be attentive to sharing possible occupations and future educational opportunities with their students. To support the acquisition of this knowledge, bachelor of education programmes in universities may include relevant courses to help prospective VET teachers learn how to access information and resources for school-to-work transitions (Barabasch and Watt-Malcolm, 2013^[14]).

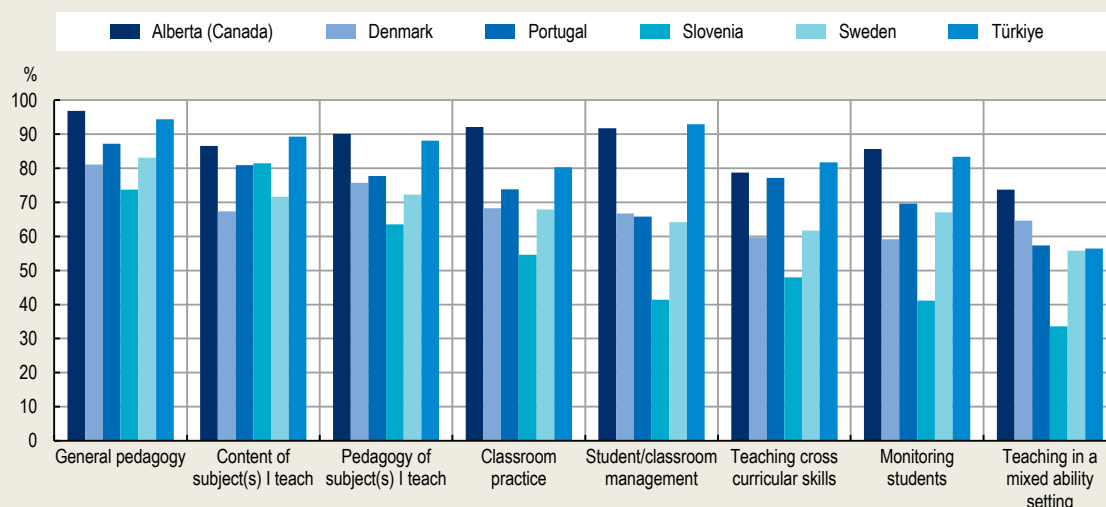
As mentioned in the previous section, in Saskatchewan, newly hired VET teachers follow an accredited Adult Teaching and Learning programme. These programmes offer new hires opportunities to acquire and advance their instructional and leadership skills. The courses include instructional strategies, educational technology, curriculum design, educational leadership, and learning evaluation (Saskatchewan Polytechnic, n.d.^[38]).

Box 2.5. What TALIS 2018 data tell us about Alberta's ITET

TALIS 2018 data for Alberta show that its ITET for VET teachers tends to include more pedagogical elements than in other countries included in the survey. More than 85% of VET teachers in Alberta who received ITET reported that their ITET prepared them for general pedagogy, subject teaching, subject-related pedagogy, classroom practice and management, and student monitoring. A slightly lower share of teachers report having been prepared for teaching cross-curricular skills and teaching in a mixed ability setting, however, these shares remain high compared to most other countries covered in the survey.

Figure 2.2. ITET for VET teachers in Alberta appears to focus more on pedagogical skills than in other countries

Share of VET teachers who reported that the following elements were included in ITET



Note: VET teachers are those who reported in TALIS that they were teaching practical and vocational skills in the survey year at upper secondary level (ISCED Level 3), regardless of the type of school where they teach.

Source: OECD (2021^[8]), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

The design and delivery of teacher education and training

The design of initial teacher education and training in Canada varies significantly across providers, programmes and candidates' previous qualifications, as well as provinces and territories. However, several different, indicative, pathways are identified to obtain a bachelor in education – the qualification most commonly required by VET teachers – or equivalent (Barabasch and Watt-Malcolm, 2013^[14]):

- Four-year Bachelor's programme in education: The Bachelor of Education degree is obtained following four years of university studies. A high school diploma with specified courses and grades is needed to enter the programme, yet no additional specialisation is required.
- One-plus-three programme: A pre-professional year amounting to 24 university transferable credits is required to enter a three-year Bachelor of Education programme.
- Two-plus-two programme: This programme needs the aspiring teacher to follow a two-year college and two-year Bachelor's programme.
- Modified two-plus-two programme: Entry into a two-year Bachelor of Education programme at a university requires a specialisation and having obtained the necessary 24 university transferable credits in a pre-professional year.
- Combined degree programmes: Students are allowed to combine a Bachelor's degree in their specialisation with a Bachelor of Education, yet duration of such a combined degree is often five years or more of study. A high school diploma with specified courses and grades is required to start the combined programmes.
- After-degree programme: Aspiring teachers can first follow a four-year Bachelor's programme in their desired field and afterwards a two-year Bachelor of Education.

In Saskatchewan, post-secondary teachers are not required to have a bachelor of education, but should take Adult Teaching and Learning courses, which are offered online and on campus and combine theory and practice. Instructors who have a degree in education may apply for exemption of the programme. Moreover, it is possible to receive transfer credit or a prior learning assessment and recognition credit if the instructor has gained the knowledge provided by the programme through other formal or non-formal training (Saskatchewan Polytechnic, n.d.^[38]).

In some cases, the ITET will include practical training. This is the case for example in Ontario, where a teaching practicum in a four-semester teacher education programme at the post-secondary level is mandatory for all school teachers, including technological education teachers.

Financing of teacher education and training

ITET is financed by student fees and provincial government funding. In general, grants and loans help students pay for their post-secondary education in Canada, including prospective VET teachers to pay their ITET. Through the Canada Student Financial Assistance Program, the federal government, together with participating provincial and territorial governments, provides needs-based grants and loans, as well as repayment assistance for low- and middle-income students. While in some jurisdictions, federal and provincial/territorial governments work together to provide financial assistance through integrated grants and loans, in others, federal support is available alongside provincial assistance. In Nunavut, the Northwest Territories and Quebec, Canada Student Grants and Loans are not available. These jurisdictions receive payments from the federal government in support of their own, independent and comprehensive student aid programs (Table 2.1). In all jurisdictions, students apply through their province or territory of residence, which then assesses the students' eligibility for all grants and loans that are available. The amount of support depends on factors such as educational costs, living costs, family size, individual and household income, and a number of demographic characteristics. In addition to grants and loans, students can use education savings if they have a Registered Education Savings Plan (RESP) – a tax-free savings account

parents open to save money for their child's post-secondary education and in which the federal government deposits education savings incentives.

Table 2.1. Financing VET teacher education and training differs across provinces in Canada

Examples of available financial support for post-secondary education

	Province-specific	Canada Student Grants and Loans
Alberta	Alberta Student Aid	Available
British Columbia	British Columbia Student Aid	Integrated
Manitoba	Manitoba Student Aid	Available
New Brunswick	New Brunswick Student Financial Services	Integrated
Newfoundland and Labrador	Newfoundland and Labrador Student Aid	Integrated
Northwest Territories	Northwest Territories Student Financial Assistance	Not available
Nova Scotia	Nova Scotia Student Assistance	Available
Nunavut	Nunavut Student Funding	Not available
Ontario	Ontario Student Assistance Program	Integrated
Prince Edward Island	Prince Edward Island Student Financial Services	Available
Quebec	Quebec Student Financial Aid	Not available
Saskatchewan	Saskatchewan Student Loans	Integrated
Yukon	Yukon Student Financial Assistance	Available

Source: Government of Canada (2022^[39]), Student grants and loans – Apply with your province, <https://www.canada.ca/en/services/benefits/education/student-aid/grants-loans/province-apply.html>

Financial support for apprentices helps them to complete their apprenticeship programmes – and therefore also prospective teachers and trainers to enter the profession as they are usually required to have completed an apprenticeship (Frank and Jovic, 2017^[6]). These include grants (e.g. the Apprenticeship Incentive Grant and the Apprenticeship Completion Grant), loans, tax credits, and Employment Insurance (EI) benefits during full-time or in-school training.

Quality assurance in initial teacher education and training

The quality assurance system for ITET in Canada reflects the large degree of freedom afforded to each province and ITET provider in the design and delivery of ITET, including training for VET teachers. Different actors manage higher education quality assurance systems – agencies, organisations that represent the provincial or territorial universities, the provincial or territorial governments, or even a combination of these actors. In general, these quality assurance systems review new ITET programmes to make sure that certain quality standards are upheld. They also determine guidelines to evaluate already accredited programmes and monitor institutional reviews in terms of frequency and efficacy. Due to its autonomy regarding academic matters, each Canadian university can define its own standards and procedures for quality assurance; yet, it has to be additionally reviewed by relevant provincial or territorial quality assurance authorities (Universities Canada, n.d.^[40]; Universities Canada, n.d.^[41]). In 2007, the Council of Ministers of Education, Canada (CMEC) endorsed the Ministerial Statement on Quality Assurance of Degree Education in Canada, which serves as a guide for the quality assessment of new degree programmes and degree-granting institutions within each province or territory (Council of Ministers of Education, Canada, 2007^[42]).

For example, in Ontario, the Ontario College of Teachers reviews and accredits teacher education programmes based on the province's regulation requirements. These requirements include a conceptual framework of the programme, consistency with the College's standards of practice for the teaching profession and the current teacher education research, the integration of theory and practice, and the provision of mandatory courses and teaching practicum. In addition, the general public can also contribute

to the evaluation of the programme's quality (Ontario College of Teachers, 2017^[43]; Ontario College of Teachers, n.d.^[44]; Government of Ontario, 2021^[45]; Ontario College of Teachers, 2022^[46]).

2.3.2. Preparation for in-company trainers

There are no specific training programmes that need to be completed in order to be an in-company trainer. Nonetheless, various types of institutions provide opportunities for in-company trainers to learn about the entire process of apprenticeships, trainers' duties and best practices, basic concepts and principles of work-based learning. As training for in-company trainers is not mandatory, there are no specific quality assurance mechanisms in place for this avenue.

Training providers to prepare in-company trainers

Employers, industry associations, and provincial or territorial apprenticeship authorities may organise workshops or provide guidelines or templates for in-company trainers to provide efficient mentoring for apprentices. Moreover, as the responsibility for apprentice training generally lies with a journeyperson, this person may already have learned mentoring concepts in their apprenticeship programme to be prepared to train apprentices after receiving their journeyperson certification (Canadian Apprenticeship Forum, 2013^[34]). As part of Red Seal Occupational Standards, there are expectations to perform mentoring and these Standards include a description of the skills and knowledge elements required for mentorship. Provinces and territories apply the requirements in the Red Seal Occupational Standards for mentorship into their respective trades training models. For example, in Saskatchewan, the Saskatchewan Apprenticeship and Trade Certification Commission provides a guide for trainers '[Journeyperson as Trainer](#)', which includes basic principles of instruction, steps of skills training and best practices. The Nova Scotia Apprenticeship Agency offers mentoring workshops and makes all the workshop resources accessible [online](#). In New Brunswick, the New Brunswick Building Trades Unions developed a [Mentor Apprentice Program](#) in collaboration with the provincial government (see Box 2.6).

Box 2.6. The New Brunswick Mentor Apprentice Program (NB-MAP)

The NB-MAP offers two types of workshops, namely one for (pre-) apprentices and one for mentors. Their main focus is on developing the involved parties' soft skills by improving communication and team work between mentors and apprentices and, therefore, creating a better work environment. These workshops last approximately three and a half hours and count between 10 and 15 participants. They are conducted in person and comprise practical exercises and group discussions, which allow participants to share their experiences and learn from each other. Upon request, the NB-MAP also provides customised soft skill training. Together with their provincial partners, the NB-MAP aspires to include mentorship training in the technical training of apprenticeships to ensure that all Red Seal journeypersons learn mentoring basics.

In 2021, the NB-MAP received funding for a five-year period (2021–2026) from the Government of Canada, the New Brunswick Building Trades Union (NBBTU), the Government of New Brunswick (GNB), and SkillPlan, enabling them to train more than 2 500 journeypersons and apprentices. Due to this funding, the workshops can be offered for free to the local NBBTU partners and members as well as to training institutions that provide apprenticeship training, such as the New Brunswick Community College.

Source: MAP Strategic Workforce Services (2022^[47]), About NBMAP: Equipping mentors with the tools to pass on their knowledge, <https://nb-map.ca/nbmap/about-nbmap>.

In Quebec, the University of Quebec offers courses for trainers. Under the ‘Certificate for trainers in the workplace’ (30 credits), part-time courses are offered (on weekends or in the evening), aimed at those who already have experience as a trainer with professionals or workers and who want to enrich their skills or acquire new tools or analytical framework to innovate in their practice. It also targets people who have a wealth of knowledge in a field and who are looking to become a trainer or pass on their professional knowledge. The ‘Undergraduate Short Program for Workplace Trainers (9 credits)’ offers similar training but in a shorter form (UQAM, 2022^[48]).

The content and delivery of training for in-company trainers

The mentor guidelines and ready-to-use templates described above provide in-company trainers with instructions and examples for the development of lessons and communication with the apprentice, which include advice on conflict resolution and feedback provision. Workshops for in-company trainers usually explain the tasks the apprentice should acquire during each year of training and teach the trainers how to use training manuals and a logbook, which records the apprentice’s on-the-job learning progress. Moreover, in the workshops, the journeypersons learn mentorship principles, different learning styles, assessment techniques and how to facilitate meetings as trainer. In order to better prepare the prospective trainers, a training plan for apprenticeship is established – it comprises of the tasks that trainers should conduct to develop the desired skills the apprentice should acquire through in-company training, a training schedule, and a plan on how to monitor the apprentice’s learning progress (Canadian Apprenticeship Forum, 2013^[34]; Canadian Apprenticeship Forum, 2016^[35]). The workshops organised by employers usually take place in a classroom setting, in which scenario-based exercises allow the prospective trainers to practice their mentor skills (Canadian Apprenticeship Forum, 2013^[34]).

In Quebec, the content of the Certificate for trainers in the workplace programme, mentioned above, includes strategic planning process, designs training activities with methods adapted to the needs and values of the workplace, identifying the resources and rules of the training environment, dealing with professionalism according to ethical principles, and analysing advising and influencing the quality and innovation of training (UQAM, 2022^[48]).

References

- Barabasch, A. and B. Watt-Malcolm (2013), “Teacher preparation for vocational education and training in Germany: a potential model for Canada?”, *Compare: A Journal of Comparative and International Education*, Vol. 43/2, pp. 155-183, <https://doi.org/10.1080/03057925.2012.661216>. [14]
- CAF-FCA (2017), *Effective Journeyperson Apprenticeship Mentoring On-the-Job*, https://caf-fca.org/wp-content/uploads/2017/07/79084-CAF_Mentor_Eng.pdf. [17]
- CAF-FCA (n.d.), *What Is Apprenticeship?*, <https://caf-fca.org/apprenticeship-101/what-is-apprenticeship/>. [16]
- Canadian Apprenticeship Forum (2016), *Employer Handbook*. [35]
- Canadian Apprenticeship Forum (2013), *Effective Journeyperson Apprentice Mentoring On-the-Job: Tips, Strategies, and Resources*. [34]
- CEWIL (2021), *What is Work-integrated Learning (WIL)*, <https://cewilcanada.ca/CEWIL/About-Us/Work-Integrated-Learning.aspx>. [12]

- Council of Ministers of Education, Canada (2022), *Education in Canada an overview*, [3]
<https://www.cmec.ca/299/education-in-canada-an-overview/index.html>.
- Council of Ministers of Education, Canada (2007), *Statement on Quality Assurance*, [42]
<https://www.cmec.ca/Publications/Lists/Publications/Attachments/95/QA-Statement-2007.en.pdf>.
- Éducation internationale (2022), *Vocational Training in Québec*, [10]
<https://www.education-internationale.com/en/quebec-education-system/>.
- Frank, K. and E. Jovic (2017), *National Apprenticeship Survey*, [6]
<http://www.statcan.gc.ca>.
- Galarneau, D., M. Kinack and G. Marshall (2020), *Work-integrated learning during postsecondary studies, 2015 graduates*, [13]
<https://www150.statcan.gc.ca/n1/pub/75-006-x/2020001/article/00003-eng.htm>.
- Gouvernement du Québec (2022), *College and Vocational Training Teachers*, [19]
<https://www.quebec.ca/en/employment/trades-occupations/exploring-trades-and-occupations/4021-college-and-vocational-training-teachers>.
- Gouvernement du Québec (2022), *Teaching General Education in the Youth Sector, Vocational Training and Adult Education*, [24]
<https://www.quebec.ca/en/employment/trades-occupations/exploring-trades-occupations/teaching-general-education-youth-sector-vocational-training-adult-education/becoming-teacher>.
- Gouvernement du Québec (2021), *Immigrating to Québec to teach*, [28]
<https://www.quebec.ca/en/employment/trades-occupations/exploring-trades-occupations/teaching-general-education-youth-sector-vocational-training-adult-education/immigrating-quebec-teach>.
- Government of Alberta (2022), *College, Technical or Vocational Instructor - educational requirements*, [29]
<https://alis.alberta.ca/occinfo/occupations-in-alberta/occupation-profiles/college-technical-or-vocational-instructor/>.
- Government of Alberta (2022), *Employer's guide to apprenticeship*, [30]
<https://www.alberta.ca/employer-guide-apprenticeship.aspx>.
- Government of Canada (2022), *Canada Student Grants and Loans – Apply with your province or territory*, [39]
<https://www.canada.ca/en/services/benefits/education/student-aid/grants-loans/province-apply.html>.
- Government of Canada (2022), *Job Bank - College and other vocational instructors*, [18]
<https://www.jobbank.gc.ca/marketreport/occupation/22989/ca>.
- Government of Ontario (2022), *Apprenticeship in Ontario*. [11]
- Government of Ontario (2021), *O. Reg. 347/02: Accreditation of Teacher Education Programs*. [45]
- Industry Training Authority British Columbia (2019), *Instructions: Certification Challenge or Supervision and Sign-off Authority*, [32]
https://www.itabc.ca/sites/default/files/docs/soa-application-instructions-september-2019_0.pdf.
- Industry Training Authority British Columbia (2019), *Supervision and Sign Off Authority*, [33]
<https://www.itabc.ca/hiring-apprentices/supervision-and-sign-authority>.

- Les Cégeps du Québec (2022), *Des études supérieures au cégep, un choix judicieux pour l'avenir!*. [9]
- Manitoba (2021), *Apprenticeship Manitoba: Designated Trainer Application*, https://www.gov.mb.ca/wd/apprenticeship/pdfpubs/pubs/general/designated_trainer.pdf. [31]
- MAP Strategic Workforce Services (2022), *About NBMAP: Equipping mentors with the tools to pass on their knowledge*. [47]
- MICC (2012), *Practising the profession of vocational education teacher*, <https://www.immigration-quebec.gouv.qc.ca/publications/en/professions/vocational-education-teacher.pdf>. [27]
- Miesera, S. and M. Gebhardt (2018), "Inclusive vocational schools in Canada and Germany: A comparison of vocational pre-service teachers' attitudes, self-efficacy and experiences towards inclusive education", *European Journal of Special Needs Education*, Vol. 33/5, pp. 707-722, <https://doi.org/10.1080/08856257.2017.1421599>. [26]
- OECD (2021), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/59d4fbb1-en>. [8]
- OECD (2020), "Canada", in *Education at a Glance 2020: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/43439e03-en>. [2]
- OECD (2015), *A Skills beyond School Commentary on Canada*, OECD, Paris, <https://www.oecd.org/education/a-skills-beyond-school-commentary-on-canada.pdf>. [4]
- OECD (2014), *Employment and Skills Strategies in Canada*, OECD Reviews on Local Job Creation, OECD Publishing, Paris, <https://doi.org/10.1787/9789264209374-en>. [7]
- Ontario College of Teachers (2022), *Program Accreditation*. [46]
- Ontario College of Teachers (2022), *Registration Guide: Requirements for Becoming a Teacher of Technological Education in Ontario including multi-session programs*. [22]
- Ontario College of Teachers (2017), *Accreditation Resource Guide*. [43]
- Ontario College of Teachers (n.d.), *Quality Assurance Committee*. [44]
- Québec (2022), *Teaching General Education in the Youth Sector, Vocational Training and Adult Education*. [25]
- Saskatchewan Polytechnic (n.d.), *Adult Teaching and Learning*. [38]
- Saskatchewan Professional Teachers Regulatory Board (n.d.), *Types of Certificates*, https://www.sptrb.ca/web/SPTRB/Certification/Types_of_Certificates.aspx. [23]
- Skolnik, M. (2021), "Issues in Cross-national Comparisons of Institutions that Provide Vocational Education and Training", *Journal of Vocational Education & Training*, pp. 1-19, <https://doi.org/10.1080/13636820.2021.2008473>. [5]
- Statistics Canada (2021), *Canadian Apprenticeship Registrations and Certifications*, <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020016-eng.htm>. [15]

- Statistics Canada (2020), *New registrations in apprenticeship programs*, [21]
<https://www150.statcan.gc.ca/n1/daily-quotidien/201209/cq-c001-eng.htm>.
- Statistics Canada (2020), *Registered Apprenticeship Information System (RAIS) Guide*, [20]
https://www.statcan.gc.ca/en/statistical-programs/document/3154_D2_V5.
- UDS (2021), *Baccalauréat en enseignement professionnel*, [36]
<https://www.usherbrooke.ca/admission/programme/250/baccalaureat-en-enseignement-professionnel#admission/>.
- UNESCO-UNEVOC (2013), *World TVET database Canada*, [1]
https://unevoc.unesco.org/wtdb/worldtvetdatabase_can_en.pdf.
- Universities Canada (n.d.), *How quality assurance works in Canada*. [40]
- Universities Canada (n.d.), *Provincial quality assurance systems*, [41]
<https://www.univcan.ca/universities/quality-assurance/provincial-quality-assurance-systems/>.
- University of Saskatchewan (n.d.), *Technical Vocational Education*. [37]
- UQAM (2022), *Certificate for trainers in the workplace*, [48]
<https://etudier.uqam.ca/programme?code=4550>.

Notes

¹ Depending on the university or college, entrepreneurs can engage as mentors, partners, or supervisors for students. As a mentor, they offer students advice and guide them through their own business start-ups/venture creation processes. Some mentors may be embedded in classes. As a partner, they may engage with students who will then help the entrepreneur with his/her/their start-up challenges for course credits. As a supervisor, they would offer the student an internship, in which the student can work with them on their start-up. Entrepreneur support offers students resources, mentorship, funding, and space to gain first experiences in launching a business start-up. See [Entrepreneurship \(cewilcanada.ca\)](http://Entrepreneurship(cewilcanada.ca)).

² The Ontario College of Teachers [licenses, governs and regulates](#) Ontario's teaching profession in the public interest. It was created by the [Ontario College of Teachers Act](#) to: i) issue, suspend and revoke teaching certificates; ii) set ethical standards and standards of practice; iii) investigate and hear concerns and complaints about members; iv) accredit teacher education programs and courses. All publicly funded school teachers and administrators in Ontario must be certified by us and be members of the College.

³ In Québec, one credit (or one unit) represents 15 hours of class work and about 30 hours of individual work. A three-year bachelor's degree generally consists of 90 credits (MICC, 2012^[27]).

3

Case study: Entry requirements and initial training of vocational teachers and trainers in Denmark

This chapter looks at teachers and trainers in the Danish vocational education and training (VET) system. It zooms in on the requirements to join the VET teaching and training workforce and on the initial education and training to prepare teachers and trainers for their role. Particular attention is paid to ways to make pathways into the teaching and training profession accessible and flexible.

3.1. A snapshot of vocational education and training in Denmark

3.1.1. The structure of the Danish VET system

Vocational education and training (VET) in Denmark is delivered at upper-secondary and post-secondary levels. After completing compulsory education in integrated primary and lower secondary schools, students can choose one of the academically-oriented or vocational upper secondary education programmes. In 2018, 18% of 15-19 year-old upper-secondary students were enrolled in VET (OECD, 2020^[1]). This goes up to 38% when considering learners of all ages, reflecting that the Danish VET system attracts many older learners. Upper-secondary VET programmes typically last 3.5 to 4 years.

There are two main vocational pathways at the upper-secondary level, in which students choose a programme preparing for a specific occupation:

- *Erhvervsuddannelse* (EUD) leads to a journeyman's test or a similar examination testing vocational knowledge, skills and competences (Denmark Ministry of Children and Education, 2021^[2]). The programme duration is 4 years for students who completed lower secondary school less than two years ago and 3.5 years for students who finished their lower secondary education more than 2 years ago. EUD graduates can continue their education at professional academies (*erhvervsakademi*) in fields related to their EUD qualification (at ISCED Level 5).
- *Erhvervsfaglig studentereksamen* (EUX), introduced in 2012, combines general education and VET in a four-year or three and a half year programme. As in EUD programmes, the duration of EUX programmes depends on the time of completion of lower secondary education. Upon successful completion of EUX programmes, students receive a journeyman's certificate as well as the general upper secondary diploma, which provides a direct entry to higher education at ISCED Level 6. By 2018, 42 different technical VET fields (approximately half of all programmes) and all business programmes had implemented EUX (CEDEFOP, 2018^[3]). In 2018, among students opting for VET 30% targeted EUX programmes (Andersen and Helms, 2019^[4]).

Denmark also has a large adult or continuing VET sector, organised in five types of programmes:

- *Erhvervsuddannelse for voksne* (EUV) offers basic vocational qualifications similar to EUD programmes. They target people aged 25 or above with relevant work experience. The EUV is adapted to the students' skills gained through previous work experience and education and leads to qualifications equivalent to EUD (Andersen and Helms, 2019^[4]).
- HF single subject programmes (*HF-enkeltfag*) are aimed at individuals looking to improve their skills in one or two subjects at upper-secondary level, preparing them for tertiary studies.
- *Arbejdsmarkedsuddannelser* (AMU) programmes allow both high-skilled and low-skilled adults to acquire either general skills or job-specific skills (leading to credentials at European Qualification Framework levels 2 to 5), usually related to one field of VET. There are approximately 3 000 different AMU courses offered by different types of providers. These courses can last between half a day and 6 weeks. They provide skills and competences directed towards specific sectors and job functions (Ministry of Children and Education, 2020^[5])¹. AMU targets individuals over 20 years of age. Both employed and unemployed people can participate in AMU courses (Cort, 2002^[6]). Around 250 000 low-skilled adults participate each year in AMU courses (Amu Fyn, 2022^[7]).
- Academy professions programmes provide opportunities for specialisation at the higher-VET level (ISCED Level 5) to skilled professionals (primarily for people with an EUD qualification). They are offered by professional academies and university colleges, and typically take 2-2.5 years and are oriented towards specific professions in areas of studies such as business and economics, information technology, design, health care. These programmes combine theoretical studies with a practice-oriented approach in the form of a mandatory work placement of minimum three months.

Upon completion, graduates can continue their education in a professional bachelor programme (ISCED Level 6).

- Diploma programmes, higher level (ISCED Level 6) specialisation programmes for skilled professionals with prior higher education offered by business academies, university colleges and some universities. Diploma programmes normally require 3-4.5 years of study and are at a level corresponding to that of university bachelor programmes, but with a stronger focus on professional practice. When these programmes are taken up as top-up programmes following an academy profession qualification, their duration is normally shorter (but lasting at least a year and a half).

Access to EUV, HF and AMU programmes is granted by VET institutions on the basis of recognition of prior learning (non-formal or informal) and/or completion of formal lower-secondary general education focused on adults (CEDEFOP, 2018^[3]). Access to academy courses requires completion of an upper-secondary qualification and two years of work experience. Access to diploma programmes requires prior higher education (at least ISCED Level 5). Academy and diploma programmes are both 60 ECTS and are provided as standalone modules of 5-15 ECTS, typically on a part-time basis. Diploma programmes give access to master level academic part-time programmes. Box 3.1 provides details of the types of institutions providing the different VET programmes.

Box 3.1. Types of VET providers in Denmark

In Denmark, upper-secondary VET programmes are delivered by vocational colleges (*erhvervsskoler*). These colleges are state funded (by a mix of a base funding allocation per institution, and additional funding per student), and operate as technical colleges (*tekniske skoler*), health and social colleges (*SOSU skoler*) or business colleges (*handelsskoler*). Vocational colleges are self-governing institutions, led by a governing board,² with responsibility for the administrative and financial aspects, as well as for the educational activities, in line with the regulatory framework administered by the Ministry for Children and Education. Vocational colleges are non-for-profit and autonomous in terms of adapting VET to local needs and demands. They have responsibility for teaching and examination, and work closely with local training committees (bodies involving social partners) in determining course content. Social partners play an important role in relation to both the content and organization of VET delivery.

Higher education is delivered by four types of providers, two of which are VET-related: professional academies (*erhvervsakademier*) and university colleges (*professionshøjskoler*). In addition, research universities (*universiteter*), provide academic bachelor's degrees, masters, some diploma programmes and PhD degrees and higher institutions of arts offer university level programmes within the arts.

The professional academies are non-for-profit independent organisations. The main aim of the academies is to offer and develop higher education with a strong relation to practice, especially in the area of technical and mercantile educations. These institutions mainly offer academic professions programmes (AP) and academy programmes, but also some professional bachelor programmes (BP) and diploma programmes. Academies have a management board, responsible for the quality and development of programmes at the institution. Board members are expected to have experience and knowledge of academy institutions. The board also includes members with knowledge about labour markets needs and with experience in management and business. Daily management of the institution is responsibility of the rector (president). The rector implements the directives defined by the academy board (Field et al., 2012^[8]).

University Colleges mainly offer BP and diploma programmes, but can also offer AP as an initial step towards a professional bachelor's degree (ISCED Level 6) and academy programmes. They are independent institutions lead by a board, which has strategic responsibility for the quality and development of education and the institution. They are also operated on a daily basis under

responsibility of the rector, subject to the strategic direction of the board. The board has 10-15 members, which are typically representatives of local and regional government, students and teachers. University Colleges must develop applied research, also acting as centres of knowledge in close dialogue with regional stakeholders from industry and the civil society. University colleges attempt to achieve these goals in cooperation with relevant research institutions and universities (Danish Ministry of Higher Education and Science, 2012^[9]).

Adults can enrol in VET in dedicated institutions for adults and in the same institutions that enrol young students. A large part of formal education provision (including EUV) for adults is delivered in vocational colleges, i.e. the same institutions as upper-secondary vocational education for young students. AMU courses are mainly provided by AMU centres, but also by vocational colleges. Some private companies and other educational institutions can also be certified as providers of specific AMU courses.

Source: Field et al. (2012^[8]), *A Skills beyond School Review of Denmark*, <https://doi.org/10.1787/9789264173668-en>; Danish Ministry of Higher Education and Science (2012^[9]), *Skills beyond School – National background report for Denmark*, <https://ufm.dk/en/publications/2012/files-2012/oecd-review-skills-beyond-school-denmark.pdf>.

Work-based learning and school-based learning

Most upper-secondary VET programmes have a large work-based learning component. Students usually spend between half and two thirds of their time in training companies under an apprenticeship contract. Typically, they start apprenticeships after a basic education and training programme in vocational schools, usually provided over the first 12 months of their studies (Ministry of Children and Education, 2021^[10]). Students preferring a more practical approach can choose to do a “new apprenticeship” (*ny mesterlære*), in which the programme entirely consists of work-based learning instead of both in-company training and school.

Internships are compulsory in full-time academy professions programmes. In part-time programmes there is no work placement but relevant work experience is an entry requirement and programme build on it. Also in bachelor’s programmes approximately 25% of the duration of the programme consists of internships. (OECD, 2022^[11]).

VET teachers and trainers

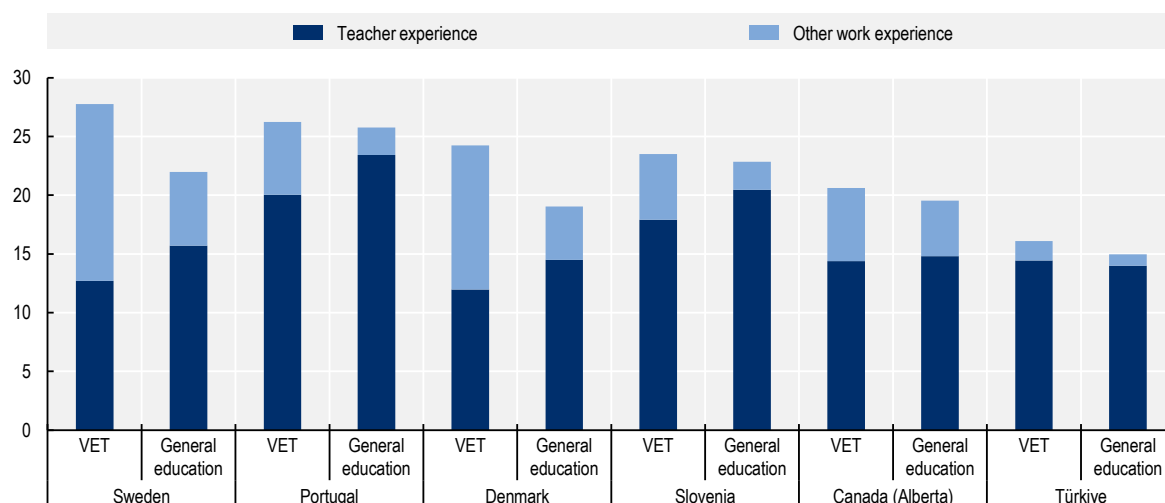
In Denmark, there are two types of VET teachers at upper-secondary levels: i) teachers of general subjects, and ii) teachers of vocational subjects. The former typically hold a university degree while the latter typically have a journeyman’s certificate or hold a bachelor’s degree with relevant work experience. While vocational teacher training is not required at entry, VET teachers have to obtain the Diploma in VET-pedagogy (*Diplomuddannelse i erhvervspædagogik*, DEP) while on the job. For trainers, there are no formal requirements in terms of pedagogical training.

Principals in VET institutions have autonomy over teacher recruitment. The education ministry is not involved in teacher recruitment procedures, and teachers are not civil servants entering the system through tests. VET teachers are mostly full time permanent employees of VET institutions. Part-time teachers often have no formal pedagogical qualifications, but are well respected within their fields of work and are able to ensure that VET students acquire knowledge which is up to date with developments in their respective trades (OECD, 2021^[12]). The share of part-time teachers in Denmark is relatively low (see Chapter 1).

Many VET teachers in Denmark gain industry experience before joining the profession (OECD, 2021^[12]). VET teachers tend to have more non-teaching work experience that is not related to education and teaching than general education teachers, and having such experience is also more common in among VET teachers in Denmark than in other countries (see Figure 3.1).

Figure 3.1. VET teachers in Denmark tend to have more non-teaching work experience

Average years of experience by type of teacher and type of work experience



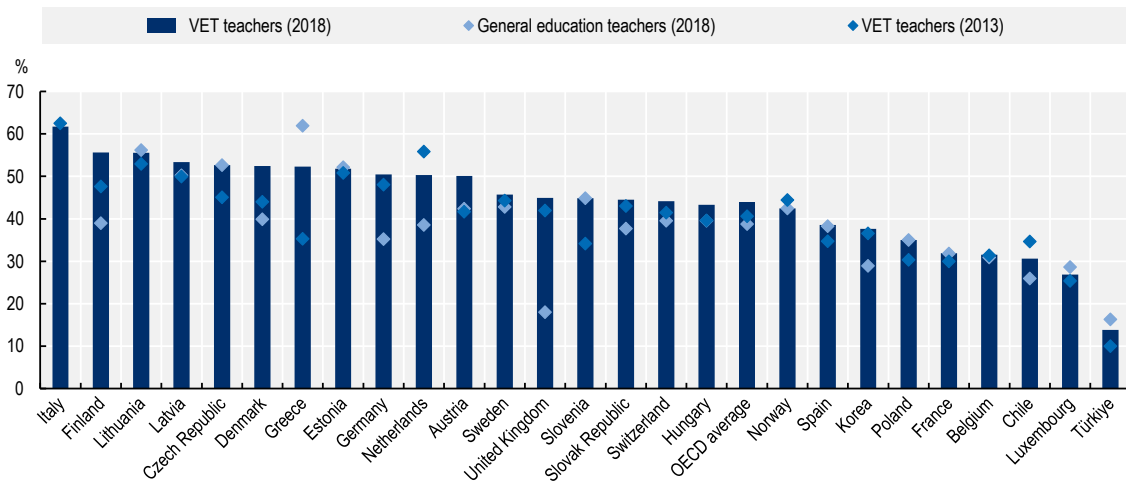
Note: VET teachers refer to upper secondary teachers who reported in TALIS that they teach practical and vocational skills. Teacher experience refers to their years as a teacher in total. Other work experience refers to years working in non-education roles. The average total work experience of teachers is slightly higher (on average 1.6 years in general education teachers and 2.1 years in VET teachers) than the sum of these two categories of work experience. All years were reported regardless of whether they worked full-time or part-time.

Source: OECD (2021^[12]), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

As in many countries, Denmark faces teacher shortage: 37% of upper-secondary VET school leaders reported that shortages of qualified teachers significantly hinder their school's capacity to provide quality instruction, according to data from the 2018 Teaching and Learning International Survey (TALIS). While enrolment in upper-secondary VET is on the decline relative to general education (upper-secondary VET enrolment has decreased from 43% in 2013 to 38% in 2018), this does not automatically lead to a lower demand for VET teachers, as specialised courses are still maintained despite reduced enrolment. Ageing of teachers contributes to shortages. The ageing of the VET teaching workforce is relatively more pronounced in Denmark than in many other OECD countries: more than half (52%) of the teachers in upper-secondary VET programmes were over 50 years old in 2018 (see Figure 3.2), one of the highest shares among OECD countries. Denmark also had the fourth highest increase in that share since 2013-14 (44%). Moreover, the difference in the share of older teachers between VET and general (40%) programmes is larger in Denmark than in most countries (OECD, 2021^[12]). Box 3.2 provides further details about the age and other characteristics of VET teachers in VET – focussing on those teaching science, technology, engineering and mathematics (STEM) subjects.

Figure 3.2. More than half of VET teachers are over 50 years old in Denmark, 2018

Share of individuals aged over 50 (2013 and 2018)



Note: Teachers teach at upper secondary education level and the distinction between VET and general depends on programme orientation, not on the subject they teach. For Italy, 2016 data were used instead of 2013, for Denmark 2014 instead of 2013, for Sweden 2016 instead of 2018, for Norway 2015 instead of 2013 and for the Republic of Türkiye 2014 instead of 2013.

Source: Adapted from OECD (2021^[12]), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, <https://doi.org/10.1787/59d4fbb1-en>.

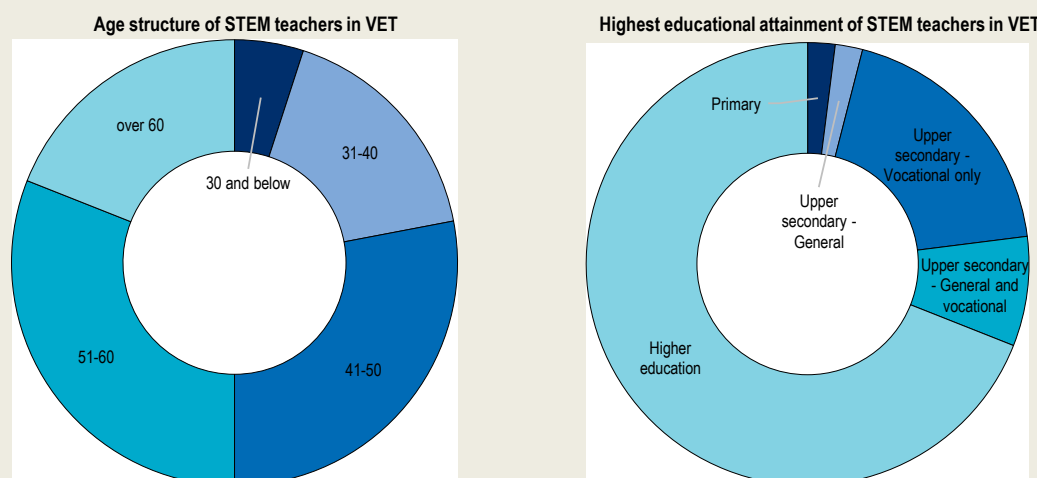
Box 3.2. Profile of STEM teachers in VET programmes in Denmark

A study on STEM teachers in upper-secondary VET programmes (EUD and EUX) draws on register data to provide a description of the profile and background of teachers. STEM subjects are defined as subjects in science, chemistry, physics, biology, mathematics, technology and information technology. Teachers of STEM subjects are therefore teachers of general subjects in VET programmes. While they are not fully representative of all VET teachers, findings relevant to this group provide an idea of the challenges faced by the VET sector.

The study demonstrates that a large share of STEM VET teachers are approaching retirement age: among STEM VET teachers more than half are 50 and over (Figure 3.3). It also shows that two-thirds of STEM VET teachers are men. The majority of STEM teachers in VET have the required qualifications. Nearly 70% holds a degree, with half of them also holding a vocational qualification. Among STEM teachers in VET 48% had pedagogical training and 28% completed at least one module of the pedagogical diploma (*Diplomuddannelse i erhvervspædagogik*, DEP, see below). Assuming that this last group will eventually gain the DEP, this still leaves one-fourth of the teachers without the pedagogical preparation. Based on interviews with STEM teachers in VET, the study also finds that their professional background varies, with some teachers having years of teaching experience and others coming from business.

Overall, school principals of VET institutions struggle with employing STEM teachers who meet all the requirements. According to school principals, vocational schools compete for STEM professionals with upper secondary general schools and businesses.

Figure 3.3. Half of STEM teachers in VET in Denmark are older than 50



Source: VIVE (2019^[13]), STEM-grundfag på erhvervsuddannelserne. Analyse af undervisningspraksisser og undervisernes kvalifikationer og kompetenceudviklingsbehov, https://emu.dk/sites/default/files/2019-09/Rappor_STEM-grundfag%20p%C3%A5%20erhvervsuddannelserne.PDF

3.1.2. Governance of VET in Denmark

VET providers, social partners, teachers and students play an important role in developing VET. Whereas the Ministry of Education is responsible for the governance of VET, the above-mentioned stakeholders provide inputs into VET policies and help define the general framework of training programmes to ensure that labour market needs are met.

The national advisory council on vocational upper-secondary education and training (*Rådet for de grundlæggende Erhvervsrettede Uddannelser*) advises the ministry on the establishment of new VET programmes and changes in existing ones, VET programmes to be offered, and which VET schools should be approved to offer specific VET programmes. The council includes representatives from the employer and employee organisations, local governments and regional organisations, schools, teachers, and student associations (Undervisnings Ministeriet, 2018^[14]).

Around 50 national trade committees (*faglige udvalg*) are responsible for 106 upper-secondary VET programmes, and are composed of and funded by employer and employee organisations. The trade committees are set up at a national level. Trade committees contribute to updating existing programmes and creating new ones by closely monitoring developments in their particular trade. They also define learning objectives and final examination standards; decide on the duration of the programme, and the ratio between college-based teaching and practical work in an enterprise; approve enterprises as qualified training establishments and rule on conflicts which may develop between apprentices and the enterprise providing practical training; issue journeyman's certificates in terms of content, assessment and the actual holding of examinations (Andersen and Kruse, 2016^[15]).

The trade committees have local representations connected to each of the schools that provides the specific education. Each vocational college (providing school-based education and training) works with at least one local training committee that includes representatives of local employers and employees appointed by national trade committees, and representatives of staff, management and students appointed by colleges. Local training committees work closely with colleges to adapt the content of VET programmes

to local needs, strengthen contacts between the college and local employers, and support colleges with the delivery of programmes, for example by securing work placements for students. They also serve as a link between local and national levels, ensuring that national committees have a good overview of local circumstances and that local policy is aligned with national objectives. For example, they assist and advise national trade committees in approving local enterprises as qualified training establishments and in mediating conflicts between apprentices and enterprises (Andersen and Kruse, 2016^[15]). The National Committees can hand over obligations to the local trade committees if they are better taken care of at the local level.

3.2. Entry requirements for teachers and trainers in VET in Denmark

This section looks at the requirements for becoming a VET teacher or trainer in Denmark. Entry requirements for VET teachers are defined by the Ministry of Education. They depend on the type of programme and the subject taught. Subject areas can be divided into general subjects, such as mathematics, and vocational subjects, such as carpentry. Vocational subjects can include both theory and practical training. This distinction is less relevant at post-secondary level where the majority of subjects taught requires a combination of technical and general knowledge. Consequently, this distinction is only reported in this section when relevant. VET programmes ending with higher-level qualifications would typically require VET teachers to have a higher level of qualifications than what is required to teach in lower-level VET programmes. Requirements for trainers are set by social partners (trade committees) and focus on the professional skills of the trainer.

3.2.1. Qualification, experience and skill requirements for teachers in VET

This section discusses entry requirement for teachers in upper-secondary VET, including EUX, EUD and EUV, and in professional post-secondary programmes. Entry requirements are examined in three areas: formal qualifications related to the subject area, pedagogical training and work experience.

Upper secondary VET teachers are employed by VET providers. The board of governors formally employs all staff members, but in practice this is done by the school leadership, based on the delegation of authority from the school board (Apprenticeship toolbox, 2019^[16]). Therefore, while the entry requirements for upper-secondary VET teachers are defined by the Ministry of Education, in practice the exact requirements are defined by schools which can set higher requirements than what is formally required. Likewise, requirements for teachers in professional academies and university colleges as well as recruitment procedures are defined in a ministerial order by the Ministry of Higher Education and Science (Danish Ministry of Higher Education and Science, 2020^[17]). In addition to these formal requirements, institutions can set up their own (stricter) criteria. The requirements described below are therefore the minimum entry requirements.

At the upper-secondary level, entry requirements differ by subject area (general vs. vocational), and programme (see also Table 3.1):

- Vocational subjects: To become a VET teacher at upper-secondary level individuals are required to have a formal qualification related to the subject area. In vocational subjects, it would typically be a journeyman's certificate or a bachelor degree, depending on the study area. VET teachers who have not completed general upper-secondary education have three years to complete it with at least two general subjects, after being hired. Those who want to teach vocational subjects also have to demonstrate that they have work experience relevant to their field (other than teaching). While vocational teacher training is not required at entry, VET teachers have to obtain the Diploma in VET-pedagogy (*Diplomuddannelse i erhvervspædagogik*, DEP) while on the job. The next section provides more details on this DEP programme.

- General subjects: Teachers of general subjects in EUD and EUV programmes should have at least a Bachelor degree in their field. They should also obtain a DEP or complete a supplementary course in pedagogy for vocational education if they already have a teacher qualification. In EUX, teachers of general subjects face the same requirements as teachers in upper-secondary general programmes, meaning that they are required to have a Master degree in one or two subjects taught at school. In addition, general subject teachers in EUX should complete professional postgraduate teacher training within four years of being recruited.

Reforms of requirements in 2010 and 2015 have aimed to further strengthen the pedagogical preparation of VET teachers (Box 3.3). Depending on their needs VET providers may accept qualifications other than the DEP for part-time teachers.

At the post-secondary level, the majority of teachers in university colleges and professional academies are employed as assistant professors. They are required to have a qualification at the level at which they are to teach or above (see Table 3.1). In addition, institutions often require that the candidate has at least one of the following: teaching experience, professional experiences in the subject area and/or research experience. The assistant professor's appointment is temporary and lasts up to maximum four years. During those four years, the assistant professor should develop her/his pedagogical competencies, knowledge of the profession corresponding to the subject area (e.g. knowledge of the nursing profession in a programmes for nurses) and develop her/his competencies in relation to research and development activities. The institution appoints a supervisor that helps the professor develop the required competences. Within four years of being recruited, the person has to be assessed by an assessment committee (appointed by the Ministry of Science, Innovation and Higher Education) that evaluates if the person has the required competencies and can be employed as an associate professor (Danish Ministry of Higher Education and Science, 2020^[17]).

Box 3.3. Danish reform to strengthen the pedagogical preparation of VET teachers

In 2010, the requirements for VET teachers in terms of pedagogical competences were considerably raised with the introduction of the DEP for all VET teachers in upper secondary VET. Before 2010, individuals who aspired to become VET teachers had to have relevant VET qualifications topped up with a pedagogical training of 30 ECTS (*Pædagogikum*). Since 2010, new VET teachers are required to complete the Diploma in VET pedagogy (DEP) of 60 ECTS -equivalent to a bachelor degree-, in addition to holding a relevant VET qualification.

In 2015, pedagogical requirements were further reinforced by imposing the DEP requirement on all VET teachers, including those employed before 2010. It means that VET teachers who obtained their pedagogical training before 2010 must fulfil supplementary vocational teacher's education of at least 10 ECTS at EQF Level 6.

VIVE (2019^[13]) confirms that the 2015 reform increased the importance of the VET pedagogical training. As a result, school principals have been paying greater attention to VET pedagogical preparedness during the recruitment process.

Source: VIVE (2019^[13]), STEM-grundlag på erhvervsuddannelserne. Analyse af undervisningspraksisser og undervisernes kvalifikationer og kompetenceudviklingsbehov, https://emu.dk/sites/default/files/2019-09/Rappor_STEM-grundlag%20p%C3%A5%20erhvervsuddannelserne.PDF

Table 3.1. Minimum entry requirements for VET teachers in Denmark

Teachers teaching at:	Subjects taught	Formal qualification requirements	Work experience	Pedagogical training requirements
EUD/EUV	General	Bachelor degree	Not required	Not required at the start but the person should complete vocational pedagogical education (DEP) at the bachelor level within four years. Teachers should start the Diploma course within the first year on the job.
EUD/EUV and EUX	Vocational	Relevant vocational or higher level qualifications (e.g. in nursing, engineering, economy). Those without general upper secondary education have to complete it with at least two general subjects (e.g. Danish, mathematics, foreign language) passed at the highest level within three years of being hired	At least five years of relevant work experience (other than teaching)	VET teachers with teacher qualifications targeting programmes other than vocational ones (e.g. Bachelor in education required in primary and lower secondary education) and those who obtained their teaching qualification before 2010 should complete a supplementary course in pedagogy for vocational education.
EUX	General	University degree (usually a Master or equivalent) in one or two of the subjects taught at school. In some areas a master's degree requirement is waived if the teacher has completed at least 3½ years of higher education at an engineering college, a business school or a university followed by employment in the relevant area and/or further education	Not required	Not required at the start. However, the person should embark on the professional postgraduate teacher training (<i>pædagogikum</i>) subsequent to their appointment at the school.
Academy profession Programmes (ISCED 5)		Typically Bachelor level and above. The qualification should be at the same or a higher level than the level of the education the person is teaching.	Not formally required	Pedagogical training is not a prerequisite to start in the profession. However, it should be acquired within four years after being recruited.
Professional Bachelor (ISCED 6)		Typically Master level or above. The qualification should be at the same or a higher level than the level of the education the person is teaching.		

Source: Danish Ministry of Children and Education (2021^[18]) Pedagogy at the upper secondary educations, <https://www.ug.dk/uddannelser/andreerhvervsrettedeuddannelser/andrevideregaaendeuddannelser/paedagogiskeuddannelser/paedagogikum-ved-de-gymnasiale-uddannelser>; Danish Ministry of Children and Education (2021^[19]), Teacher at technical schools, https://www-ug.dk.translate.goog/job/job-fordelt-paa-erhvervsomraader/undervisningforskningsogvejledning/fagskolearb/laerer-ved-tekniske-skoler?_x_tr_sl=da&_x_tr_tl=en&_x_tr_hl=en; information provided by the Danish Ministry of Children and Education; Danish Ministry of Higher Education and Science (2012^[9]), <https://ufm.dk/en/publications/2012/files-2012/oecd-review-skills-beyond-school-denmark.pdf>;

3.2.2. Qualification, experience and skill requirements for in-company trainers

To hire apprentices companies must be approved as a work placement provider. A relevant national trade committee approves the companies based on an assessment of their training capacity. Among others, the company has to ensure that the employee who will train students has a relevant vocational qualifications, such as journeyman's certificate. By contrast, there are no formal requirements in terms of pedagogical training for trainers. The approval can be done administratively or after a visit to the company, with practices varying by sector. The national trade committee can delegate the task of company approval to local trade committees or to the school (Confederation of Danish Industry, 2022^[20]).

3.3. Initial preparation for teachers and trainers in VET in Denmark

Initial education and training for VET teachers in Denmark mostly concerns the Diploma in VET-pedagogy (DEP), required for teaching at upper-secondary VET. It focuses on pedagogy, as VET teachers are required to hold a relevant field-specific qualification. While there are no formal requirements for

in-company trainers in terms of training participation or pedagogical qualifications, dedicated trainings are available to support in-company trainers develop the right skills to train and support apprentices.

3.3.1. Initial teacher education and training in VET

VET teacher training providers

The Diploma in VET-pedagogy (DEP) is the formal pedagogical qualification for upper-secondary VET teachers (Danish Ministry of Children and Education, 2021^[21]). The requirement to hold a Diploma in VET pedagogy does not apply to teachers in post-secondary VET programmes, who, as discussed above, receive pedagogical training on the job. DEP is regulated by the Act on vocational training and higher education (the further education system) for adults. The DEP, offered within the higher adult education system, is equivalent to a professional bachelor qualification (Danish Ministry of Children and Education, 2021^[21]). The DEP is offered at six university colleges: Copenhagen University College in Copenhagen, Absalon University College in Sorø, UCL Business Academy and Odense University College, University College Nordjylland in Ålborg, UC Syd in Kolding, VIA University College Horsens.

The DEP must be started in the year after the VET teacher begins the job at a VET school and must be completed within four years. It lasts one year full-time and up to three years part-time. To start in the DEP programme the person should be qualified to at least professional academy degree level (ISCED Level 5). Being employed as a VET teacher is not required to enrol in the programme. The participant should demonstrate 2 years of professional experience since graduation. Teachers of vocational subjects without a post-secondary qualification can start the DEP and complete some parts of it. This flexibility recognises that some professionals working in VET-related fields (plumbing, construction) do generally not have a post-secondary qualification and avoids that this impedes them from entering the teaching profession. To continue and complete the full DEP, VET teachers not meeting formal qualifications requirements should ideally complete them in the course of studies. However, the institution delivering DEP can let the person not meeting the formal qualification requirements complete the programme based on his/her satisfactory performance.

The content of VET teacher training

The diploma programme in vocational pedagogy (DEP) prepares for organising and evaluating teaching courses across vocational areas. It is composed of compulsory modules, optional modules and a graduation project. The whole programme corresponds to 60 ECTS credits. Each module ends with a test, and there is a test at the end of the full programme (Danish Ministry of Children and Education, 2021^[21]).

Compulsory modules equip teachers with basic competencies and skills related to teaching and learning, teaching planning, didactics and theory of science in the pedagogical field (Danish Ministry of Children and Education, 2021^[21]). The compulsory modules are:

- Teaching and learning: Learning about the characteristics of vocational pedagogy and teaching methods, such as differentiation of practice (10 ECTS)
- Teaching planning and didactics: Exploring areas such as interplay between education, industry and society, teacher functions and general didactics as compared to subject didactics (10 ECTS)
- Pedagogical theory of science: Among others, learning about evaluation and validation of professional knowledge (5 ECTS).

In addition to compulsory modules, participants choose two out of the proposed optional modules (10 ECTS each) to deepen knowledge of specific topics. The modules usually focus on the following areas:

- Vocational pedagogical development work: Provide information on how to plan and carry out vocational pedagogical development work.

- Participants in VET: Provides VET teachers with an opportunity to learn about young people's values and culture.
- Digital technologies in VET: Provides practical and theoretical knowledge about the use of technologies in teaching. The module is offered as part of an education programme in digital learning.
- Professional entrepreneurship in VET: Focuses on how to create a framework for the development of students' entrepreneurial and innovative competencies.
- Leadership of pedagogical work in VET: Develops competencies to lead and develop the school's organisational and pedagogical strategy.
- Practice-related teaching in VET: Focuses on promoting student learning in both school and companies, i.e. how to combine theory and practice and collaborate with employers.
- STEM-related teaching in VET.

In addition to the above, the students have to submit a graduate project (15 ECTS) that can be based on issues encountered in their current employment or related to a future career.

The delivery of initial teacher education and training

The DEP programme is provided within the higher education system for adults. The higher education programmes for adults are more flexible concerning planning and teaching than professional bachelor programmes not designed for adults specifically. This makes the system more relevant and accessible for adults in employment and with a family.

The DEP programme can be organised in different ways according to individual needs. Courses can be provided full-time or part-time, and can be delivered on the site of the college, in school premises or virtually. Participants also have an option of completing the DEP as a self-study. Completion of one module of 10 ECTS in part-time mode takes approximately 5 months. Students in full-time programmes complete a module over 6 weeks and 3 days, and a module corresponding to 5 ECTS in 3 weeks and 3 days (University College Copenhagen, 2022^[22]). See Box 3.4 below for examples of how DEP courses can be provided.

Box 3.4. Provision of DEP courses: Four examples

A Danish study (Danish Evaluation Institute (EVA), 2014^[23]) evaluates how schools support teachers in obtaining DEP and how DEP courses are provided by university colleges. In the sample of the schools that the study follows, four models of DEP delivery were distinguished:

1. Teachers follow DEP on a **part-time basis**, in parallel with teaching at the vocational school. The DEP teaching is provided **on the university college premises** to students from different schools. The teachers are given a certain number of hours from their vocational school to follow the teaching, including preparation for the classes. The school adjusts the teaching hours of the teacher taking into account that the teacher is not present on the specific days when the teaching takes place.
2. Teachers study **full-time** over 6 weeks and 3 days and during this time are dispensed by the school from teaching. The teacher follows the modules offered by the college **on the university college premises** together with other students (from different schools). Schools that release teachers for longer period while paying their wages can apply for a reimbursement from the SVU scheme (see below). However, since 2014 the financial support is only available if the teacher has not completed upper secondary education.

3. Five VET schools from a region have an agreement with two university colleges, and the time of teaching is agreed by the five schools and the providers. The teaching takes place in **one of the VET schools' premises**, and the participants are exclusively from the five schools. As in model two, teachers study **full-time** for a total of 6 weeks and 3 days, while they are being paid by vocational schools.
4. The school collaborates with the college, and the teaching is carried out **on the school's premises**. The school and the college agree on the study time so as it does not interfere with teachers' teaching responsibility at the school. To participate in DEP studies, the teachers are given 8-10 days of study time.

Source: Danish Evaluation Institute (EVA) (2014^[23]), Raising the basic pedagogical competence, <https://www.eva.dk/sites/eva/files/2017-07/20140617%20Lof%20af%20den%20grundlaeggende%20paedagogiske%20kompetence%20til%20diplomniveau%20forste%20status%20notat.pdf>.

Financing initial teacher education and training

Tuition fees for the DEP programme vary, depending on the number of credits the person needs to complete and the form of teaching, whether the teaching is offered as day or evening classes or as distance learning. The diploma programme costs approximately between DKK 52 000 and 75 000 (EUR 7 000-10 000), and VET schools cover the costs. The State Adult Education Support (*Statens Voksenuddannelsesstøtte*, SVU) scheme provides grants to schools who release teachers to attend the DEP programme continue to pay their salary. The grants can also go directly to the teacher who is enrolled full-time in DPE and no longer receives a salary from the school. SUV amounts to 60% of the highest unemployment benefit rates (DKK 2 676 per week in December 2021). However the grant only applies if the teacher has education below the upper-secondary level (Ministry of Children and Education, 2022^[24]).

There are different forms of financial support available to adult learners in Denmark, potentially including students in DEP - depending on their situation:

- The Municipal Competence Fund finances up to DKK 30 000 within a period of 12 months for continuing training if the student is municipally employed and covered by a collective agreement with Dansk Metal, BUPL, HK Kommunal, Social Educators, Technical Federation, Danish Social Workers Association or The Negotiating Cartel (University College Copenhagen, 2022^[22]).
- The Regional Competence Fund finances up to DKK 30 000, preferably for qualifying continuing training, if the student is employed by agreement between the Regional Payroll and Tariff Board and the Danish Social Workers' Association, covered by a collective agreement with HK Kommunal, Dansk Metal/håndværkerforening, Social educators, Technical National Association, 3F Professional Joint Federation, Engineers' Association or Constructors' Association (University College Copenhagen, 2022^[22]).
- National Competence Fund is available to students covered by the joint agreements between the Ministry of Finance and the Joint Committee of the Central Organisations (CFU) or the Ministry of Finance and the Academics (University College Copenhagen, 2022^[22]).
- The Conversion Fund finances up to DKK 10 000 annually for upskilling in academy and diploma programmes (University College Copenhagen, 2022^[22]).

Quality assuring initial teacher education and training

The provision of any diploma programme, including the DEP, is approved by the Ministry of Science, Innovation and Higher Education. Within institutions there are educational advisory committees, typically involving social partners, advising on the quality and relevance of existing and future programmes of study (Danish Ministry of Higher Education and Science, 2012^[9]).

All new and existing higher education programmes including teacher training are systematically accredited by the Accreditation Council in Denmark. Accreditation takes place at programme levels. The focus of the accreditation is on quality and relevance of individual programmes, and includes criteria concerning the institutional quality assurance procedures (Danish Ministry of Higher Education and Science, 2012^[9]).

Accreditation of diploma programmes is based on predefined criteria, specified by a ministerial order. There are two main types of accreditation that are carried out: one for new programmes and one for existing provisions of programmes. Final decisions on accreditation are made by the Accreditation Council, whose members are appointed by the Minister for Higher Education and Science (The Accreditation Council, 2022^[25]), while the accreditation processes themselves are carried out by the Danish Evaluation Institute (*Danmarks Evalueringsinstitut* – EVA). EVA uses a generally accepted methodology for quality assurance in the European Higher Education Area with a self-evaluation, submitted by the institution under review, appointment of a panel of experts including students, a site visit and a report, which is published on EVA's website. For new programmes site visits are not included, nor are there any student members in the panels. There are also fewer criteria, none, of course, relating to achieved learning outcomes. All reports contain the expert panel's assessment of the extent to which the programme and the provisions of the programme fulfil the pre-defined criteria and also a recommendation for a decision. The accreditation of provisions of existing programmes is undertaken on a cyclical basis. The length of validity of diploma programmes is set to six years. In the case of conditional positive accreditation, existing programmes are subject to re-accreditation within one year, the process concentrating on those criteria where their quality has been questioned (Danish Ministry of Higher Education and Science, 2012^[9]).

As part of the accreditation process, higher education institutions are legally required to establish internal quality assurance procedures and to conduct systematic quality assurance of their provision of education. The quality assurance of study programmes typically includes: course evaluations, feedback from external examiners, strategies for further education and training of teachers, and regular interaction with stakeholders. While the institutions can decide which approach and method they want to apply, they are legally obliged to make quality evaluation results publicly available on their websites, and their internal quality assurance work will be assessed through accreditation procedures. This also applies to teacher-training programmes (Danish Ministry of Higher Education and Science, 2012^[9]).

3.3.2. Preparation for in-company trainers

A specific training qualification is not required to become a trainer, but trainers can participate on a voluntary basis in adult vocational training courses (AMU) that help them in their trainer role (Apprenticeship toolbox, 2019^[16]). The course duration varies from one day to a couple of weeks. These AMU-courses are primarily used in the social and healthcare sector (Cedefop, 2018^[26]). AMU programmes are offered by different training schools and centres (see Box 3.2).

The content of training for in-company trainers

Adult vocational training courses (AMU) that can prepare trainers for their role provide training on various aspects of apprenticeship, including, how to organise and provide work-based training, motivate students and ensure quality of the training. For example, a course for trainers who work with students who have special needs lasts 5 days. During the course trainers learn about youth culture, including young people's different values and norms, and how to support and motivate the individual student's professional and

personal development taking into account the student's special academic, linguistic, personal, social and learning competencies. A one day course for trainers in hospitality assists trainers in the planning students' daily work based and defining training goals (Amukurs.dk, 2022^[27]).

Financing training for in-company trainers

Adult vocational training programmes (AMU) are partially publicly funded. The providers receive a grant per full-time equivalent participant with the amount of funding varying by programme. In general, there are tuition fees in AMU programmes, amounting on average to about 15% of the programme cost. Selected AMU courses, such as those in the social and health service, including some programmes for trainers in the relevant areas, and individual competence assessment are free. Other participants can apply for VEU (Voksen- og efteruddannelse, Adult and continuing education) allowance covering the cost of the programme if they incur salary loss and if the programme is at most at upper-secondary level. If the participants receive a salary while participating in the course, it is the employer that can receive the allowance (LifeinDenmark, 2022^[28]).

Quality assurance of training for in-company trainers

Various actors contribute to the development and quality assurance of AMU courses. The Ministry of Education approves new training programmes, usually for a period of five years (Danish Ministry of Children and Education, 2021^[18]). The social partners are responsible for developing AMU courses and associated tests. They sit in the Council for Adult and Continuing Education (*Rådet for Voksen- og Efteruddannelse*) (VEU Council) advising the minister on various matters related to AMU. Social partners also set up 11 Continuing Education Committees (*efteruddannelsesudvalgene*) that are approved by the Council for Adult and Continuing Education. Together, the continuing education committees cover all areas of training in AMU, for example, industry, office, social and health, transport and construction. Continuing Education Committees develop AMU courses on the basis of analyses of skill needs and the co-operation with the business community within the industry. The committees are also in charge of the development of tests for AMU, teaching material and professional continuing education of AMU teachers (Ministry of Children and Education, 2022^[29]). The Danish Agency for Education and Quality ensures the programmes comply with the applicable rules and oversees the AMU providers (Ministry of Children and Education, 2022^[29]).

References

- Amu Fyn (2022), *Fremtiden tilhører de kompetente*, <https://www.amu-fyn.dk/praktisk/international/engelsk/>. [7]
- Amukurs.dk (2022), , https://www-amukurs.dk.translate.goog/Kursusside.aspx?CourseID=9094&_x_tr_sl=da&_x_tr_tl=en&_x_tr_hl=en. [27]
- Andersen, O. and N. Helms (2019), *Vocational education and training in Europe: Denmark. Cedefop ReferNet VET in Europe reports (2018)*, https://cumulus.cedefop.europa.eu/files/vetelib/2019/Vocational_Education_Training_Europe_Denmark_2018_Cedefop_ReferNet.pdf. [4]
- Andersen, O. and K. Kruse (2016), “Vocational education and training in Europe – Denmark.”, *Cedefop ReferNet VET in Europe reports*; , <http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/denmark-vet-europe-country-report-2016> (accessed on 16 July 2018). [15]

- Apprenticeship toolbox (2019), *Teachers and Trainers in Denmark*, <https://www.apprenticeship-toolbox.eu/training-teaching/teachers-trainers/128-teachers-trainers-in-denmark> (accessed on 27 January 2022). [16]
- CEDEFOP (2018), *Vocational education and training in Europe: Denmark. VET in Europe Reports*, http://libserver.cedefop.europa.eu/vetelib/2019/Vocational_Education_Training_Europe_Denmark_2018_Cedefop_ReferNet.pdf. [3]
- Cedefop (2018), *VET in Europe Reports*. [26]
- Confederation of Danish Industry (2022), *Get approved as an internship company*, <https://www.danskindustri.dk/vi-radgiver-dig-ny/personale/elever-og-larlinge/hvilken-slags-elever-passar-bedst/>. [20]
- Cort, P. (2002), *Vocational Education and Training in Denmark: Short Description*, https://www.cedefop.europa.eu/files/5130_en.pdf. [6]
- Danish Evaluation Institute (EVA) (2014), *Raising the basic pedagogical competence*, <https://www.eva.dk/sites/eva/files/2017-07/20140617%20Lof%20af%20den%20grundlaeggende%20paedagogiske%20kompetence%20til%20diplomniveau%20forste%20statusnotat.pdf> (accessed on 18 February 2022). [23]
- Danish Ministry of Children and Education (2021), *Pedagogy at the upper secondary educations*, <https://www.ug.dk/uddannelser/andreerhvervsrettedeuddannelser/andrevideregaaendeuddannelser/paedagogiskeuddannelser/paedagogikum-ved-de-gymnasiale-uddannelser> (accessed on 7 December 2021). [18]
- Danish Ministry of Children and Education (2021), *Teacher at technical schools*, <https://www-ug-dk.translate.goog/job/job-fordelt-paa-erhvervsomraader/undervisningforskningogvejledning/fagskolearb/laerer-ved-tekniske-skoler? x tr sl=da& x tr tl=en& x tr hl=en> (accessed on 7 December 2021). [19]
- Danish Ministry of Higher Education and Science (2020), *Bekendtgørelse om lektorkvalificering, lektorbedømmelse og docentbedømmelse af undervisere ved erhvervsakademier, professionshøjskoler, Danmarks Medie og Journalisthøjskole og visse maritime uddannelsesinstitutioner*, <http://retsinformation.dk> (accessed on February 2022). [17]
- Danish Ministry of Higher Education and Science (2012), , <https://ufm.dk/en/publications/2012/files-2012/oecd-review-skills-beyond-school-denmark.pdf>. [9]
- Danish Ministry of Children and Education (2021), *Diploma in Vocational Pedagogy*, <https://www-ug-dk.translate.goog/uddannelser/diplomuddannelser/paedagogik/diplomuddannelse-i-erhvervspaedagogik? x tr sl=da& x tr tl=en& x tr hl=en> (accessed on 7 December 2021). [21]
- Denmark Ministry of Children and Education (2021), *Vocational education and training in Denmark*, <https://eng.uvm.dk/upper-secondary-education/vocational-education-and-training-in-denmark> (accessed on 7 December 2021). [2]
- Field, S. et al. (2012), *A Skills beyond School Review of Denmark*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/9789264173668-en>. [8]

- LifeinDenmark (2022), *VEU allowance for occupation oriented adult and further education*, <https://lifeindenmark.borger.dk/school-and-education/the-danish-education-system/veu-allowance-for-occupation-oriented-adult-and-further-education> (accessed on 27 January 2022). [28]
- Ministry of Children and Education (2022), *Labour Market Education (AMU) / Rules and actors*, <https://www.uvm.dk/arbejdsmarkedsudannelser/regelsaet-og-aktoerer/ansvar-og-aktoerer>. [29]
- Ministry of Children and Education (2022), *Statens Voksenuddannelsesstøtte (SVU)*, <https://www.ug.dk/uddannelser/artikleromuddannelser/oekonomi/statens-voksenuddannelsesstoette-svu>. [24]
- Ministry of Children and Education (2021), *Vocational education and training in denmark*, <https://eng.uvm.dk/upper-secondary-education/vocational-education-and-training-in-denmark>. [10]
- Ministry of Children and Education (2020), *Adult vocational training*, <https://eng.uvm.dk/adult-education-and-continuing-training/adult-vocational-training>. [5]
- OECD (2022), *Pathways to Professions: Understanding Higher Vocational and Professional Tertiary Education Systems*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/a81152f4-en>. [11]
- OECD (2021), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/59d4fbb1-en>. [12]
- OECD (2020), *Education at a Glance 2020: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/69096873-en>. [1]
- The Accreditation Council (2022), , <https://akkrediteringsraadet.dk/home/accreditation-council/>. [25]
- Undervisnings Ministeriet (2018), *Om Rådet for de grundlæggende Erhvervsrettede Uddannelser - Undervisningsministeriet*, <https://uvm.dk/erhvervsuddannelser/ansvar-og-aktoerer/raad-og-udvalg/reu/om-reu> (accessed on 29 August 2018). [14]
- University College Copenhagen (2022), *Diploma in Vocational Education*, <https://www.kp.dk/videreuddannelser/diplomuddannelse-i-erhvervspaedagogik/> (accessed on 18 February 2022). [22]
- VIVE (2019), *STEM-grundfag på erhvervsuddannelserne. Analyse af undervisningspraksisser og undervisernes kvalifikationer og kompetenceudviklingsbehov*, https://emu.dk/sites/default/files/2019-09/Rappor_STEM-grundfag%20p%C3%A5%20erhvervsuddannelserne.PDF. [13]

Notes

¹ The main goals of AMU programmes are: i) to give, maintain and improve the vocational skills of the participants in accordance with the needs and background of students, companies and the labour market in line with technological and social developments; ii) to solve restructuring and adaptation problems on the labour market in a short term perspective; and iii) To give adults the possibility of upgrading of competences for the labour market as well as personal competences through possibilities to obtain formal competence in vocational education and training (Ministry of Children and Education, 2020^[5]).

² The board consists of teachers, students and administrative staff representatives, and social partner representatives. The board takes decisions regarding offer of programmes, the administration of the college's financial resources, and hires and fires the operational manager (director, principal, dean or similar).

4

Case study: Entry requirements and initial training of vocational teachers and trainers in Germany

This chapter looks at teachers and trainers in the German vocational education and training (VET) system. It zooms in on the requirements to join the VET teaching and training workforce and on the initial education and training to prepare teachers and trainers for their role. Particular attention is paid to ways to make pathways into the teaching and training profession accessible and flexible.

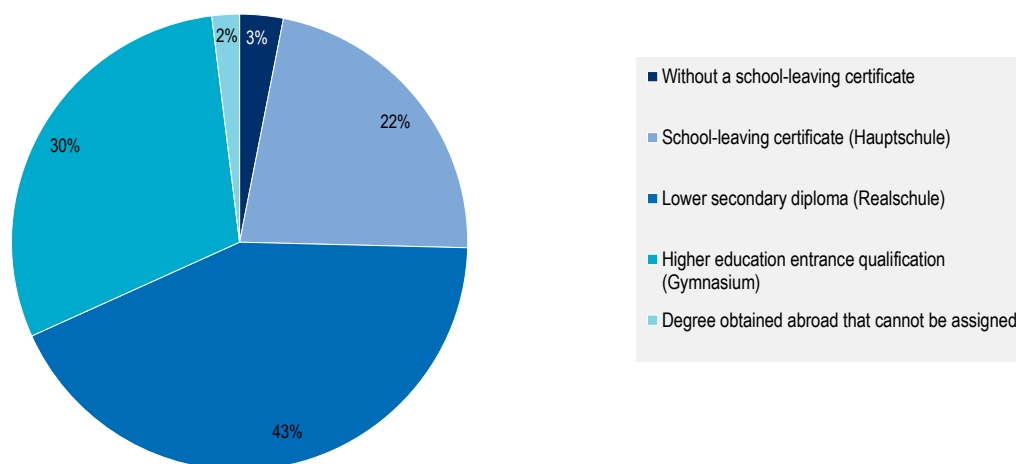
4.1. A snapshot of vocational education and training in Germany

4.1.1. The structure of the German VET system

Vocational education and training (VET) in Germany is delivered at upper-secondary and post-secondary levels. After finishing primary education, students start their lower secondary education in three different pathways: *Gymnasium*, which incorporates both lower and upper secondary education, with a demanding academic programme leading to a university entrance qualification, *Realschule* with a less demanding academic programme leading to a lower secondary diploma, and *Hauptschule* with a programme designed for those deemed to have limited academic ability or interests leading to a school-leaving certificate. Graduates from these two latter typically enrol in a vocational upper-secondary pathway (Hoeckel and Schwartz, 2010^[1]), where they make up for 66% of upper-secondary VET students in 2020 (see Figure 4.1). In most federal states (*Länder*), the three programmes are merged into cooperative or integrated comprehensive schools (*Gesamtschule*).

Figure 4.1. Most upper-secondary VET students in Germany come from *Realschule* and *Gymnasium*

Upper-secondary VET students, according to previous school education (2020)



Source: Adapted from Destatis (2021^[2]), Berufliche Bildung - Fachserie 11 Reihe 3 – 2020, <https://www.destatis.de/>.

At the upper-secondary level, Germany offers general education and VET. VET programmes include school-based VET (full-time vocational schools) and dual VET, also called apprenticeships (combining vocational school and in-company training). The majority of VET students enrolls in dual VET: in 2020, about 67% of upper secondary VET entrants (all age groups) started a dual VET programme and the remaining 33% enrolled in school-based VET (of which around 85% concern health, education, and social services) (BIBB, 2021^[3]). Completion of upper secondary VET programmes provides access to post-secondary non-tertiary education or tertiary education depending on the programmes that students follow. Box 4.1 provides details about the different types of VET providers.

Box 4.1. Types of VET providers in Germany

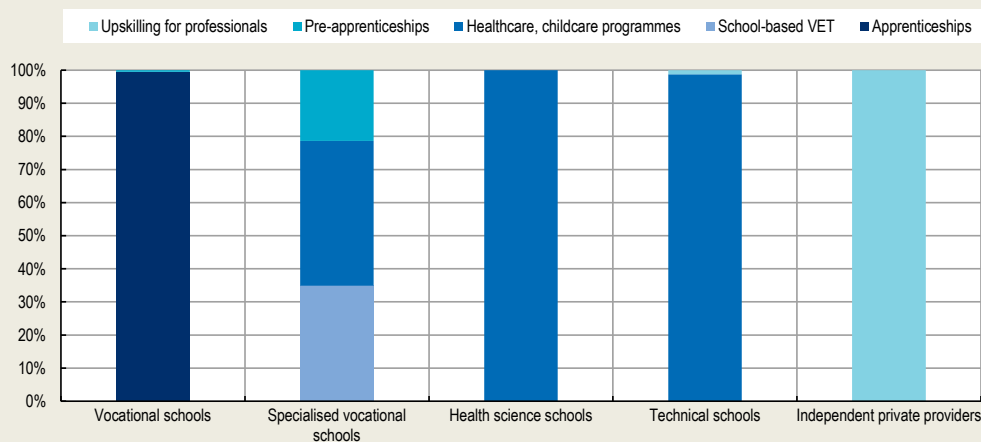
VET programmes at ISCED Levels 3-4 are provided in vocational schools (*Berufsschulen*), specialised vocational schools (*Berufsfachschulen*), trade and technical schools (*Fachschulen*), health sector schools (*Schulen des Gesundheitswesens*), and vocational grammar schools (*Fachgymnasien*), among others. These VET providers are under the responsibility of individual *Länder*. In addition, a range of providers offer continuing vocational education programmes – in particular preparatory courses for master craftsperson examinations (ISCED Levels 5-7) – including social partners (e.g. Chambers of Commerce and Trade, Chambers of Skilled Crafts) and private providers.

The main difference among providers is the kind of programme offered: pre-apprenticeship programmes, apprenticeships, school-based VET or upskilling for experienced professionals (see Figure 4.2). The target audience of different providers varies accordingly. Most providers tend to focus on one specific function: vocational schools' main role is to deliver the off-the-job component of dual programmes, whereas independent private providers focus on a highly specific sector, namely, preparatory courses for master craftsperson examinations, which are not targeted by vocational or specialised vocational schools. Only specialised vocational schools target several types of programmes and therefore overlap with some other provider types. Their specificity is that they provide vocational programmes that do not follow the dual model. Work-based learning takes the form of work placements rather than an alternating period as in apprenticeships. There is some overlap with vocational schools in two areas: pre-apprenticeship programmes and some vocational programmes (which prepare for occupations also targeted by apprenticeships). In addition, there is some overlap between specialised vocational schools and health sector schools.

In terms of the overall number of students for vocational programmes at ISCED Levels 3-5, vocational schools dominate the system, reflecting the central role of apprenticeships in the German VET system (see Figure 4.3). Specialised vocational schools and health sector schools are the next most important provider types, with a focus on school-based VET programmes mostly in specialised fields. Independent private providers focus on the delivery of preparatory courses for master craftsperson examinations (as well as courses that are not part of the formal education and training system). As illustrated by Figure 4.3, each provider type focuses on just one or two levels of education.

Figure 4.2. The different VET provider types in Germany offer distinct VET programmes

Share of VET students by VET provider type

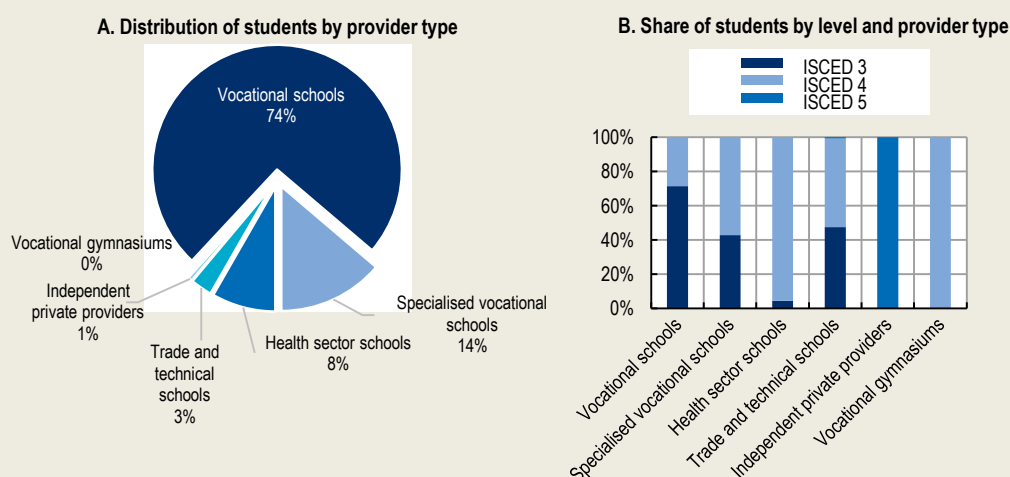


Note: Reference year 2018/19.

Source: OECD calculations based on data collected for the OECD Survey on Vocational Education and Training (2019).

Figure 4.3. Most VET students in Germany are in vocational schools

Students by VET provider type and education level (ISCED levels 3–5)



Note: Reference year 2018/19.

Source: OECD calculations based on data collected for the OECD Survey on Vocational Education and Training (2019).

As a large share of VET students are in dual VET programmes, companies are considered the main VET provider in Germany. The training delivered in companies is sometimes complemented by inter-company training centres (*überbetriebliche Berufsbildungsstätten*). These centres are designed to help small and highly specialised companies engage in apprenticeships. When the company is highly specialised and unable to cover all of the training content contained in the relevant regulations, apprentices may pursue additional practical training in inter-company training centres. The training centres are owned by chambers and receive funding from the Federal Ministry of Economic Affairs and Energy (BMWi, 2022^[4]). Small and highly specialised companies may also provide apprenticeships through collaborative apprenticeship schemes (*Verbundausbildung*). Such schemes may take different forms, under the most commonly used model a “lead company” hires the apprentice and partner companies provide training components that the lead company is unable to provide (Azubi.de, 2022^[5]).

In addition to these VET programmes, there are also certain programmes that are considered general but have some vocational content. Such general education programmes with vocational orientation are offered at vocational grammar schools (*berufliches Gymnasium*) and are of a duration of two to three years. Students can choose between different specialisations, such as agricultural economy or technology, and receive a higher education entrance qualification for studies related to their specialisation upon completion of this programme (Deutscher Bundestag, 2021^[6]).

At the post-secondary level, VET programmes at ISCED levels 4 to 5 are open to all upper secondary graduates. These are specialised programmes lasting between one and three years. They lead to qualifications that grant access to university studies or the labour market. Upper-secondary VET graduates from certain programmes may also attend courses offered by trade and technical schools (at ISCED Level 6), pursue professionally-oriented tertiary studies (ISCED Levels 6-7), or complete a bridging course to gain eligibility to universities. In addition, dual study programmes at ISCED Levels 6 to 7 combine academic studies and work-based learning.¹ Depending on the programme focus, their entry requirements differ. These programmes also function as professional development for adults and in some cases lead to a vocational qualification in addition to an academic degree.

Moreover, professional examinations at ISCED Levels 5 to 7 are available for VET graduates who, after a period of employment, seek to upskill and reach higher professional and management positions. Candidates usually pursue preparatory courses for the examinations: for example, a Level 5 examination leads to a professional specialist qualification in a range of target occupations and training programmes are available to prepare for the examination (less than 880 hours of coursework). A Level 6 master craftsperson examination leads to a Meister, also called a professional bachelor qualification, and grants access to academic bachelor programmes and professional master programmes. Moreover, individuals with a professional bachelor qualification are allowed to run their own company in certain trades and hire and train apprentices.²

The focus of the remainder of this chapter is on VET programmes at ISCED Levels 3 to 5.

Work-based and school-based learning

As described above, both school-based VET and dual VET programmes exist in Germany. While school-based VET programmes last one to three years and lead to ISCED Levels 2 to 4, dual non-tertiary programmes usually last two to three years and lead to ISCED Levels 3 to 4. Work-based learning at companies makes up for 70% of the dual apprenticeships, but this can vary across programmes (Huisman and Hippach-Schneider, 2021^[7]). Attending a vocational school for the off-the-job training component is mandatory for all apprentices, while their workplace training conditions are established in a contract signed by both the apprentice and the company offering the apprenticeship. Training regulations and a skeleton curriculum determine the learning content at companies and vocational schools. In order to ensure that the training complies with the regulations and the curriculum competent bodies and the school inspectorate monitor their implementation at the two learning venues (Cedefop, 2020^[8]).

Specialised programmes at ISCED Levels 4-5 may include a traineeship taking place at a company, depending on the provider. Some of the specialised programmes with the highest enrolment numbers are school-based vocational programmes in the health sector, which typically collaborate with hospitals that provide the learners with theoretical and practical training (Cedefop, 2020^[8]).

VET teachers and trainers

In Germany, there are two types of VET teachers at upper-secondary and post-secondary levels: i) teachers of general education and vocational theory, and ii) teachers of vocational practice. The former typically hold a university degree and work part-time or full-time in vocational schools. Teachers of vocational practice teach practical and technical subjects in practice offices, teaching kitchens, or training workshops. They typically hold a vocational qualification and have to complete a continuing training programme. In addition to vocational practice teachers (*Lehrer für Fachpraxis*), five *Länder*³ train subject-related VET teachers,⁴ who, like vocational practice teachers, are responsible for the practical and technical subjects. The main differences between vocational practice teachers and subject-related VET teachers are the training duration (18 months for vocational practice teachers and two to four years for subject-related VET teachers) and that there is an overarching framework agreement for vocational practice teachers, yet none for subject-related VET teachers. As technical colleges at post-secondary level and upper-secondary vocational schools are often co-located, it is common for post-secondary VET teachers to additionally teach at the upper-secondary level (Hensen and Hippach-Schneider, 2016^[9]).

With regards to work-based learning, there are two categories of in-company trainers who are directly involved in training apprentices: qualified trainers, and non-qualified trainers who are not recognised as qualified trainers by law. These non-qualified trainers typically include skilled workers, journeymen or foremen. Most of these trainers work part-time as trainers while pursuing their trade during the rest of their working hours. It is not uncommon for trainers to switch to the VET teaching profession during their career (Huisman and Hippach-Schneider, 2021^[7]).

Details about requirements for teachers and trainers and their preparatory training are described in the next sections.

Governance of the VET system in Germany

In Germany, the federal government, the states (*Länder*) and social partners (trade unions and employer organisations) work closely together to govern VET. At the national level, the Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*, BMBF) regulates and co-ordinates in-company training, whereas the Federal Institute for VET (*Bundesinstitut für Berufsbildung*, BIBB) advises VET policy through research and the development process of training regulations. At the regional level, the *Länder* are responsible for school-based VET, and *Land* law regulates ITET for teachers of all school types.

Social partners play a crucial role in VET. They not only contribute to the design and delivery of VET, but they also take the initiative regarding occupational profile developments. Regionally, they are represented in the chambers, whereas nationally, they are part of the BIBB Board and its vocational training committees.⁵

4.2. Entry requirements for teachers and trainers in VET in Germany

In Germany, VET teachers require a specific qualification to be able to teach, which differs between teachers of vocational theory and teachers of vocational practice. Also for trainers, specific qualification requirements apply. Unlike in the other case study countries in this report, trainers in Germany need to pass a dedicated examination to act as qualified in-company trainer. Companies that provide work-based learning are required to have at least one qualified trainer among their workers.

4.2.1. Qualification, experience and skill requirements for teachers in VET

Entry requirements for VET teachers depend on whether they deliver vocational theory or practice. Whereas *teachers of vocational theory* have to pass two state examinations following their university teacher training and their preparatory service, *teachers of vocational practice* have to complete a continuing training programme (*berufliche Weiterbildung*) that builds on their vocational qualifications (usually at ISCED Level 6). This training programme includes theoretical training on pedagogy and a preparatory service, and is usually concluded with a state examination.

Regular VET teacher qualifications

VET teachers in Germany must possess a teaching qualification to teach in upper and post-secondary non-tertiary VET institutions.

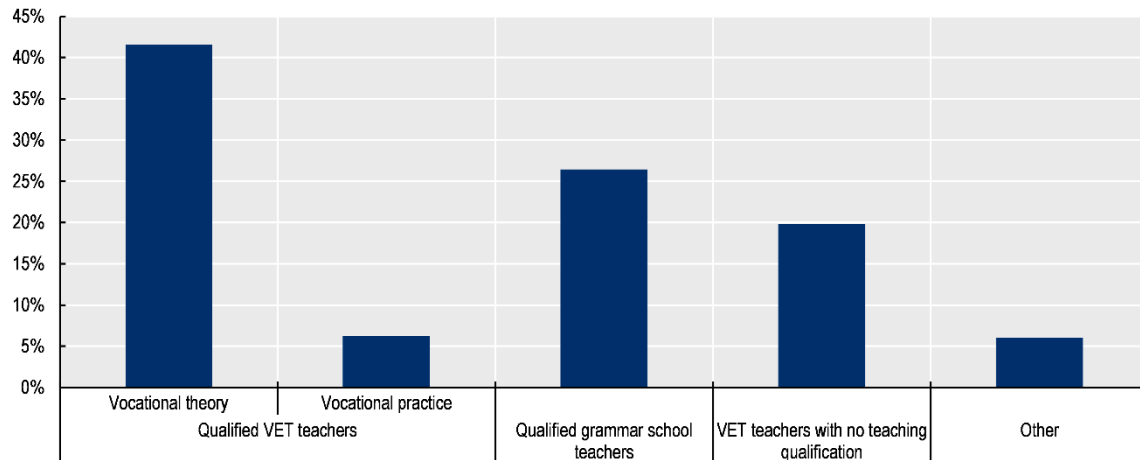
- *Teachers of vocational theory* have to complete teacher training at a university and a practical preparatory service (see next section), both of which are concluded with state examinations. (Kultusministerkonferenz (KMK), 1995, 2018^[10]).
- *Teachers of vocational practice* have to complete a continuing training programme, which includes theoretical training and a practical preparatory service (see next section), and pass a state examination (Bundesagentur für Arbeit, 2022^[11]; Huismann and Hippach-Schneider, 2021^[7]).
- *University-trained grammar school teachers* may teach general subjects at vocational schools (Huismann and Hippach-Schneider, 2021^[7]).

In 2019/20, 48% of employed VET teachers were qualified VET teachers (42% who usually teach vocational theory and 6% who teach vocational practice), and 26% were qualified grammar school

teachers (who usually teach general education subjects) (see Figure 4.4). About 20% do not possess a teaching qualification, yet they were hired due to a teacher shortage in certain fields (mainly technical subjects) – these teachers are assumed to be ‘side-entrants’ (see section below). Most of them are university graduates holding a technical Master’s degree, while others are skilled workers who can be considered hybrid teachers (Destatis (Statistisches Bundesamt), 2020^[12]; Huismann and Hippach-Schneider, 2021^[7]).

Figure 4.4. Most VET teachers in Germany are qualified teachers (2019-20)

Share of VET teachers by teaching qualification



Note: ‘Other’ refers to those who have a degree in primary or lower secondary education, special education, a German Democratic Republic (DDR) teaching qualification, or those whose degree is unknown.

Source: Adapted from Destatis (Statistisches Bundesamt) (2020^[12]), Berufliche Schulen - Fachserie 11 Reihe 2 - Schuljahr 2019/2020, <https://www.destatis.de>.

VET teachers as ‘side-entrants’

Given that there are VET teacher shortages in certain fields, it has become increasingly common to recruit individuals who have a relevant degree or expertise in these fields but no teaching qualification. While VET schools can usually only hire certified VET teachers, they may recruit graduates from a relevant Master’s programme who have gained some professional experience if there are no certified VET teachers available. These ‘side-entrants’ (*SeiteneinsteigerInnen*) are eventually required to obtain the same competences and pass the same examination as regular VET teachers. They follow a teacher training that includes pedagogical and practical training (usually similar to the regular teacher training), however the content and regulation of the training varies across *Länder*.⁶ They may complete this process while already working as a VET teacher. In some cases, the candidate’s work experience may replace the otherwise mandatory preparatory service and state examination. For instance, in North-Rhine-Westphalia, a minimum of four years of conducive professional activity are required to be exempted from the preparatory service and the state examination (Ministerium des Innern des Landes Nordrhein-Westfalen, 2022^[13]; Huismann and Hippach-Schneider, 2021^[7]; Hippach-Schneider et al., 2012^[14]).

4.2.2. Qualification, experience and skill requirements for in-company trainers

In order to offer work-based learning for VET students, training companies in Germany need to be accredited, which in turn requires that they have at least one qualified trainer. Such qualified trainers must have a relevant professional qualification and pass a trainer aptitude examination to demonstrate their

vocational and pedagogical knowledge. The Vocational Training Act (*Berufsbildungsgesetz*, BBiG) and the Trade and Crafts Code (*Handwerksordnung*, HwO) encompass the legal provisions surrounding the in-company part of VET. It is therefore the federal government that determines the requirements for in-company training staff. It does so in close exchange with the BIBB Board, which represents trade unions, employers, and government officials on the federal and federal state levels. Moreover, the BIBB Board defines criteria to determine whether training venues and their personnel are adequate (BIBB, 2017^[15]).

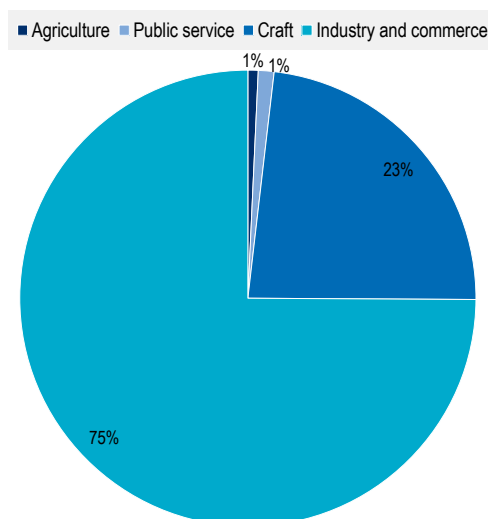
General regulations and practice

The Vocational Training Act (BBiG) stipulates that only ‘personally and professionally qualified’ candidates are eligible to train apprentices.⁷ In order to be professionally suitable, one must have the professional and pedagogical knowledge, skills, and abilities necessary to convey the training contents (BMBF, n.d.^[16]).

While the completion of vocational training or studies in the same field as the training occupation validate the candidate’s professional aptitude, the prospective trainers still need to demonstrate their vocational and pedagogical suitability by passing an examination in compliance with the Ordinance on Trainer Aptitude (*Ausbildereignungsverordnung*, AEVO), which is based on the Vocational Training Act. The AEVO examination tests whether the candidate possesses the necessary competences to plan, implement, and monitor in-company training independently. More specifically, this entails examining training requirements, helping with the recruitment of apprentices, and planning, preparing, implementing, and completing the training (BMBF, n.d.^[16]; Huisman and Hippach-Schneider, 2021^[7]). In 2019, there were almost 100 000 candidates for the AEVO, 92.7% of which passed the examination. 75% of them did so in the industry and commerce field and 23% in crafts (see Figure 4.5) (BIBB, 2021^[3]).

Figure 4.5. Most AEVO examinations are passed in the industry and commerce field

Passed AEVO examinations by training fields in 2019



Source: Adapted from BIBB (2021^[3]), Datenreport zum Berufsbildungsbericht 2021: Informationen und Analysen zur Entwicklung der beruflichen Bildung, <https://www.bibb.de/dokumente/pdf/bibb-datenreport-2021.pdf>.

According to the Vocational Training Act, each company offering apprenticeships needs to employ at least one qualified full-time or part-time in-company trainer responsible for apprenticeships. However, this does not mean that these qualified trainers are the only ones who can support the training of VET students. Skilled workers who are not qualified trainers may also train apprentices alongside their occupational

activities. Unlike qualified in-company trainers, skilled workers are not required to pass the AEVO examination in order to train apprentices. The proof of their professional aptitude suffices, which can usually be demonstrated by a completed vocational training or studies in a related field followed by several years of relevant work experience (Apprenticeship Toolbox, 2019^[17]).

There are several incentives in place to attract prospective qualified in-company trainers. For example, the AEVO examination is integrated into the Master craftsperson examination, thus automatically giving all *Meister* the qualification to train apprentices (see Box 4.2). Moreover, many programmes at universities of applied sciences offer the training course for trainers (AdA, see below) and the AEVO examination as an optional module to their students. Furthermore, those who are interested in becoming qualified trainers may apply for financial support to cover the full or partial cost of the preparatory course for the AEVO examination and the examination fees (see below).

Box 4.2. Master craftsperson examination that integrates the trainer aptitude examination

The trainer aptitude examination is integrated into the Master craftsperson examination, thus automatically giving all *Meister* the qualification to train apprentices. The Master craftsperson examination is divided into four parts that can be completed in any order. Whereas the first two parts focus on the respective craft, the third and fourth parts are the same for all trades. Examinations I and II test the candidate's practical and theoretical knowledge. In the third examination, the candidates have to prove their business management, commercial and legal knowledge. The fourth part of the Master craftsperson examination is the trainer aptitude examination, in which the candidates have to show their vocational and pedagogical knowledge.

Source: Handwerkskammer Region Stuttgart (2022^[18]), Meisterprüfung: Alles Wichtige auf einen Blick, <https://www.hwk-stuttgart.de/artikel/meisterpruefung-alles-wichtige-auf-einen-blick-67,138,525.html>.

Exceptions

Individuals who do not possess the required professional knowledge, skills and abilities as defined in the Vocational Training Act may, under certain circumstances, still be registered as a qualified in-company trainer without passing the AEVO examination.⁸ More concretely, the competent authority under *Land* law may allow such exceptions after hearing the competent body (usually the Chambers). New occupations are often the driver behind these decisions. In 2019, 38 313 of the newly registered in-company trainers were exempted from the AEVO examination, compared to 91 335 people who successfully passed the examination (BIBB, 2021^[3]).

While similar to the training regulations stipulated in the BBiG, the Nursing Profession Reform Act (*Pflegeberufereformgesetz*, PflBRefG), which entails the new Nursing Profession Act (*Pflegeberufegesetz*, PflBG), contains regulations specific to the nursing profession, which, in some cases, can go beyond those of the BBiG.

4.3. Initial preparation for teachers and trainers in VET in Germany

The training to prepare VET teachers in Germany is fairly extensive. For teachers of vocational theory or teachers of general subjects in VET institutions it includes a dedicated bachelor's and master's programme followed by a preparatory service that focuses on teaching practice. The training for teachers of vocational practice also consists of theoretical training and a preparatory service, but it is delivered as a continuing training programme, i.e. to be completed after initial education (usually at bachelor level). For in-company

trainers, training programmes are available to prepare for the AEVO examination – although these training programmes are optional.

4.3.1. Initial teacher education and training in VET

Initial teacher education and training (ITET) in VET is quite complex. ITET for *teachers of vocational theory* includes: i) a teacher training at a university that includes a bachelor and a master programme and 52 weeks of practical work and ii) a preparatory service at a teacher-training college that focuses on teaching practice. Both phases are concluded with a state examination. By passing the second state examination, candidates receive their teaching credentials. *Grammar school teachers*, who may teach general subjects at VET schools, follow the same training structure, yet the in-company training is not mandatory for them.

For prospective *teachers of vocational practice*, a teacher training focusing on pedagogical and practical skills is required. This continuing training programme (*berufliche Weiterbildung*)⁹ is open to those having professional qualifications at ISCED Level 6 and includes pedagogical training and a preparatory service, which is usually concluded with a state examination.

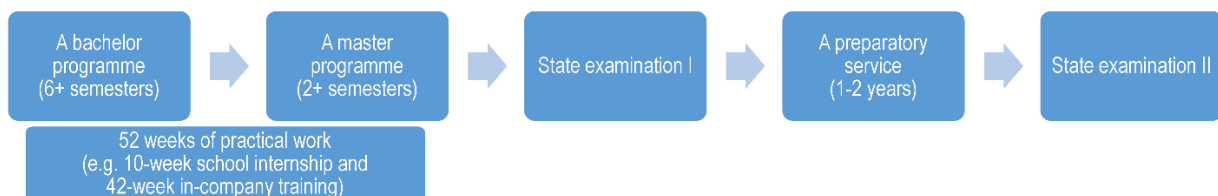
Outside of this regular track, *side entrants* can complete their training while already teaching. In terms of content, their training is the same as for regular teachers, yet the details vary across Länder as the regulations for side-entrants are not uniform.

Teacher training providers, duration and entry requirements

For prospective *vocational theory teachers*, higher education institutions¹⁰ provide teacher training programmes. A university entrance qualification grants access to these programmes. The programmes have the following features (see also Figure 4.6):

- The standard duration of the programmes is ten semesters, which includes a bachelor's programme (at least six semesters) and a master's programme (at least two semesters). It typically includes 52 weeks of practical work taking place at vocational schools (typically 10 weeks) and companies (typically 42 weeks), whereby the organisation of this practical work training varies across *Länder* (in terms of duration and when it takes place during the bachelor's and/or master's programme).
- The programme corresponds to 300 ECTS (European Credit Transfer and Accumulation System) and ends with a state examination. After successfully completing this first state examination and obtaining a master of education degree, candidates start their practical preparatory service.
- The preparatory service usually lasts between 12 and 24 months and takes place at teacher-training colleges and VET schools – while the former provide pedagogical and subject-related didactics training, the latter offer trainee teachers in-service training (Hensen and Hippach-Schneider, 2016^[9]; Eurydice, 2022^[19]; Huismann and Hippach-Schneider, 2021^[7]). After the preparatory service, candidates have to pass the second state examination.

Figure 4.6. ITET for prospective teachers of vocational theory



Note: The organisation of the 52 weeks of practical work varies across *Länder*.

Prospective *teachers of vocational practice* pursue a continuing training programme, taking place at study or specialist seminars, at academies, or training institutes. Entry requirements for this training programme are an intermediate secondary school leaving certificate (or an equivalent lower-secondary educational qualification), a vocational qualification (usually at ISCED Level 6) and professional experience. Depending on the chosen subject and the *Land*, this vocational qualification can be a successfully completed Master craftsman or technician's examination. The programme has the following features:

- Depending on the federal state and combination of chosen subjects, the training may take from 18 months to four years to complete the full-time programme to become a qualified VET teacher of vocational practice. Approximately half of the programme duration is dedicated to theory, while the other half focuses on practical training (Kultusministerkonferenz (KMK), 1973^[20]; Hippach-Schneider et al., 2012^[14]; Huismann and Hippach-Schneider, 2021^[7]; Bundesagentur für Arbeit, 2022^[11]). In some cases, prospective teachers of vocational practice are also required to pass the first state examination as the case for teachers of vocational theory.
- The training is followed by a one-year preparatory service, after which candidates have to pass a state examination.

The content of initial teacher education and training

Phase 1: Teacher training at university and other educational institutions

The first phase of the regular ITET programme for *teachers of vocational theory* focuses on essential professional and pedagogical knowledge in one of 16 occupational specialisations,¹¹ starting from a bachelor's programme. Within this specialisation, students choose a general and vocational subject that are related to their chosen occupational specialisation (physics and electrical engineering, for instance). In addition to studying these two subjects, they have courses in educational and social sciences. In their Master's programme, students are taught subject-specific didactics and educational theory elements applied to the VET system. During their 52 weeks of practical work training, they can put their recently acquired theoretical knowledge into practice in companies and schools while gaining initial work experience. Given that the *Länder* enjoy a relatively large degree of freedom in educational matters, the practical training is not uniformly organised and implemented across federal states (Hensen and Hippach-Schneider, 2016^[9]; Huismann and Hippach-Schneider, 2021^[7]).

For prospective *vocational practice teachers*, the continuing training programmes provide a theoretical training to acquire pedagogical knowledge, such as methodology and didactics of practical teaching, VET pedagogy, or content to teach to students with special education needs, in theoretical lessons (Huismann and Hippach-Schneider, 2021^[7]). The training focuses entirely on didactics and pedagogy, rather than on vocational or professional content, as the learners in these programmes already have a vocational qualification and work experience.

The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) has set out the standard competences that prospective *teachers of vocational theory* and those of *vocational practice*¹² must gain during their training (KMK, 2004, 2019^[21]). Germany also has set standards of teacher training in terms of diversity and inclusion (KMK, 2015^[22]; KMK, 2020^[23]).¹³

Phase 2: Preparatory service

The second ITET phase prepares phase 1 graduates for their work as vocational school teachers. Building on their academic training, the prospective teachers complete their practical training at a VET school. During their preparatory service, they sit in on lessons, assist with teaching, and teach independently to some extent. Moreover, they receive further theoretical and practical training at state seminar institutes, where they also learn how to deal with various issues in the classroom, such as diversity and inclusion. Only if the candidates can demonstrate that they have acquired the professional competences required and that they can complete the professional tasks independently, they pass the second state examination

and receive their teaching credentials (Hensen and Hippach-Schneider, 2016^[9]; Huismann and Hippach-Schneider, 2021^[7]; OECD, 2021^[24]). The KMK adopted frameworks that design and define the preparatory services as well as the state examinations (see Box 4.3).¹⁴

As other prospective teachers, prospective *vocational practice teachers* gain practical experience during their preparatory service by observing in-class teaching and practicing supervised or independent teaching (Huismann and Hippach-Schneider, 2021^[7]).

Box 4.3. Common Requirements for the Design of the Preparatory Service and the Final State Examination

In 2012, the KMK defined common requirements for the design of the preparatory service and the final state examination for prospective teachers of vocational theory. These include:

- Objective and frame of reference: Based on the subject-specific, subject-didactic and educational competences acquired during the first phase of ITET, the preparatory service aims at further developing the competences defined in the teacher education standards that the KMK adopted in 2004 and lastly amended in 2019.
- Entry and admission requirements: To start the preparatory service, participants need to have passed the first state examination and hold a Master of Education (or equivalent).
- Structural requirements: Taking place in various training formats at study seminars, schools or comparable institutions, the preparatory service includes theoretical instruction, classroom practice, and theory-led reflection. The various training formats comprise introductory events, job shadowing, supervised teaching, independent teaching, and seminar-based training.
- Qualitative requirements for the content design: The training content should allow prospective teachers to develop the competences defined in KMK's teacher education standards in fields such as the profession and role of the teacher; didactics and methodology; learning, development, and socialisation; performance and learning motivation; differentiation, integration, and promotion; diagnostics, assessment, and counselling; communication; media education; school development; educational research. In order to ensure the quality of the preparatory service, external and internal evaluation measures have to be carried out. Moreover, staff responsible for teacher training should receive continuous training.
- Principles for the state examination: the preparatory service is concluded with a state examination, which grants access to a public office in accordance with the Basic Law (*Grundgesetz*). The examination forms need to be suitable to assess the competences defined in KMK's teacher education standards. Assessments and/or examination results during the preparatory service as well as at least two practical teaching examinations are included in the state examination result. Further examination forms may be provided by the *Länder*.
- For teachers of vocational practice, the Framework Regulation for the Training and Examination of Teachers for Subject Practice in the Vocational School System ("*Rahmenordnung für die Ausbildung und Prüfung der Lehrer für Fachpraxis im beruflichen Schulwesen*"), which the KMK adopted in 1973, applies.

Source: Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland (2012^[25]), Ländergemeinsame Anforderungen für die Ausgestaltung des Vorbereitungsdienstes und die abschließende Staatsprüfung (Beschluss der Kultusministerkonferenz vom 06.12.2012), www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2012/2012_12_06-Vorbereitungsdienst.pdf.

Financing initial teacher education and training

Phase 1: University studies

Initial VET teacher training in Germany is financed by student tuition fees, which are largely covered by subsidies – parents with children below 25 years old who are still in education are eligible to receive child benefits that can contribute to covering higher education costs. In addition, students can apply for financial support schemes to cover their study costs (these apply to students in different types of programmes, not training for teachers only):

- Educational grant (also called BAföG): The Federal Training Assistance Act (*Bundesausbildungsförderungsgesetz*, BAföG) aims at financially supporting students who otherwise would not be able to afford their initial higher education (i.e. regular teacher training). The student has to be younger than 30 when starting the initial higher education programme. This scheme provides a mix of a state subsidy and an interest-free loan, whose amount depends on the student's financial and social situation. In 2020, 466 000 students received BAföG – a number that has been periodically decreasing for the past years (Statistisches Bundesamt (Destatis), 2021^[26]).
- Scholarships: There are multiple foundations that offer scholarships to students with different criteria.
- Student and tuition fee loans: Students may also conclude a loan agreement to finance their tuition fees or living costs during their studies. They receive monthly payments that, after completing their studies, they will have to pay back including interest.

As other students, it is common for students who follow VET teacher training to have a part-time job to finance their studies. However, given that the BAföG amount is contingent on the student's yearly income, they are advised to limit their working hours to 20 hours per week (Fit4Ref, n.d.^[27]).

Phase 2: Preparatory service

As teacher trainees both of theory and practice are employed as “civil servants on probation” (*Beamte auf Widerruf*) during their preparatory service and continuing training programme (*berufliche Weiterbildung*) respectively, they receive corresponding standard salaries and allowances, which may vary across the *Länder* (Bundesagentur für Arbeit, 2022^[11]; Gewerkschaft Erziehung und Wissenschaft, 2022^[28]). As a response to teacher shortages in electrical engineering and metal technology, candidates of these fields may receive a higher salary during the preparatory service, depending on the federal state. For instance, in Baden-Württemberg, these candidates are paid 170% of the standard preparatory service salary (Lehrer Online in Baden-Württemberg, n.d.^[29]).

Moreover, any direct costs of the continuing training programme for prospective *vocational practice teachers*, such as examination fees, for instance, are borne by the further training authority (*Weiterbildungsbehörde*), a relevant authority for the respective continuing training programme (Bundesagentur für Arbeit, 2022^[11]). For side entrants, the cost of their continuing training programme is also covered by Lander as it is considered part of their preparatory service.

Quality assurance in initial teacher education and training

The Ministries of Education and Science of the *Länder* bear the responsibility for the regular initial teacher education and training (ITET) that is for teachers of vocational theory. The Ministries govern ITET through regulations, for example, on competencies to achieve through the ITET programmes, the content of the programmes, and examinations or corresponding legal requirements. Higher education institutions formulate the study and examination regulations based on state requirements. However, as it is the responsibility of the state to ensure content quality in higher education -including ITET-, the Ministries need

to approve the respective programme's accreditation. For the case of vocational practice teachers, only the federal states of Baden-Wuerttemberg, Bavaria, North Rhine-Westphalia, Rhineland-Palatinate, and Saxony regulate the continuing training programme by their *Land law*.¹⁵

KMK is the main actor in the coordination and development process of education, including ITET. The KMK defines the principles, structure, and duration of the ITET to become a VET teacher.¹⁶ Amongst its principal tasks is the maintenance of quality standards in schools, vocational training and higher education, including ITET. It also defines the general competences and the teacher mission statement for educating, teaching, assessing, and innovating (KMK, 2004, 2019^[21]) as well as common content requirements for subject-related profiles (Kultusministerkonferenz (KMK), 2008, 2019^[30]). Moreover, in 2013, the KMK formulated recommendations on how to assess students' aptitude to complete the first phase of teacher training, as some applicants might not fully grasp the challenges the teaching profession entails (Kultusministerkonferenz (KMK), n.d.^[31]; Kultusministerkonferenz (KMK), 2013^[32]).

The KMK has adopted a number of resolutions for the states to ensure the quality of ITET. More recently, the states have put efforts to smoothen the transition from one training phase to another, increase the practical orientation of ITET, provide more support in their early years in the teaching profession, and improve teachers' diagnostic and methodological skills. In addition, given the digital transformation, the increasing shortage of VET teachers, and the need to foster diversity, the KMK plans on further reforming ITET of VET teachers as well as their opportunities for continuous professional development (Kultusministerkonferenz (KMK), n.d.^[33]; Huismann and Hippach-Schneider, 2021^[7]).

4.3.2. Preparation for in-company trainers

As mentioned above, while passing the AEVO examination is general required for qualified in-company trainers, the training courses to prepare for the examination are optional. These are called *Ausbildung der Ausbilder* (AdA), training courses for trainers, which aim to prepare candidates for the AEVO examination.

Training providers

Training courses for trainers (AdA) prepare the candidates for the AEVO examination. Mostly, the Chambers of Industry and Commerce (*Industrie- und Handelskammer*, IHK) and Crafts (*Handwerkskammer*, HWK) offer these courses, but private training providers also do so. Moreover, universities of applied sciences offer the training courses for trainers (AdA) and the AEVO examination as an optional module to their students. Candidates may choose between short and intensive full-time courses or longer part-time courses (typically lasting three months). Depending on the provider and whether self-learning phases are in place, the course duration is between 90 and 115 hours that have to be attended. While it is necessary to have the proven, required professional skills, knowledge, and abilities stipulated in the BBiG to become a qualified in-company trainer, one can still enrol in these training courses and pass the trainer aptitude examination without proof of such competencies (Hauptausschuss des Bundesinstituts für Berufsbildung, 2009^[34]; Link, 2020^[35]).

The content of training for in-company trainers

The Ordinance on Trainer Aptitude (AEVO) describes the competences that prospective in-company trainers should acquire to successfully complete the AEVO examination. The competences focus on four fields of action: checking training requirements and planning training (20%), preparing training and assisting in the recruitment of trainees (20%), and conducting (45%) and completing training (15%).¹⁷

The delivery of training for in-company trainers

Providers are flexible in how they conduct their courses, which allows them to offer different learning formats, such as in-person, online or hybrid training. Moreover, they may offer part of the course as self-

learning phases, which allows for a reduction in the hours participants need to attend. However, it remains the provider's responsibility to monitor the students' learning progress when self-learning phases are in place. Regardless of the course format, all qualification contents as described in the 'AEVO framework plan for acquiring the trainer qualification' are relevant for the examination (Hauptausschuss des Bundesinstituts für Berufsbildung, 2009^[34]; Huismann and Hippach-Schneider, 2021^[7]).

Financing training for in-company trainers

The costs for prospective in-company trainers comprise fees for the trainer training courses (AdA) as well as for the written and oral or practical AEVO examinations. As each provider sets its own price for the courses, tuition fees vary greatly. While it is in principle up to the examinees to finance their training, companies often pay the course and examination costs as part of financial support for their employees' professional development. Moreover, there are several federal funding programmes in place, which prospective in-company trainers and employers may apply for, as part of the support for professional development (Institut für Berufliche Bildung (IBB), 2022^[36]). For example (applying broadly to adult learning programmes):

- The Qualifications Opportunities Act (*Qualifizierungschancengesetz*) aims at financially supporting employees pursuing an upskilling or reskilling programme and employers. Contingent on the company size, the state covers 15–100% of the training costs (100% if the employee is older or with a disability) and 25–75% of the wage costs during the training. The latter allows the employee to complete the training full-time while still receiving full pay, thus financially relieving the employer.
- The education premium (*Bildungsprämie*) supports people with a low income for whose current or future occupation the completion of a further education programme is relevant. The federal government subsidises up to 50% of the costs but maximum EUR 500.
- Education vouchers (*Bildungsgutschein*) issued by the Federal Employment Agency or the Job Centre cover the full costs for certified upskilling or reskilling programmes. They are mainly directed at people who are either looking for a job, at risk of unemployment, or need to acquire further vocational qualifications to keep their job.
- The Upgrading Training Assistance Act (*Aufstiegs-BaföG*) is aimed at professionals who would like to upgrade their vocational qualifications in the non-academic sector. The financial support is composed of a grant and a loan and financed by the federal government and the *Länder*.
- Moreover, many *Länder* have their own support schemes in place to help finance upskilling or reskilling. More information can be found in the funding database of the Federal Ministry for Economic Affairs and Climate Action.

Prospective in-company trainers may also receive funding for their training from local authorities, the Federal Employment Agency, enterprises, and private individuals, which all play a key role in funding opportunities for up-skilling and reskilling.

Quality assurance of training for in-company trainers

Providers of continuing training programmes, which include AdA courses, can implement different quality assurance concepts. For instance, they may receive a certification confirming their procedure of ensuring the programme quality is according to international standards (e.g., DIN ISO 9000ff, DIN ISO 29990 a quality management system standard for providers of education and training services.).¹⁸ Moreover, specific models to enhance the learner-oriented quality development in continuing education (*Lernerorientierte Qualitätsentwicklung in der Weiterbildung*) have been developed. In addition, providers can become members of associations from which they can receive quality seals if they comply with defined standards. Quality awards, such as the Malcolm Baldrige National Quality Award or the European Quality Award, are further ways to prove the programme's quality standards (BIBB, 2018^[37]).

In general, the AEVO examination itself ensures that the trainers have the right skills and knowledge. The competent bodies, in most cases the chambers, have to ensure the in-company trainers' personal and professional suitability. In addition to monitoring trainer regulations, they advise companies to make sure that the quality of in-company training is maintained or even improved. They are responsible for the AEVO examination including implementation, testing and monitoring. They also adopt examination regulations and set up regional boards (which represent employer and employee organisations and teachers) to carry out the examination.

Germany suspended the requirement of passing the trainer aptitude examination (AEVO) from 2003 to 2009 in an effort to remove bureaucratic hurdles and to facilitate the provision of apprenticeships. However, although the numbers of apprenticeship places and companies offering VET grew, the increase turned out to be smaller than expected. Meanwhile, the reported quality of the apprenticeship training decreased (see Box 4.4) (Bundesinstitut für Berufsbildung (BIBB), 2008^[38]; Ulmer, 2019^[39]). As the suspension of the AEVO examination requirement proved that the examination did not constitute an obstacle to offering in-company training and that it was necessary to ensure the quality of apprenticeship training, an amended Ordinance on Trainer Aptitude came into force in 2009 – re-introducing the examination requirement.

Moreover, in order to ensure that quality standards of training for trainers are uniform across the federal states and that prospective trainers are better prepared for their future duties, an advisory committee under the direction of the BIBB created a modernised framework plan in 2009 (Hauptausschuss des Bundesinstituts für Berufsbildung, 2009^[34]; Hensen and Hippach-Schneider, 2016^[9]). In 2020/21, a BIBB study examined the need to adjust the AEVO and the framework plan to current challenges, such as digitalisation or sustainability. It concluded that, due to its relatively open-ended formulations, the AEVO itself does not require an update, yet it should be complemented by general further training and refresher courses. Moreover, the study recommends that the framework plan should be adapted and its content concretised by the end of 2022 to better reflect the current challenges, and that examination methods and practice should be further developed (Bundesinstitut für Berufsbildung (BIBB), 2021^[40]).

Box 4.4. The Effects of the Temporary Suspension of the Ordinance on Trainer Aptitude (AEVO)

The BIBB conducted a study on the effects of the temporary suspension of the AEVO, carrying out two surveys in 2007 – one with enterprises and the other with the Chambers. The study assessed enterprises' awareness of the AEVO suspension, its quantitative and qualitative effects, and outlooks.

Awareness of AEVO and its suspension

70% of enterprises in the survey indicated their awareness of the fact that qualification requirements to become an in-company trainer were regulated by law. The level of awareness increased with the size of the company: 15% of firms with less than 10 employees knew of AEVO, compared to 68% of firms with more than 250 employees. Moreover, there was a difference amongst sectors, from the agricultural and home economics sector where 6% of firms were aware of AEVO, the liberal professions (7%), and the crafts and skilled trades (13%), to the services sector (28%) and the industry sector (35%). Only 20% of enterprises knew of the temporary AEVO suspension. Among them, around three-quarters indicated that this change did not have any consequences for them as they already provided vocational training for several years and upheld the qualification requirements stipulated in the AEVO.

Quantitative effects

According to the study, the number of companies for which the AEVO suspension facilitated the process of starting the provision of vocational training or allowed them to provide more training lies between 7 000 and 10 000 companies per year. Among the companies that started providing vocational training after the AEVO suspension were mostly enterprises with less than 10 employees (67%) and enterprises with 10 to 19 employees (28%). Service providers (38%) and commercial enterprises (28%) seemed to

benefit most from the AEVO suspension. The number of additional training places linked to the AEVO suspension probably lies between 10 000 and 25 000 per year. The companies providing more training places were mainly enterprises with 10 to 19 employees (53%) and enterprises with less than 10 employees (32%). It should be noted that the AEVO suspension is only one amongst several other, mainly economic and strategic, reasons why employers decided to provide more training.

Qualitative effects

The rate of training contract cancellation between the training years 2003/04 and 2006/07 for companies that had in-company trainers whose qualifications were in line with the requirements stipulated in the AEVO was 13% compared to 21% for companies that did not have this type of in-company trainers. Firms that only started providing vocational training after 2003 and did not have qualified trainers had a training contract cancellation rate of 29%.

80% of the interviewed Chamber representatives (training advisors) indicated that companies that did not have qualified trainers were more likely to need the Chambers' advisory services. Moreover, when asked about companies with trainers who did not possess the qualifications stipulated in the AEVO, 30% noticed qualitative differences, 32% considered the training quality lower, 37% indicated that there were more conflicts between training personnel and apprentices, 28% said that there were more arbitration cases, 28% stated that more apprentices dropped out, and 16% said that the examination results were lower. Generally, the Chambers of Skilled Crafts were more critical than the Chambers of Industry and Commerce.

It should be noted that these differences result from more than just the presence of qualified in-company trainers. Many companies that only recently started providing vocational training – even those that have qualified in-company trainers – encounter difficulties at the start that need time to be overcome.

Outlook

59% of the company respondents indicated that it is necessary to ensure minimum qualifications of training personnel by law to prove their vocational training skills and knowledge (for instance, by passing an examination). 58% stated that this would contribute to upholding training quality, whereas 44% said that this could serve as a reference for the required trainer training. 43% indicated that it could provide guidelines for the training content, and 44% said that it would ensure that sufficiently qualified trainers could provide training on a longer-term basis.

However, 53% were worried that minimum qualifications would lead to increased costs that many companies would not be able to afford. Moreover, 44% considered it a bureaucratic hurdle, and 39% thought that government regulation of trainer training was unnecessary. 29% indicated the excessive amount of time that one would need to invest to acquire these qualifications as another disadvantage.

More than half of the participating companies considered the following out of 18 proposed skills essential for in-company trainers to acquire: gearing training to the company's work and business processes (75%), collaboration with part-time vocational schools (70%), motivation to pursue lifelong learning (69%), linking initial and continuing vocational training (67%), selecting suitable training place applicants (67%), conflict resolution (64%), training already formally trained skilled personnel (63%), and quality development/management in in-company vocational training (58%).

77% of the Chamber representatives (training advisors) stated that the AEVO should be re-introduced. 65% said that they favoured a revision of the AEVO. Only 3% expressed an interest in abolishing it.

Source: Bundesinstitut für Berufsbildung (BIBB) (2008^[38]), More training companies - More training places - Less quality? The suspension of the Ordinance on Trainer Aptitude (AEVO) and its effects, <https://www.bibb.de/en/14047.php>; Ulmer (2019^[39]), Die Novellierung der Ausbilder-Eignungsverordnung AEVO von 2009: Ein Paradigma für Qualitätsentwicklung in der beruflichen Bildung?, <https://www.bibb.de/dienst/veroeffentlichungen/de/publication/show/9933>

References

- Apprenticeship Toolbox (2019), *Teachers & Trainers in Germany*, <https://www.apprenticeship-toolbox.eu/training-teaching/teachers-trainers/118-teachers-trainers-in-germany>. [17]
- Azubi.de (2022), *Verbundausbildung*, <https://www.azubi.de/beruf/tipps/verbundausbildung> (accessed on 17 February 2022). [5]
- BIBB (2021), *Datenreport zum Berufsbildungsbericht 2021: Informationen und Analysen zur Entwicklung der beruflichen Bildung*, Bundesinstitut für Berufsbildung (BIBB), <https://www.bibb.de/dokumente/pdf/bibb-datenreport-2021.pdf>. [3]
- BIBB (2018), *Checkliste Qualität beruflicher Weiterbildung*. [37]
- BIBB (2017), *Quality assurance of company-based training in the dual system in Germany: An overview for practitioners and VET experts*, Federal Institute for Vocational Education and Training (BIBB). [15]
- BMBF (n.d.), *Ausbildereignungsverordnung (AEVO)*, https://www.bmbf.de/bmbf/de/bildung/berufliche-bildung/rahmenbedingungen-und-gesetzliche-grundlagen/ausbildereignungsverordnung-aevo/ausbildereignungsverordnung-aevo_node.html. [16]
- BMWi (2022), *The dual system of vocational training in Germany*, https://www.bmwi.de/Redaktion/EN/Downloads/dual-system-of-vocational-training-germany.pdf?__blob=publicationFile&v=2 (accessed on 17 February 2022). [4]
- Bundesagentur für Arbeit (2022), *Fachlehrer/in - berufliche/allgemeinbildende Schulen: Kurzbeschreibung*, <https://berufenet.arbeitsagentur.de/berufenet/faces/index?path=null/kurzbeschreibung&dkz=9392>. [11]
- Bundesinstitut für Berufsbildung (BIBB) (2021), *Projekt 2.2.355: Kurzstudie zur Prüfung des Evaluierungsbedarfs der AEVO*. [40]
- Bundesinstitut für Berufsbildung (BIBB) (2008), *More training companies - More training places - Less quality? The suspension of the Ordinance on Trainer Aptitude (AEVO) and its effects*. [38]
- Cedefop (2020), *Vocational education and training in Germany: short description*, Publications Office of the European Union. [8]
- Destatis (Statistisches Bundesamt) (2020), *Berufliche Schulen - Fachserie 11 Reihe 2 - Schuljahr 2019/2020*, <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bildung-Forschung-Kultur/Schulen/Publikationen/Downloads-Schulen/berufliche-schulen-2110200207005.html>. [12]
- Deutscher Bundestag (2021), *Einzelfragen zu berufsvorbereitenden Bildungsmaßnahmen und zum Freiwilligen Sozialen Jahr*, <https://www.bundestag.de/resource/blob/836088/6f95b4480dd2c22f6b26038531e6f80b/WD-8-022-21-pdf-data.pdf>. [6]
- Eurydice (2022), *Initial education for teachers working in early childhood and school education*. [19]

- Fit4Ref (n.d.), *Konto, Kredit & Co.: Studium finanzieren*, <https://www.fit4ref.de/finanzen/studium-finanzieren.html>. [27]
- Gewerkschaft Erziehung und Wissenschaft (2022), *Bezahlung im Vorbereitungsdienst*, <https://www.gew.de/>. [28]
- Handwerkskammer Region Stuttgart (2022), *Meisterprüfung: Alles Wichtige auf einen Blick*, <https://www.hwk-stuttgart.de/artikel/meisterpruefung-alles-wichtige-auf-einen-blick-67,138,525.html>. [18]
- Hauptausschuss des Bundesinstituts für Berufsbildung (2009), *Empfehlung des Hauptausschusses des Bundesinstituts für Berufsbildung zum Rahmenplan für die Ausbildung der Ausbilder und Ausbilderinnen*, <https://www.bibb.de/dokumente/pdf/HA135.pdf>. [34]
- Hensen, K. and U. Hippach-Schneider (2016), *Supporting teachers and trainers for successful reforms and quality of vocational education and training: mapping their professional development in the EU - Germany*, Cedefop ReferNet thematic perspectives series. [9]
- Hippach-Schneider, U. et al. (2012), *Getting Ahead through Advanced Vocational Training. German Background Report on the OECD study "Skills beyond School"*, Bundesministerium für Bildung und Forschung. [14]
- Hoeckel, K. and R. Schwartz (2010), *OECD Reviews of Vocational Education and Training: A Learning for Jobs Review of Germany 2010*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/9789264113800-en>. [1]
- Huismann, A. and U. Hippach-Schneider (2021), *Teachers' and Trainers' professional development to support inclusive and sustainable learning: Germany*, Cedefop ReferNet thematic perspectives series. [7]
- Institut für Berufliche Bildung (IBB) (2022), *Förderungsmöglichkeiten beruflicher Weiterbildung*, <https://www.ibb.com/foerderung/foerdermoeglichkeiten-beruflicher-weiterbildung#c18800>. [36]
- KMK (2020), *Lehrerbildung für eine Schule der Vielfalt*, https://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2020/2020_12_10-Zwischenbericht-Umsetzung-Schule-der-Vielfalt.pdf. [23]
- KMK (2015), *Educating teachers to embrace diversity*, https://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2015/2015_03_12-KMK-HRK-Empfehlung-Vielfalt-englisch.pdf. [22]
- KMK (2012), *Ländergemeinsame Anforderungen für die Ausgestaltung des Vorbereitungsdienstes und die abschließende Staatsprüfung (Beschluss der Kultusministerkonferenz vom 06.12.2012)*, http://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2012/2012_12_06-Vorbereitungsdienst.pdf. [25]
- KMK (2004, 2019), *Standards für die Lehrerbildung: Bildungswissenschaften (Beschluss der Kultusministerkonferenz vom 16.04.2004 i. d. F. vom 16.05.2019)*, Sekretariat der Kultusministerkonferenz, https://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2004/2004_12_16-Standards-Lehrerbildung-Bildungswissenschaften.pdf. [21]

- Kultusministerkonferenz (KMK) (2013), *Empfehlungen zur Eignungsabklärung in der ersten Phase der Lehrerausbildung (Beschluss der Kultusministerkonferenz vom 07.03.2013)*, Sekretariat der Kultusministerkonferenz, https://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2013/2013-03-07-Empfehlung-Eignungsabklaerung.pdf. [32]
- Kultusministerkonferenz (KMK) (1973), *Rahmenordnung für die Ausbildung und Prüfung der Lehrer für Fachpraxis im beruflichen Schulwesen*, Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland. [20]
- Kultusministerkonferenz (KMK) (2008, 2019), *Ländergemeinsame inhaltliche Anforderungen für die Fachwissenschaften und Fachdidaktiken in der Lehrerbildung (Beschluss der Kultusministerkonferenz vom 16.10.2008 i. d. F. vom 16.05.2019)*, Sekretariat der Kultusministerkonferenz, https://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2008/2008_10_16-Fachprofile-Lehrerbildung.pdf. [30]
- Kultusministerkonferenz (KMK) (n.d.), *Lehrerbildung in den Ländern*, <https://www.kmk.org/themen/allgemeinbildende-schulen/lehrkraefte/lehrerbildung.html>. [31]
- Kultusministerkonferenz (KMK) (n.d.), *Lehrerbildung in den Ländern*, <https://www.kmk.org/themen/allgemeinbildende-schulen/lehrkraefte/lehrerbildung.html>. [33]
- Kultusministerkonferenz (KMK) (1995, 2018), *Rahmenvereinbarung über die Ausbildung und Prüfung für ein Lehramt der Sekundarstufe II (berufliche Fächer) oder für die beruflichen Schulen (Lehramtstyp 5) (Beschluss der Kultusministerkonferenz vom 12.05.1995 i. d. F. vom 13.09.2018)*, Sekretariat der Kultusministerkonferenz. [10]
- Lehrer Online in Baden-Württemberg (n.d.), *Vorbereitungsdienst: Besoldung und Entgelt*, https://lehrer-online-bw.de/_Lde/Startseite/vdonline/Besoldung+und+Entgelt. [29]
- Link, S. (2020), *Ausbilderschein Kosten: Das kostet die Weiterbildung*, <https://www.aevoakademie.de/ausbilderschein-kosten/>. [35]
- Ministerium des Innern des Landes Nordrhein-Westfalen (2022), *Gesetz über die Ausbildung für Lehrämter an öffentlichen Schulen (Lehrerausbildungsgesetz - LABG) vom 12. Mai 2009 (Fn 1)*. [13]
- OECD (2021), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/59d4fbb1-en>. [24]
- Statistisches Bundesamt (Destatis) (2021), *BAföG-Statistik: 6,0% weniger Geförderte im Jahr 2020*, https://www.destatis.de/DE/Presse/Pressemitteilungen/2021/08/PD21_369_214.html. [26]
- Statistisches Bundesamt (Destatis) (2021), *Berufliche Bildung - Fachserie 11 Reihe 3 - 2020*, <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bildung-Forschung-Kultur/Berufliche-Bildung/Publikationen/>. [2]
- Ulmer, P. (2019), *Die Novellierung der Ausbilder-Eignungsverordnung (AEVO) von 2009: Ein Paradigma für Qualitätsentwicklung in der beruflichen Bildung?*. [39]

Notes

¹ These dual programmes are provided by universities, dual universities, universities of applied sciences, and universities of cooperative education.

² The 130 skilled crafts are divided into trades requiring authorisation, on the one hand, and trades not requiring authorisation, on the other hand. For the former, a Meister is required to start a business.

³ Baden-Württemberg, Bavaria, North-Rhine Westphalia, Rhineland-Palatinate, and Saxony.

⁴ e.g. *Fachlehrer*, *technische Lehrkraft*.

⁵ These committees, made up of employer and union representatives, create and develop training professions and content.

⁶ The website of the German education server (*deutscher Bildungsserver*) provides an overview of the Länder-specific regulations for side-entrants.

⁷ 'Personally unsuitable candidates' refer to individuals who have breached the Act severely or multiple times and people who are not allowed to hire children and young people in accordance with the Act on the Protection of Young People at Work (*Gesetz zum Schutze der arbeitenden Jugend*, JArbSchG).

⁸ According to the BBiG § 30: The required professional skills, knowledge and abilities are possessed by those who: 1) have passed the final examination in a subject area corresponding to the training occupation; 2) have passed a recognised examination at a training centre or before an examination authority or a final examination at a state or state-recognised school in a subject area corresponding to the training occupation; 3) have passed a final examination at a German higher education institution in a subject area corresponding to the training occupation; or 4) have obtained an educational qualification abroad in a subject area corresponding to the training occupation, the equivalence of which has been established in accordance with the Vocational Qualifications Assessment Act (*Berufsqualifikationsfeststellungsgesetz*) or other legal regulations and have been practically active in their occupation for an appropriate period of time.

⁹ In Germany, "*berufliche Weiterbildung*" is a broad term that refers to any continuing training, further education or professional development, including the one for prospective vocational practice teachers. It also refers to any upskilling or reskilling programme, including AdA.

¹⁰ State-recognised universities, higher education establishments equivalent to universities (e.g. *Pädagogische Hochschulen*), and universities of applied sciences.

¹¹ There are 16 broad occupational specialisations: business and administration, metal technology, electrical engineering, construction technology, wood engineering, textile technology and design, laboratory technology/process technology, media technology, colour technology and interior design and surface technology, health and body care, nutrition and home economics, agricultural economics, social pedagogy, nursing and care, vehicle technology, information technology. The federal states may allow additional occupational fields.

¹² The “Common Content Requirements for Subject-Related Sciences and Subject-Related Didactics in Teacher Education” (*Ländergemeinsame inhaltliche Anforderungen für die Fachwissenschaften und Fachdidaktiken in der Lehrerbildung*).

¹³ In 2015, the KMK, together with the German Rectors’ Conference, published joint recommendations on how to implement inclusive teaching in institutions for higher education. Following up on the adopted resolution called “Educating Teachers to Embrace Diversity” (*Lehrerbildung für eine Schule der Vielfalt*), an interim report on the joint declaration’s implementation was published in 2020.

¹⁴ In 2012, the KMK adopted “Common Requirements for the Design of the Preparatory Service and the Final State Examination” (*Ländergemeinsame Anforderungen für die Ausgestaltung des Vorbereitungsdienstes und die abschließende Staatsprüfung*) for prospective teachers, which includes *teachers of vocational theory* (see Box 4.3). The Framework Regulation for the Training and Examination of Teachers for Subject Practice in the Vocational School System (*Rahmenordnung für die Ausbildung und Prüfung der Lehrer für Fachpraxis im beruflichen Schulwesen*), which the KMK adopted in 1973, defines the preparatory service for prospective *teachers of vocational practice*.

¹⁵ The Framework Regulation for the Training and Examination for vocational practice teachers that the Conference of Ministers of Education and Cultural Affairs adopted in 1973 serves as a guideline for providers of the continuing training programme.

¹⁶ In its Framework Agreement on the Training and Examination for a Teaching Profession of Secondary Level II (Vocational Subjects) or for Vocational Schools (Teaching Profession Type 5) (*Rahmenvereinbarung über die Ausbildung und Prüfung für ein Lehramt der Sekundarstufe II (berufliche Fächer) oder für die beruflichen Schulen (Lehramtstyp 5)*), which was adopted in 1995 and lastly amended in 2018.

¹⁷ Completing training include tasks that: 1) prepare trainees for the final or journeyman’s examination, taking into account the examination dates, and to lead the training to a successful conclusion; 2) ensure the registration of trainees for examinations with the competent body and to point out to the latter any special features relevant to the conduct of the examinations; 3) participate in the preparation of a written report based on performance appraisals; 4) inform and advise apprentices about in-company development paths and professional development opportunities (Hauptausschuss des Bundesinstituts für Berufsbildung, 2009^[34]).

¹⁸ In DIN (German Institute for Standardization) ISO 9000ff, quality-relevant minimum requirements for the processes, resources used and organisational structure of a company are defined, compliance with which an independent certification organisation is monitored.

5

Case study: Entry requirements and initial training of vocational teachers and trainers in the Netherlands

This chapter looks at teachers and trainers in the vocational education and training (VET) system in the Netherlands. It zooms in on the requirements to join the VET teaching and training workforce and on the initial education and training to prepare teachers and trainers for their role. Particular attention is paid to ways to make pathways into the teaching and training profession accessible and flexible.

5.1. A snapshot of vocational education and training in the Netherlands

5.1.1. The structure of the Dutch VET system

When finishing primary education at age 12, half of the students (50.4% in 2017-18) in the Netherlands continue into lower secondary pre-vocational programmes (VMBO) (Ministry of OCW, 2019^[1]). Lasting four years, VMBO combines theoretical education with vocational training and prepares students for upper secondary VET (MBO). For those who cannot enter VMBO, a more practical education option is offered with a focus on vocational training (*praktijkonderwijs*).

Upper secondary VET programmes (MBO) are for those aged 16 or above and last between one and four years. The programmes offer four levels of courses and qualifications (Education Inspectorate, 2021^[2]):

- **MBO Level 1 (Entry level VET):** one-year training for students without lower secondary qualifications. Following the course completion, they can apply for Level 2.
- **MBO Level 2 (Basic VET):** two-year training for those having completed the VMBO programme or MBO Level 1.
- **MBO Level 3 (Professional VET):** two to three-year training for VMBO graduates, MBO Level 2 graduates, or students having completed the first three years (lower secondary level) of general education.
- **MBO Level 4 (Middle-management VET):** three to four-year training for VMBO graduates, MBO Level 3 graduates, or students having completed the first three years (lower secondary level) of general education. This programme enrolls more than half of upper secondary VET students (57% in 2020-21).

Post-secondary non-tertiary education (ISCED Level 4) is designed as a continuation from upper secondary education. It includes MBO 4 specialist training (typically lasting one year) and 1-year higher professional (HBO) courses (European Commission, 2021^[3]). Its curriculum content is generally focused on entry to the labour market, but the programmes also provide a pathway into tertiary education.

VET programmes at the tertiary level, or higher professional education (HBO), are open to upper secondary general education and MBO Level 4 graduates. However, the Quality Through Diversity Act gives HBO providers the possibility to apply stricter admission criteria for MBO Level 4 students for specific programmes (Cedefop, 2016^[4]). A substantial share of MBO Level 4 graduates enter a HBO programme: in the 2020-21, 44% started an HBO course. HBO programmes cover 7 sectors: agriculture and food, education, science and technology, economy, healthcare, social studies and art. The largest sector in terms of student enrolment is economics (38%), followed by the science and technology sector (21%) (Vereniging Hogescholen, 2020^[5]). HBO programmes are delivered by university colleges, with some of the university colleges focusing on one sector and others providing programmes in a range of sectors: 22 institutions provide multi-sectoral courses and 14 provide courses in a single sector. HBO programmes are available at ISCED Level 5, leading to associate degrees, and ISCED Level 6, leading to professional bachelor qualifications. The former take two years to complete, the latter four years. Given that associate degree programmes largely coincide with the first half of professional bachelor programmes, their graduates have the opportunity to follow another two-year-long programme in order to receive a professional bachelor degree (see Annex A for the ISCED mapping).

Box 5.1. Types of VET providers in the Netherlands

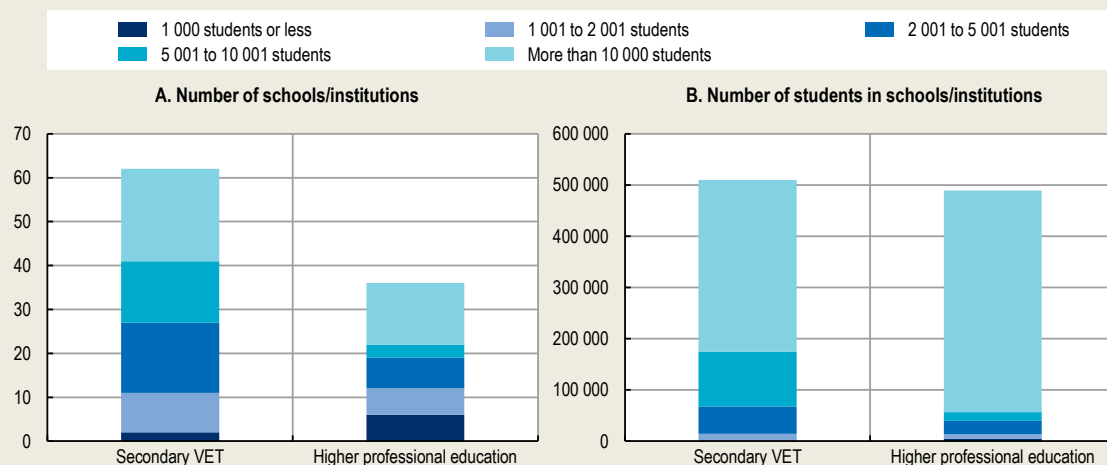
The Netherlands counted 61 public upper-secondary VET (MBO) providers in 2020: 42 regional education and training colleges (ROC), 8 agricultural colleges and 11 specialist colleges, and two ‘other institutions’ (i.e. centres for people with hearing loss and schools with a faith-based ethos). The number of these public providers has remained relatively stable in recent years.

- **Regional training centres:** Regional, large, multi-sectoral VET colleges offer a complete range of VET courses for students and adults, both full- and part-time. Some ROCs also provide basic skills education and training and general secondary education, in particular for adults.
- **Agricultural training centres (AOCs):** Sector-specific centres of green/agricultural VET provide MBO degrees in food, nature and the environment. They often have a VMBO section and maintain close ties with higher agricultural education institutions.
- **Specialist colleges:** Specialist, occupation-specific colleges provide education and training in a specific occupational field or a specific vocational sector.

One of key features of Dutch providers is their large size (Figure 5.1) – this has been the result of the 1996 VET Act under which VET providers were merged (Casey, 2013^[6]). For example, ROCs enrol on average about 12 000 students, but this can go up to 20 000 students. The average student population of an AOC is 2 000. The Student-teacher ratio in VET is the 5th highest (18.4) among OECD countries in 2018 after the United Kingdom, Finland, New Zealand and Chile (OECD, 2020^[7]).

MBO providers have a relatively high degree of freedom to shape VET provision as far as they meet qualification requirements. The VET law provides a broad framework outlining key elements at system level. These institutions receive a lump sum for their tasks.

Figure 5.1. Upper-secondary VET providers in the Netherlands are small in number but large in the number of student enrolments (2020-21)



Note: Refers to schools and educational institutions financed by the government. Panel B shows the total number of students in the institutions covered in Panel A (e.g. 21 secondary VET institutions have more than 10 000 students, and these 21 institutions enrol in total around 335 000 students).

Source: CBS (2021^[8]), Statline - School size by type of education and ideological basis, <https://opendata.cbs.nl/statline/#/CBS/en/dataset/03753eng/table?ts=1639496589264>

Besides publicly-funded MBO institutions, private VET institutions (*niet-bekostigde instellingen* or NBI) offer MBO courses – from the smallest institutions offering only one degree programme to the largest institution offering 145 degree programmes. More than 40 000 students are following an accredited MBO course at an NBI. This is around 7% of the total number of MBO students. The majority of courses are in the domain of care and welfare. These institutions are represented by the Dutch Council for Training and Education (NRTO) (European Commission, 2021^[9]; Cedefop, 2016^[10]).

For HBO, the universities of applied sciences (*hogescholen*) are publicly financed providers, which also charge student tuition fees (Cedefop, 2016^[4]). There are 36 government-funded UAS (Dutch Association of Universities of Applied Sciences, 2021^[11]). Non-subsidised, private providers can offer similar programmes if they have appropriate accreditation. Any private-sector institution established in the Netherlands can apply for accreditation (European Commission, 2018^[12]). The certificates they award to graduates are legally recognised after being approved by the Education Inspectorate and the Netherlands-Flanders Accreditation Organisation (NVAO) (European Commission, 2018^[12]).

Work-based learning and school-based learning

MBO offers two parallel learning pathways that lead to the same qualification: a school-based track (*beroepsopleidende leerweg*, BOL) and an apprenticeship track (*beroepsbegeleidende leerweg*, BBL). In the former, workplace training accounts for 20-60% of learning, while in the latter it accounts for 60% or more (European Commission, 2021^[9]). The system is very flexible and it is even possible for a student to switch between BOL and BBL pathways during their training (Casey, 2013^[6]).

MBO students are expected to spend 1 600 hours a year on their studies, and the number of course hours depends on the learning pathway.

- **Apprenticeship track (BBL):** The school year must comprise at least 850 course hours: at least 200 taught hours at school and at least 610 hours of practical training in the workplace. The remaining 40 hours may be either taught hours or practical training.
- **School-based track (BOL):** The total number of hours and the minimum number of practical training hours depend on the course. For example, three-year courses require 3 000 hours in total, with a minimum of 900 hours of practical training and a minimum of 1 800 hours of school-based training. The first year of any BOL course at MBO Levels 2, 3 or 4 must comprise at least 700 school-based hours. This is to ensure that students get enough classroom instruction in their first year (European Commission, 2021^[9]).

VET teachers and trainers

In 2019, approximately 46 000 full-time equivalent staff (FTEs) were employed in MBO, of which 57% are teaching and 38% are providing teaching support (Education Inspectorate, 2021^[2]). According to a 2015 survey, more than 60% of MBO teachers are educated at professional bachelor level (HBO), while 25% are university-trained (WO). In the past few years the share of teachers with a higher qualification at HBO-master or university level has slowly increased, as in other parts of the education system (Regioplan, 2015^[13]). Teachers cooperate in teams in which tasks are divided among team members, such as assessment, study guidance and career guidance. The extent to which these roles are implemented differs per school (Cedefop, 2019^[14]). Among the teaching support staff in MBO are so-called “instructors” – those who teach vocational practice in MBO institutions under the responsibility of teachers or teaching teams.¹

A large part of the influx of MBO teachers in the Netherlands come from the business community, rather than from teacher training (Ministry of OCW, 2020^[15]) and about a third of MBO teachers work part-time². Some of these part-time teachers may be combining their teaching job with a job in industry. One challenge is that these industry professionals hired as part-time teachers are often treated as a temporary

replacement rather than an invited expert who will continue to bring added value to the VET sector (Koop-Spoor et al., 2020^[16]).

Expenditure on MBO teaching staff has increased over the past 5 years, both in absolute and relative terms. In 2019, expenditure on MBO teaching staff grew by 3.5% to more than EUR 4 billion – representing almost three quarters of the total expenditure of the VET institutions. This increase is due to the increase in teaching staff – mainly at the lower level positions – and is approximately in line with the increase in the number of students.

In work placements in MBO, each student has a designated work supervisor (*praktijkbegeleider*), who is a member of staff of the host employer. They coach students during the apprenticeship or practice placement period and know educational requirements of the student. The work supervisor is also called a workplace trainer, specialist teacher or traineeship supervisor (and referred to below also as in-company trainer). During their work placement, students are also supported by a supervisor from the training centre (ROC supervisor, *stagebegeleider*). Throughout the student's training, it is expected that a triangle of communication is established and maintained between the student, work supervisor and ROC supervisor (Casey, 2013^[6]). A work-based learning protocol (*BPV-protocol*) has been developed to describe the role of the learners, training centres, companies and the SBB (see below) in work-based learning, including in its preparation and matching, participation/delivery, assessment and evaluation (SBB, 2021^[17]). The protocol is evaluated at least every five years and updated when needed by the SBB partners.

More than half of the teachers in higher professional education (HBO) are university graduates and about one in ten has completed a PhD (Regioplan, 2015^[13]).

5.1.2. Governance and financing of the Dutch VET system

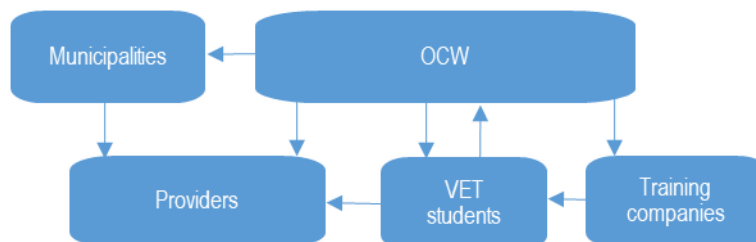
Both upper secondary VET and higher professional education are governed by the Ministry of Education, Culture and Science (*Ministerie van Onderwijs, Cultuur en Wetenschap*, OCW). The Ministry is in charge of strategic planning and development, ensuring quality, and funding public institutions. However, VET delivery is decentralised and providers are relatively autonomous. They work within a broad legal framework and a national qualification structure but have freedom in shaping curricula and organising provision (Cedefop, 2016^[10]). The Inspectorate of Education surveys whether VET institutions comply with national regulations and inspects teaching and exam quality. Social partners are also an important actor in VET. The Organisation for the Cooperation between VET and the Labour Market (SBB) represents all employers, employees and training providers. SBB is tasked with developing the qualification structure for secondary VET (including creating new and updating existing programmes), finding new placement providers, and monitoring the quality of the placement providers (see Box 5.2) (European Commission, 2021^[9]; Education Inspectorate, 2021^[2]).

Public MBO providers are regionally oriented and represented by the VET College Association (*MBO Raad*) (Box 5.1), while the Dutch Council for Training and Education (*Nederlandse Raad voor Training en Opleiding*, NRTO) represents private institutions that provide MBO.³ For HBO, the Association of Universities of Applied Sciences (*Vereniging Hogescholen*) represents the government-funded providers. The association promotes the collective interests of the higher professional education sector, supports common activities of the colleges and acts as an employers' organisation on behalf of its members. It negotiates labour conditions for the sector with the trade unions and signs collective labour agreements.

Total VET expenditure has been increasing in the past decade. In 2022, the Ministry of OCW foresees to spend about EUR 5 billion on MBO and adult education and EUR 4.5 billion on HBO (Ministry of OCW, 2020^[18]; Tweede Kamer der Staten-Generaal, 2021^[19]). A large part of the Ministry of OCW's funding goes directly to VET providers, but to a smaller extent also to municipalities, SBB and training companies, among others (Figure 5.2). The government covered about two thirds of all expenditure on MBO in 2020, with the remaining one third covered by companies and households –for example for costs of learning materials

and employers' time investment in training provision (Ministry of OCW, 2022^[20]). The national government budget for HBO accounts for 69% of the total expenditure in HBO in 2019. The largest part of the total government expenditure in HBO goes to universities of applied sciences (UAS). In addition to funding from the government, UAS receive tuition fees from students and revenues from, among other things, contract research (Ministry of OCW, 2021^[21]). Government funding is divided into funding for education and for design and development. 90% of the education component is divided among the institutions in proportion to the number of registered students and the number of degrees obtained, and approximately 10% is distributed on the basis of fixed amounts per institution.

Figure 5.2. Indicative funding flows in upper secondary VET, the Netherlands



Note: OCW refers to the Ministry of Education, Culture and Science. Funding from the Ministry of OCW to training companies is only for those that offer apprenticeship training.

Source: Based on Ministry of OCW (2019^[22]), Expenditure on secondary vocational education, <https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/uitgaven>.

Box 5.2. Organisation for the Cooperation between VET and the Labour Market (SBB) in the Netherlands

The Organisation for the Cooperation between VET and the Labour Market (*Samenwerkingsorganisatie Beroepsonderwijs Bedrijfsleven*, SBB) was established in 2012 (formerly known as Foundation for Cooperation on VET and the Labour Market or *Stichting Samenwerking Beroepsonderwijs Bedrijfsleven*). It represents employers, employees and training providers (including private institutions) in the system and provides a unified, single voice on VET policy to advise the Ministry of OCW. Its strategic board consists of members representing all social partners.

SBB advises, accredits, evaluates and coaches training companies offering work placements. In addition, it is responsible for maintaining the qualifications for secondary VET and collecting suitable labour market information. It is organised with VET sector representatives and social partners at national, sectoral and regional level and has legal duties to recognise training companies, developing the qualification structure, and supporting relevant research. It is organised in nine sectoral chambers responsible for workplace learning quality and keeping VET qualifications up to date in their own sector. Each chamber is supported by social partners.

Source: Smulders, Cox and Westerhuis (2016^[23]), Netherlands: VET in Europe: country report 2016, http://libserver.cedefop.europa.eu/vetelib/2016/2016_CR_NL.pdf; Casey (2013^[6]), VET system in the Netherlands, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/303481/briefing-paper-vocational-education-system-netherlands.pdf.

5.2. Entry requirements for teachers and trainers in VET in the Netherlands

Teachers and instructors in upper-secondary VET need to be “competent” for their role. Competence requirements for teaching staff, including secondary VET teachers as well as teachers in primary and general secondary education, are regulated in a ministerial regulation, as are the competency requirements for VET instructors. To be fully appointed as VET teacher, one needs to hold a regular teacher qualification or a teaching certificate for lateral entrants. Teachers who are in the process of obtaining the necessary qualification or certificate can be temporarily appointed. Qualification requirements to teach at HBO vary across institutions and trades.

For in-company trainers, no specific teaching or training qualification is required, nor is participation in dedicated training. However, in-company trainers must be vocationally qualified at least at the same level for which they are supervising work-based learning.

5.2.1. Qualification, experience and skill requirements for teachers in VET

Upper secondary VET teachers must possess a teaching qualification to teach in VET (fully appointed), which can be a teaching qualification at bachelor or master level (referred to below as the “regular teacher qualification”) or a teaching certificate (in the case of “lateral entry” – which can be obtained while teaching) (Cedefop, 2019^[14]). The 2017 Decree on Competence Requirements for Education Staff (*Besluit Bekwaamheidseisen Onderwijspersoneel*) regulates competence standards for teachers in primary, general and vocational secondary education (Ministerie van OCW, 2017^[24]).⁴ When schools recruit new teachers, they have to fulfil these requirement (and schools may impose additional requirements). Teachers who do not fulfil all requirements need to be offered the possibility to close skills and knowledge gaps. The competences to perform teaching activities defined in the regulation include: i) subject-specific knowledge and skills; ii) subject-specific didactic competence (i.e. the ability to translate subject-specific knowledge and skills into learning materials and educational plans); and iii) pedagogical competence. The requirements that teachers in higher education should fulfil differ per educational institution and furthermore depend on the type of work a teacher does.

Regular teacher qualifications for secondary education

Two types of teaching qualifications exist for secondary education:

- A ‘Grade one’ qualification (full qualification) qualifies teachers to teach all levels and orientations of secondary education.
- A ‘Grade two’ qualification qualifies teachers to teach in the first three years of general secondary education and all the years of secondary VET (VMBO/MBO).

The distinction between grade one and grade two is not relevant for entry into MBO teaching, as both are valid to be deemed competent and appointable in MBO.

The grade-two qualification courses are provided at HBO institutions and the grade-one qualification courses (predominantly) at universities. The entry requirements for teacher training leading to a grade-two teaching qualification are an upper secondary graduate certificate, for example, general upper-secondary education or MBO Level 4. Candidates over 21 years old who do not hold these certificates may take a special entrance examination for the teacher-training programme (European Commission, 2021^[25]). The HBO courses are available for general subjects, art subjects, technical subjects and agricultural subjects. Students specialise in one subject and the course prepares them to meet the required standards of competence. The programmes leading to a grade one qualification delivered by universities are offered for university graduates with a (professional or academic) Bachelor’s or Master’s degree. Students can take these programmes as a postgraduate training or begin while they are still undergraduates. Courses are available for all subjects in the secondary curriculum. Moreover, graduates from grade-two qualification courses can continue into an HBO master programme to qualify as grade one teachers.

Table 5.1. Difference between the two types of regular secondary teacher qualifications in the Netherlands

	Grade one	Grade two
Can teach in	All levels and orientations of secondary education	General and vocational lower secondary education and vocational upper-secondary education
Main qualification requirements	- Teacher qualification at the professional master level (HBO master), after having completed the HBO bachelor-level teacher qualification for grade 2 teachers; or	- HBO bachelor-level teacher qualification; or
	- Teacher qualification from university, after an academic bachelor or master programme (non-teaching).	- Top-up qualification (<i>kopopleiding</i>) after an HBO bachelor qualification (non-teaching)

Note: The distinction between grades one and two does not matter for entry into the MBO teaching workforce.

Qualification requirements for 'lateral entry' in MBO

It is possible to enter the VET teaching workforce through another path than the regular teacher qualification. 'Lateral entry' (*zij-instromer*) into the teaching profession allow individuals coming from another profession (or another subject) to teach in VET – provided that they complete a shortened teacher training within a certain period and are deemed suitable for the teaching profession. For various MBO programmes/specialisations no regular teacher qualifications exist, making lateral entry the only way into the profession. Lateral entry requires individuals to have competences equivalent to at least HBO-bachelor level. In this lateral entry route, one can combine teaching and teacher training or work in another profession (European Commission, 2021^[25]; OECD, 2021^[26]; Rijksoverheid, 2021^[27]). There are two pathways for lateral entry:

- **Pedagogical didactic certificate (PDG) as second-degree teacher qualification** (most common): To enter into the PDG pathway, a VET provider (i.e. the employer of the teacher-candidate) assesses the candidate's suitability to the profession, and his or her capability to obtain the PDG within 2 years. Proven competent, the candidate can teach in temporary employment on the condition of obtaining the PDG within 2 years. After obtaining the PDG, the teacher can take up permanent employment (fully appointed), but only in MBO (see more details in Box 5.3).
- **Certificate of Competency as first or second-degree teacher qualification**: Before hiring a candidate without qualified teacher status, a VET provider requests a suitability test from a teacher training college to examine the candidate's suitability for the profession, capability to obtain a certificate within 2 years, and training needs. If assessed suitable, the candidate then receives a suitability statement from the teacher training college and follows the recommended teacher training course (one may get an exemption for certain components). The candidate can teach and follow the training, with the VET institution's guidance. Within 2 years, s/he completes an aptitude test to receive a Certificate of Competency. This pathway is used more for general education subjects than for vocational subjects.

Industry professionals hired through PDG route are generally well regarded and considered as key players in VET, especially to bring in industry expertise and to prepare teachers for those VET programmes for which no dedicated regular teacher qualification exists (Regioplan/ECBO/ROA, 2021^[28]).

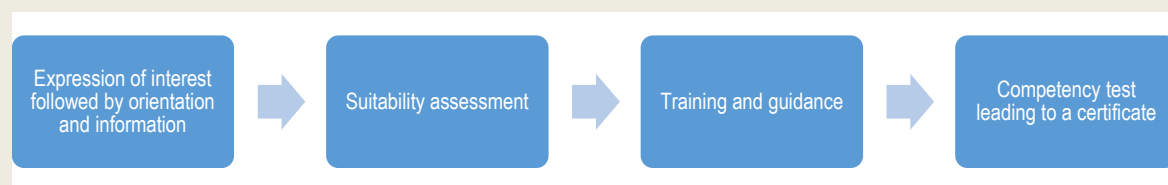
Industry professionals can also teach as hybrid teachers, also known as guest teacher or secondee, in secondary education. These hybrid teachers teach a number of hours a week in addition to their current profession, with no requirement to obtain a teaching certificate, suitability statement or PDG. These teachers with specific expertise or knowledge are under the supervision of a qualified teacher. Teaching more than 6 hours a week per year on average requires an authorisation or the PDG certificate within 2 years. This type of hybrid teaching is mostly used for VET, as stricter rules apply in general education (OECD, 2021^[26]).

Box 5.3. Lateral entry into the VET teaching profession in the Netherlands

MBO has a long history of lateral entry of VET teachers from industry and from the general education sector or those with a relevant higher education degree. The most common route for them to enter the VET teaching profession is the pedagogical didactic certificate (PDG) aimed at vocational subjects. Figure 5.3 describes the process of lateral entry. In MBO, unlike in primary and secondary education, there is no suitability assessment for the PDG by the programme providing the training, but it is rather the MBO institution where the lateral entrant will work that issues a suitability statement - with which the lateral entrants can start the PDG trajectory. The statement relates to the suitability to teach, the professional competence and the expectation that the candidate will be able to obtain the PDG within two years.

VET providers often have agreements with universities of applied sciences (UAS) about the PDG because several candidates from the MBO institution follow a PDG trajectory at the same time. The PDG training only contains pedagogical and didactic components, not the subject matters. As starting a new job as a teacher and following a training programme at the same time can be difficult, the lateral entrants often start the training program after six months or a year. A number of UAS indicate that they have now started processes to better prepare potential lateral entrants, including training days, introductory and orientation meetings. The PDG training can be also delivered 'in company' (i.e. at a VET school) – this is beneficial as the teachers do not need to travel and these teachers from the same VET school can take the course together in the VET school where they teach.

Figure 5.3. Process of lateral entry for VET teachers in the Netherlands



Source: Based on Regioplan/ECBO/ROA (2021^[28]), Lateral intake in primary, secondary and secondary vocational education, <https://www.regioplan.nl/project/zij-instroom-in-het-po-vo-en-mbo>.

If a candidate opts for a lateral entry for a general education subject, which usually leads to the pathway of Certificate of Competency, the rules that apply in primary and secondary education apply. A suitability study is conducted prior to the training programme for participants who have not completed (or have not completed the correct) teacher training in the past. Unlike the PDG trajectory, the responsibility for the declaration of suitability lies with the teacher-training course. In the suitability test, the candidate generally prepares a portfolio, in which he must demonstrate that he or she has a higher professional education level, and it is assessed whether the candidate is suitable to teach directly, can obtain the qualification within two years and it is examined which additional training whether guidance is needed. Previous work experience is important here.

Source: Regioplan/ECBO/ROA (2021^[28]), Lateral intake in primary, secondary and secondary vocational education, <https://www.regioplan.nl/project/zij-instroom-in-het-po-vo-en-mbo>.

Qualification requirements for instructors in MBO

As described above, instructors are part of the teaching support staff in MBO, and teach vocational practice – under the responsibility of a VET teacher or a teaching team. VET instructors need to fulfil the competency requirements for their role (regulated by the Decree on Competence Requirements for Education⁵, see above), in terms of subject-specific skills and knowledge, as well as pedagogical and didactic competencies. The MBO institution that hires the instructor assesses the competency –i.e. subject-specific skills and knowledge on the basis of education and work experience background (at least at the same level of the MBO programme the instructor will be working in), and pedagogical and didactic skills on the basis of dedicated training programmes (Onderwijsloket, 2022^[29]). The didactical and pedagogical training are offered at MBO Level 4 and at the associate degree level. To participate in the MBO Level 4 programme one needs to have relevant work experience and at least an MBO Level 3 qualification, while for the associate degree programmes completed general upper-secondary or MBO Level 4 is required⁶. Lateral entry is also possible for instructors, in this case they are hired immediately as instructor while being granted two years to obtain the necessary pedagogical/didactic qualification (ditismbo.nl, n.d.^[30]).

Qualification requirements to teach in HBO programmes

There are no nationally-determined qualification requirements for teachers in higher education. Therefore, qualification requirements to teach in HBO programmes may vary across HBO providers. Typically, in order to become an HBO teacher, candidates need to be an experienced craftsperson and preferably have a Master's degree in the relevant subject and some pedagogical competences. While the Master's degree and the pedagogical competences are not mandatory at the time of applying for an HBO teaching position, HBO providers usually support their teaching staff in acquiring the desired qualifications. Typically, a Basic Teaching Competence Qualification (*Basiskwalificatie Didactische Bekwaamheid*, BDB), a certificate awarded by HBO providers, must be acquired within the first year of teaching unless the candidate has previously obtained another teaching qualification recognised by the provider. Most providers offer BDB programmes, and this programme includes an examination for obtaining the Basic Examination Qualification (*Basis Kwalificatie Examinering*, BKE), which allows teachers to act as examiners in higher education. The Association of Universities of Applied Sciences (*Vereniging Hogescholen*) has defined the requirements for a BDB programme, based on which most HBOs have developed their own BDB programmes. This means that any BDB qualification can be recognised by any HBO provider (ZESTOR, n.d.^[31]; Zestor, 2021^[32]).

5.2.2. Qualification, experience and skill requirements for in-company trainers

All companies in the Netherlands offering work placements (both in apprenticeship and school-based programmes) have to be accredited by the Organisation for the Cooperation between VET and the Labour Market (SBB) and the accreditation has to be renewed every four years (ECBO, 2016^[33]). Without being accredited employers cannot train new entrants or existing staff via apprenticeships or work placements that are publicly funded; nor can they access the financial incentives on offer to do this (Casey, 2013^[6]). In order to offer work-based learning, the company has to agree to co-operate with the VET school and in-company trainers have to contact the school on a regular basis (ECBO, 2014^[34]; Smulders, Cox and Westerhuis, 2016^[35]). One of the criteria for accreditation is the availability of a competent in-company trainer (*praktijkopleider*).

In general, no formal specific teaching or training qualification is required to become an in-company trainer responsible for work-based learning, nor is participation in dedicated training – although certain sectors do impose such requirements. For example, trainers are required to have a recognised diploma, certificate or experience at least equivalent to the student's training in sectors such as food, green and hospitality; mobility, transportation, logistics and maritime. In general, in-company trainers are expected to have at least several years of experience and have set of competences that enables them to effectively guide

learners (see Box 5.4). In some sectors, such competences need to be validated by diplomas or certificates. For example, the commercial service and safety sectors require trainers to have (partly) acquired their coaching and assessment competences by following a training course developed and provided for the sector (SBB, 2021^[36]). SBB offers a list of qualifications that trainers can have in order to meet such requirements (SBB, 2021^[37]).

Box 5.4. Model profile of a workplace trainer in the Netherlands

According to SBS, in company-trainers carry out the following tasks:

- Be the point of contact for the students and maintain contact with the work placement supervisor (the student's supervisor from the study programme/school) and the practical learning advisor of SBB who advises the practical trainer.
- Organise the students' learning process in practice and guide through daily practice.
- Conduct selection interviews with students and determine learning needs and activities.
- Prepare a practical learning plan, train students in practice and organises learning activities.
- Ensure the best possible, safe learning environment.
- Transfer professional knowledge and encourage students to feel responsible for their learning process and their functioning as an employee.
- Motivate students and tailor the supervision to them.
- Monitor and assess the concrete progress of students' learning process

Examples of skills and competencies that the trainer should ideally have include:

- Direct: adapting training to the task maturity and learning style of students.
- Support: stimulating and coaching students, giving clear and constructive feedback.
- Decide and initiate activities based on learning progress.
- Follow instructions and procedures: assessing student progress using assessment tools and associated procedures and identifying points for improvement
- Planning and organising: scheduling learning activities and tracking the learning progress.
- Collaborate and consult: discussing observations with students and stimulating student to think along about the further implementation of learning process; listening to advice from the advisors and following up.
- Applying expertise: explaining how things work, using subject knowledge to assess students, giving a rating.

Source: SBB (2021^[36]), Reglement erkenning leerbedrijven SBB, <https://www.s-bb.nl/media/m53nfrku/reglement-erkenning-leerbedrijven-sbb.pdf>.

5.3. Initial preparation for teachers and trainers in VET in the Netherlands

Initial teacher education and training (ITET) for prospective MBO teachers is delivered by universities and universities of applied sciences. Students either go through a regular teacher training in a specific VET field, combining subject matter and pedagogy, or they follow a shorter teaching programme (for lateral entrants) focused on pedagogy and didactics after having obtained a tertiary qualification in a VET field and/or after years of work experience. For instructors in MBO the training is focused on pedagogy and didactics, at MBO Level 4 or associate degree level, as they already have relevant education and work

background. Candidate HBO teachers generally do not need to have a teaching qualification when applying for an HBO teaching position, but they usually have to acquire a Basic Teaching Competence Qualification (BDB) within their first year of teaching. For in-company trainers, specific training is not required by law, but SBB and various other providers offer free training courses to support in-company trainers.

5.3.1. Initial education and training for VET teachers and instructors

Initial teacher training for MBO teachers in the Netherlands is part of higher education and is organised in a similar way as for general education teachers. A regular teacher-training programme at the HBO bachelor level takes about 4 years to complete. University and HBO graduates from non-teaching fields (at bachelor level) can also attend a one-year, add-on fast-track teacher-training course which leads to a teaching qualification. Moreover, it is also possible to obtain a teaching qualification at the master level. These master-level teaching qualifications are “grade one” qualifications, but as described above the distinction between grades is not relevant for VET teachers. Teacher-training courses can be either full- or part-time, and may be combined with working. In addition, the training component of the PDG trajectory is also a part of teacher training but separate from the regular teacher training pathways. Likewise, instructors have dedicated training programmes to develop their didactical and pedagogical skills – lasting one or two years.

For HBO teachers requirements differ between institutions and fields, although they are required to obtain the Basic Teaching Competence Qualification (BDB) within their first year of teaching. Most institutions have their own BDB programme, taking 3 to 18 months to complete.

MBO teacher and instructor training providers, target competences, content and curriculum

Tertiary education institutions provide full-time, part-time and dual (i.e. work-study) training courses for aspiring MBO teachers (Regioplan/ECBO/ROA, 2021^[28]):

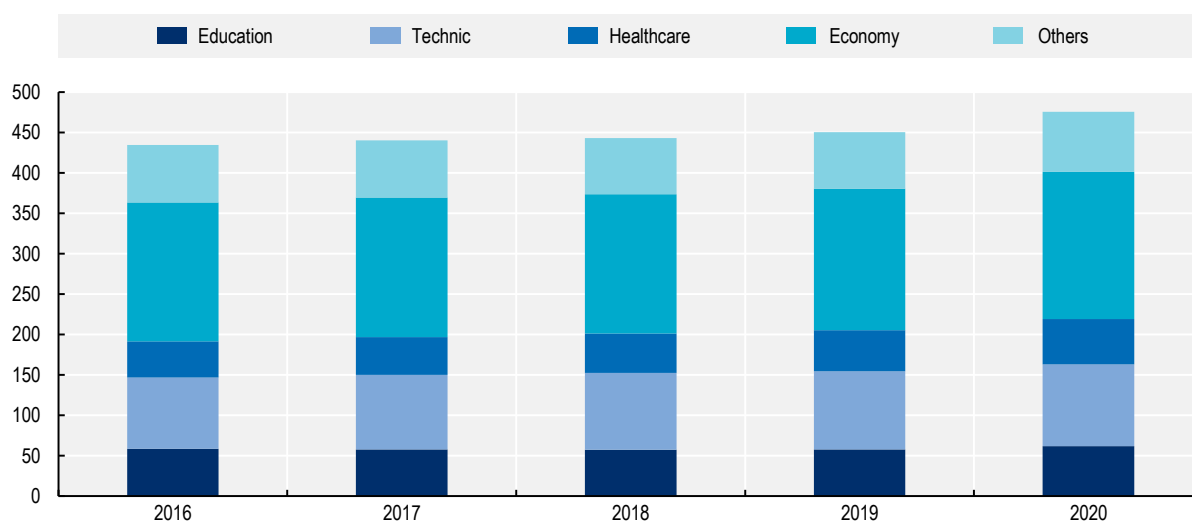
- **HBO-level teacher training courses** for secondary school teachers (including MBO programmes) are delivered by universities of applied sciences (leading to grade two qualification). Courses are available in general subjects, arts subjects, technical subjects and agricultural subjects. Students specialise in one subject, and the courses prepare them to meet the statutory standards of competence to become a teacher. HBO-level teacher training courses cover both subject-related and general teacher training (European Commission, 2020^[38]). A HBO bachelor-level teacher training course lasts at least four years and the duration of a shortened part-time training can vary depending on the structure of the training, the knowledge and experience of a part-time student and the exemptions obtained. The HBO teaching programme at master level – which is typically a continuation from the bachelor programme for those who want to have a grade one teaching qualification – lasts between two and three years. As Figure 5.4 shows, teaching is a popular programme among HBO students.
- **University-based teacher training courses:** University graduates with a bachelor’s or master’s degree can take a postgraduate teacher training course leading to a grade one qualification in the field of their bachelor/master degree. Students can also begin, and, if they wish, complete their teacher training while they are still undergraduates. The part-time, full-time and dual options all have a study load of 60 ECTS credits (equivalent to one year’s full-time study) for student who already have a master’s degree and 120 ECTS for those with only a bachelor’s degree (European Commission, 2020^[38]). The programmes focus on didactics and in case of the two-year programme also on deepening of subject knowledge.
- **Add-on teacher training course (*kopopleiding*):** Graduates from an academic or professional bachelor programme in non-teaching fields can enrol in add-on training to become a grade two teacher in the field of their bachelor studies. The course targets individuals who wish to become a VET teacher in the subject area in which they already hold a bachelor’s degree. This add-on

programme lasts one year and is provided by universities of applied sciences. It focuses on developing pedagogical skills.

- **PDG programme for lateral entrants:** See Box 5.5 for details about the PDG programme that prepares industry professional for VET teaching through a 2-year programme focused on pedagogy and didactics. These programmes are delivered by universities of applied sciences.

Figure 5.4. About one tenth of HBO students in the Netherlands are studying Education (teacher training and science of education)

Registered HBO students by field of study (thousand)



Note: HBO students include associate degree, BA and MA programmes.

Source: OCW (2021^[39]), Enrolment in higher professional education, <https://www.ocwincijfers.nl/sectoren/hoger-onderwijs/kengetallen-hoger-beroepsonderwijs/studenten/ingeschrevenen-hoger-beroepsonderwijs>.

Instructors in MBO can develop their pedagogical and didactic competences through two types of programmes:

- **MBO Level 4 programme for MBO instructors:** Individuals who have several years of work experience and at least a MBO Level 3 qualification can enrol in the one-year MBO Level 4 training for instructors. The programme is provided by MBO institutions as an apprenticeship or school-based track. It focusses on didactics and pedagogy, but also includes foundational skills.
- **Associate degree programme for educational professionals or support staff in VET:** Individuals who have at least a MBO Level 4 or general upper-secondary qualification can participate in a 2-year associate degree programme provided by universities of applied sciences. It focuses on pedagogical and didactical competencies, as well as subject-specific skills and knowledge.

Box 5.5. PDG training for lateral entrants as a track of MBO teacher training

The training component of the PDG trajectory is part of a teacher-training course but separate from the regular teacher training. PDG programmes are often offered because there is no (or insufficient) regular teacher training in the field. Each university of applied sciences (UAS) organises PDG training differently but mostly working closely together with VET institutions to meet their needs. In addition, there are differences in the modules that lateral entrants must complete. These modules only have a pedagogical-didactic character and they connect as closely as possible with the target group (MBO), although subject content is not part of the PDG trajectory. As PDG participants combine teaching and training, there is no internship or teaching practicum – different from the regular teacher training. Nonetheless, typically, teacher training institutes conduct regular lesson visits at the MBO institution.

In principle, the PDG process takes one and a half years. If there are several PDG participants within one MBO institution, the UAS and the MBO institution can decide to work together and have the training conducted at the MBO institution for the benefit of facilitation but also in terms of content. This method of training happens at a number of schools within a partnership ‘Education in the School’. If the programme is not offered at the MBO institution, participants go to the UAS for lessons one day a week (or online due to the COVID-19 pandemic).

In addition to the employment contract between employer (i.e. MBO institution) and lateral entrant, a tripartite agreement is concluded between lateral entrant, employer and PDG trainer of the lateral entrant. This is to ensure that the responsibilities are defined and coordinated, although how this is implemented in practice varies.

According to research done by Regioplan/ECBO/ROA (2021^[28]), relatively few participants drop out in the PDG process or drop out from teaching after completion of the PDG process. PDG graduates often continue to work in education. However, according to some of the interviewees, the maximum duration of two years to finish the programme (without delay) is undesirable and unnecessary. Moreover, not being able to properly combine a job in education with a job in the sector is sometimes cited as a reason for leaving education after all. In terms of quality, no perceived difference is experienced in the primary educational task compared to teachers who have completed a regular teacher training course.

The research also suggested a need for an increase of the existing subsidy for lateral entry which their employers can apply for, as guiding lateral entrants requires a substantial investment and is crucial for a successful entry into the profession. The subsidy offers them the necessary financial compensation for this but there are also voices that the subsidy does not cover the entire costs. At the start of the current subsidy scheme (April 2017), the total subsidy amount for lateral entry in MBO was EUR 3.7 million per year, which grew to EUR 18 million in 2021. While in the primary and secondary education sector the amount grew due to increasing teacher shortages, the MBO amount grew to better match to the number of lateral entrants in the profession who were already appointed without subsidy.

Source: Regioplan/ECBO/ROA (2021^[28]), Lateral intake in primary, secondary and secondary vocational education, <https://www.regioplan.nl/project/zij-instroom-in-het-po-vo-en-mbo>.

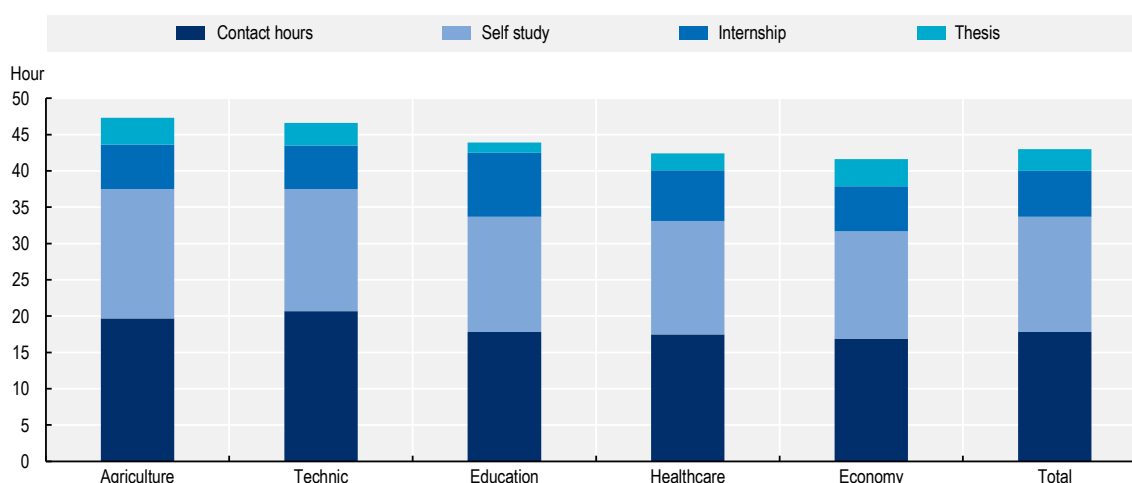
While the Decree on Competence Requirements for Education Staff (see above), describes the competences that MBO teachers should hold, providers have freedom to design the teacher training curriculum within this framework. As the providers – institutions for higher professional education or universities – are responsible for curriculum development and assessment of teacher training courses, curricula vary by provider. Various curricula, learning environments and student progress measurements exist even for programmes related to the same profession. The providers may choose their teaching methods (e.g. lectures, seminars, etc.).

The delivery of MBO teacher and instructor education and training

Teaching practice is an important component of teacher and instructor training in the Netherlands. Regular secondary school teacher training courses offer a combined period of work and study in the final year. Students receive practical training in the area in which they intend to teach. This is a compulsory part of the course. Students can be employed part time in a school under a training and employment contract for a limited period (equivalent to no more than five months' full time), provided the school has a vacancy. The trainee teacher (LIO) does everything a regular member of teaching staff would do, including speaking to parents at parent evenings and discussing reports. The level of supervision is minimal. This makes the transition from student to teacher less abrupt and the teacher training institutions are better able to keep abreast of current developments in education. Details about the period of teaching practice must be set out in the institution's teaching and examination regulations (European Commission, 2020^[38]). Among students in HBO programmes, those who follow teacher training spend more time on internship than those in other programmes (Figure 5.5). Also in the instructor training programmes practical learning is an essential component, both in the MBO Level 4 programme and the associate degree programme.

Figure 5.5. HBO students in Education programmes (teacher training and science of education) in the Netherlands spend more time in internships than those in other programmes

Study time HBO students, 2020, Number of hours per week



Note: HBO students include a group of 4 439 full-time bachelor's and master's students (including duals) drawn from a sample with valid and reliable scores on the time use questions. See the source (based on Student Monitor 2020 edited by ResearchNed) for the detailed methodology. Source: Ministry of OCW, (2021^[40]), Study time for higher professional education, <https://www.ocwincijfers.nl/sectoren/hoger-onderwijs/kengetallen-hoger-beroepsonderwijs/studenten/studietijd-hoger-beroepsonderwijs>.

Financing of teacher education and training

VET teacher education and training is part of higher education, which is partially publicly funded. General student grants or allowance for study costs may be available, as well as schemes specifically targeted at students in teacher training programmes (Rijksoverheid, 2021^[41]):

- **50% reduction in tuition fees for first two years of teacher training:** Students in bachelor-level teacher training programmes (primary, general and vocational secondary education) get [a 50% reduction in tuition fees](#) for the first two years of their training. For other tertiary programmes

(outside of teaching) the reduction only applies in the first year. The fee reduction only applies to first-time entrants into tertiary education.

- **Year extra student grant for potential teachers:** Those who completed a higher professional education or university education and follow teacher training afterwards may be eligible for an [extra year of student finance](#). This is intended for a university teacher training course or a add-on teacher training course.
- **Allowance for study costs of teacher training for lateral entrants:** VET institutions that hire a teacher via lateral entry can apply for a [lateral-entry subsidy](#) to assist obtaining a teaching qualification within 2 years. The subsidy is intended as a contribution towards the costs of suitability examination, training, supervision and paid teacher training time. The subsidy scheme for the employer (school board) is of a maximum of EUR 20 000 per application (Regioplan/ECBO/ROA, 2021^[28]).⁷ See also Box 5.5.
- **Teacher grant:** For qualified teachers, [a teacher grant](#) is available to pursue a bachelor's or master's degree and professional development.
- **Tax deduction for teachers' study costs:** Those who are not entitled to a student grant or an allowance may be able to [deduct](#) the [costs of the studies from their tax](#).

Full-time students enrolled for a duration of at least one year in higher professional education are eligible for national student finance comprising a tuition fee loan, a regular loan, a student travel product, and a supplementary grant ([OCW 2021c](#)).

Quality assurance in MBO teacher education and training

Given that the curriculum and teaching methods differ across the teacher training providers, quality assurance is important to ensure coherence and minimum quality. There are several mechanisms to ensure the quality of teacher education and training and coherence in course requirements and instruction methods in different programmes. In principle, each institution of higher professional education or university has internal self-evaluation mechanisms for the quality of teacher education and training courses. Also, in order to ensure a degree of coherence across different providers, these institutions can share information on the requirements for teachers and may instruct them about the way education is taught at a specific university (Regioplan/ECBO/ROA, 2021^[28]). The Dutch-Flemish accreditation body (NVAO) also accredits the HBO programmes to ensure that programmes incorporate the latest developments in disciplines and professions (Cedefop, 2016^[4]).⁸

ITET to become HBO teacher

While candidate teachers do not need to have a teaching qualification when applying for an HBO teaching position, they usually have to acquire a Basic Teaching Competence Qualification (BDB) within their first year of teaching. Those who already obtained a teaching qualification before starting their position, may be exempted from the BDB programme if the institution at which they are employed recognises their teaching qualification. The Association of Universities of Applied Sciences (*Vereniging Hogescholen*) has defined the requirements for a BDB programme, based on which most HBOs have developed their own BDB programmes. Most institutions have their own BDB programme and have to recognise the BDB programmes of other institution. Depending on the institution, the programme takes 3 to 18 months to complete, yet the most common duration is between 6 and 12 months. Institutions support their teachers financially and give them the necessary time to complete the BDB programme. Most providers are quite flexible and offer customisable programmes. Zestor, an HBO labour market and training fund, provides an overview of the various BDB programmes (Zestor, 2021^[32]).

As an example, the BDB programme at Hogeschool Leiden includes courses for teaching, supervising students, designing education, examinations and professional teaching. This programme lasts about 8 months, including 560 hours of workplace learning. It aims at HBO teachers who are not yet in possession of a didactic qualification. It costs EUR 3 625 (Hogeschool Leiden, 2022^[42]). There are also sector-specific courses for HBO teachers (see below for the available ITET for HBO teachers and trainers in the healthcare and welfare sector).

5.3.2. Preparation for in-company trainers

There is no specific training or training qualification required for in-company trainers (although some branches may impose certain requirements). Nonetheless, SBB offers free training courses and support for in-company trainers. These courses are not a replacement for qualification requirements (e.g. specialist teacher diploma) that may apply in some branches.

SBB courses provide a mix of theory and practical tips for the practical trainer. Online and offline tools include (SBB, 2021^[43]):

- E-learning to learn about supervising MBO students.
- Webinars developed in collaboration with the Institute for Human Rights to learn about 'offering equal opportunities in MBO' and 'the trainee of today'.
- Quality talks to discuss practical learning with SBB advisors on how the work placement company can develop further, including specific advice about the professional and personal guidance, safety, work and the organisation of the learning process.
- Workshops aimed at beginner practical trainers to learn about getting acquainted, motivating, giving instruction and feedback or conducting counselling interviews and development-oriented assessment. These workshops last one to four hours depending on the module.
- [Knowledge base](#), an online portal that provides comprehensive advice, information and guidance for trainers.

In the healthcare and welfare sector, several optional training courses are available for trainers. These courses can lead to an ISCED Level 6 qualification. For example, Breederode University of Applied Sciences offers courses designed to train guidance and coaching skills and provide pedagogy and didactic modules. This training mainly aims for nurses with a training function (at either MBO or HBO Levels) but the programme is also accessible to other professionals in health care and welfare who want to increase their experience in the field of guidance and coaching of students. The training programme include a minimum of 8 practical learning hours per week as a practical trainer and an average study load of 8-10 hours per week to total 452 hours. It can be customised for an individual company as an in-company training programme. Entry requires a bachelor's degree in the sector or an MBO 4 diploma in the sector if passing an HBO assessment from the university (Breederode Hogeschool, 2022^[44]). Other institutions, such as ROC Amsterdam, ROC Midden Nederland and Hogeschool Leiden, also offer trainer training programmes for experienced professionals in the healthcare and welfare sector (usually one-year part-time programme) (V&VN, 2022^[45]).

References

- Breederode Hogeschool (2022), *Practice trainer / Practice supervisor in Healthcare & Welfare*, [44]
<https://www.breederode.nl/opleiding/23/praktijkopleider-praktijkbegeleider-in-gezondheidszorg-welzijn>.
- Casey, P. (2013), *The VET system in the Netherlands*, UKCES, [6]
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/303481/briefing-paper-vocational-education-system-netherlands.pdf.
- CBS (2021), *Statline - School size by type of education and ideological basis*, [8]
<http://opendata.cbs.nl/statline/#/CBS/en/dataset/03753eng/table?ts=1639496589264>.
- Cedefop (2019), *Vocational education and training in Europe: Netherlands*, [14]
<https://www.cedefop.europa.eu/en/tools/vet-in-europe/systems/netherlands-2019>.
- Cedefop (2016), *Spotlight on VET in the Netherlands*, [10]
https://www.cedefop.europa.eu/files/8090_en.pdf.
- Cedefop (2016), *VET in the Netherlands*, https://www.cedefop.europa.eu/files/4142_en.pdf. [4]
- ditismbo.nl (n.d.), *Instructeur in het mbo*, <https://www.ditismbo.nl/over-het-mbo/werken-in-het-mbo/instructeur-in-het-mbo>. [30]
- Dutch Association of Universities of Applied Sciences (2021), *Vereniging Hogescholen website*, [11]
<https://www.vereniginghogescholen.nl/hogescholen>.
- ECBO (2016), *VET in the Netherlands*, Cedefop, [33]
http://www.cedefop.europa.eu/files/4142_en.pdf.
- ECBO (2014), *Apprenticeship-Type Schemes and Structured Work-based Learning Programmes The Netherlands*, https://cumulus.cedefop.europa.eu/files/vetelib/2015/ReferNet_NL_2014_WBL.pdf. [34]
- Education Inspectorate (2021), *The state of secondary vocational education 2021*, [2]
<https://www.onderwijsinspectie.nl/onderwerpen/staat-van-het-onderwijs/documenten/rapporten/2021/04/14/deelrapport-svho-2021-mbo>.
- European Commission (2021), *Initial Education for Teachers and Trainers Working in Adult Education and Training in the Netherlands*, https://eacea.ec.europa.eu/national-policies/eurydice/content/initial-education-teachers-and-trainers-working-adult-education-and-training-49_en. [25]
- European Commission (2021), *Organisation of vocational upper secondary education (MBO) in the Netherlands*, https://eacea.ec.europa.eu/national-policies/eurydice/content/organisation-vocational-secondary-education-mbo-0_en. [9]
- European Commission (2021), *Post-secondary non-tertiary education in the Netherlands*, https://eacea.ec.europa.eu/national-policies/eurydice/content/post-secondary-non-tertiary-education-15_en. [3]
- European Commission (2020), *Initial Education for Teachers Working in Early Childhood and School Education*, https://eacea.ec.europa.eu/national-policies/eurydice/content/initial-education-teachers-working-early-childhood-and-school-education-52_en. [38]

- European Commission (2018), *Types of Higher Education Institutions*, [12]
https://eacea.ec.europa.eu/national-policies/eurydice/content/types-higher-education-institutions-53_en.
- Hogeschool Leiden (2022), *Basic Qualification Didactic Competence (BDB)*, [42]
<https://www.hsleiden.nl/nascholingen/onderwijs-en-innovatie/basiskwalificatie-didactische-bekwaamheid-bdb/index.htm>.
- Koop-Spoor, E. et al. (2020), *Faciliteren van hybride docenten binnen het VO en MBO* [Facilitating hybrid lecturers within secondary and VET schools], Fontys, [16]
<https://www.fontys.nl/actueel/download/878470/rapportagefaciliterenvanhybridedocentenbinnenhetvoenmbo.pdf>.
- Ministerie van OCW (2017), "Besluit van 16 maart 2017 tot wijziging van het Besluit bekwaamheidseisen onderwijspersoneel en het Besluit bekwaamheidseisen onderwijspersoneel BES in verband met de herijking van de bekwaamheidseisen voor leraren en docenten", *Staatsblad*, Vol. 2017/148. [24]
- Ministry of OCW (2022), *Totale uitgaven aan middelbaar beroepsonderwijs*, [20]
<https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/uitgaven/totale-uitgaven-aan-middelbaar-beroepsonderwijs>.
- Ministry of OCW (2021), *Enrollees in higher professional education*, [39]
<https://www.ocwincijfers.nl/sectoren/hoger-onderwijs/kengetallen-hoger-beroepsonderwijs/studenten/ingeschrevenen-hoger-beroepsonderwijs>.
- Ministry of OCW (2021), *Higher vocational education expenditure*, [21]
<https://www.ocwincijfers.nl/sectoren/hoger-onderwijs/kengetallen-hoger-beroepsonderwijs/uitgaven-hbo>.
- Ministry of OCW (2021), *Study time for higher professional education*, [40]
<https://www.ocwincijfers.nl/sectoren/hoger-onderwijs/kengetallen-hoger-beroepsonderwijs/studenten/studietijd-hoger-beroepsonderwijs>.
- Ministry of OCW (2020), *Staff in MBO*, [15]
<https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/personeel>.
- Ministry of OCW (2020), *Uitgaven OCW aan middelbaar beroepsonderwijs*, [18]
<https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/uitgaven/uitgaven-ocw-aan-middelbaar-beroepsonderwijs>.
- Ministry of OCW (2019), *Expenditure on secondary vocational education*, [22]
<https://www.ocwincijfers.nl/sectoren/middelbaar-beroepsonderwijs/uitgaven>.
- Ministry of OCW (2019), *Technical Report - The State of Secondary Education 2019*, [1]
<https://www.onderwijsinspectie.nl/onderwerpen/staat-van-het-onderwijs/documenten/rapporten/2019/04/10/technisch-rapport-voortgezet-onderwijs>.
- OECD (2021), *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, [26]
<https://doi.org/10.1787/59d4fbb1-en>.
- OECD (2020), *Education at a Glance 2020: OECD Indicators*, OECD Publishing, Paris, [7]
<https://doi.org/10.1787/69096873-en>.

- Onderwijsloket (2022), *Hoe word ik instructeur in het mbo?*, [29]
<https://www.onderwijsloket.com/kennisbank/artikel-archief/hoe-word-ik-instructeur-in-het-mbo/>.
- Regioplan (2015), *Onderwijs werkt! Rapportage van een enquête onder directie/management en docenten uit het po, vo, mbo en hbo - Meting 2015*, [13]
<https://www.regioplan.nl/wp-content/uploads/data/file/2014/14034-onderwijs-werkt-2015-Regioplan-okt15.pdf>.
- Regioplan/ECBO/ROA (2021), *Lateral intake in primary, secondary and secondary vocational education*, [28]
<https://www.regioplan.nl/project/zij-instroom-in-het-po-vo-en-mbo>.
- Rijksoverheid (2021), *How can I obtain my qualification as a lateral entrant and teach in education at the same time?*, [27]
<https://www.rijksoverheid.nl/onderwerpen/werken-in-het-onderwijs/vraag-en-antwoord/hoe-word-ik-zijinstromer-in-het-onderwijs>.
- Rijksoverheid (2021), *What student finance options are there for teacher training?*, [41]
<https://www.rijksoverheid.nl/onderwerpen/werken-in-het-onderwijs/vraag-en-antwoord/studiefinanciering-lerarenopleiding>.
- SBB (2021), *BPV PROTOCOL*, [17]
<https://mijn.s-bb.nl/Kennisbank/DownloadKennisbankItem/26>.
- SBB (2021), *Crebolijst sectorale aanvullingen erkenning leerbedrijven per 1 augustus 2021*, [37]
<https://www.s-bb.nl/>.
- SBB (2021), *Ontwikkeling voor praktijkopleiders*, [43]
<https://mijn.s-bb.nl/Kennisbank/DownloadKennisbankItem/15>.
- SBB (2021), *Reglement erkenning leerbedrijven SBB*, [36]
<https://www.s-bb.nl/media/m53nfrku/reglement-erkenning-leerbedrijven-sbb.pdf>.
- Smulders, H., A. Cox and A. Westerhuis (2016), *Netherlands: VET in Europe: country report 2016*, [23]
http://libserver.cedefop.europa.eu/vetelib/2016/2016_CR_NL.pdf (accessed on 15 June 2018).
- Smulders, H., A. Cox and A. Westerhuis (2016), *Netherlands: VET in Europe: Country Report 2016*, [35]
http://libserver.cedefop.europa.eu/vetelib/2016/2016_CR_NL.pdf.
- Tweede Kamer der Staten-Generaal (2021), *Vaststelling van de begrotingsstaten van het Ministerie van Onderwijs, Cultuur en Wetenschap voor het jaar 2022*, [19]
- V&VN (2022), *Practical guidance in healthcare*, [45]
<https://www.venvn.nl/afdelingen/opleiders/thema-s/praktijkbegeleiding/#OpIFON>.
- Vereniging Hogescholen (2020), *Kerncijfers HBO 2020*, [5]
<http://www.vereniginghogescholen.nl>.
- ZESTOR (n.d.), *Hbo-docent worden: wat moet je in huis hebben?*, [31]
<https://www.werkenbijhogescholen.nl/functies/onderwijsgevend/hoe-word-ik-docent/#:~:text=Je%20hebt%20geen%20onderwijsbevoegdheid%20nodig,en%20geld%20van%20de%20hogeschool>.
- Zestor (2021), *Inventarisatie trajecten basiskwalificatie didactische bekwaamheid*, [32]
<https://zestor.nl/inventarisatie-trajecten-basiskwalificatie-didactische-bekwaamheid-bdb>.

Notes

¹ In some aspects of teaching and training instructors can only play a supporting role, e.g. in assessment.

² Less than 0.8 FTE.

³ The Dutch Council for Training and Education (*Nederlandse Raad voor Training en Opleiding*, NRTTO) also represents private providers of secondary and higher education.

⁴ The decree is an update of the 2006 competence requirements.

⁵ The requirements for MBO instructors were added to the decree in 2018.

⁶ Those older than 20 without MBO 4 or general upper-secondary can also enrol after passing a competency test.

⁷ Subsidy scheme for lateral entry. Regulations of the State Secretary for Education, Culture and Science of 3 April 2017, no. VO/ 1091439. This arrangement has been adjusted as of 24-2-2021 (see <https://wetten.overheid.nl/BWBR0039459/2021-02-24>).

⁸ This accreditation also applies to university programmes.

6 Case study: Entry requirements and initial training of vocational teachers and trainers in Norway

This chapter looks at teachers and trainers in the vocational education and training (VET) system in Norway. It zooms in on the requirements to join the VET teaching and training workforce and on the initial education and training to prepare teachers and trainers for their role. Particular attention is paid to ways to make pathways into the teaching and training profession accessible and flexible.

6.1. A snapshot of vocational education and training in Norway

6.1.1. The structure of the Norwegian VET system

Young people in Norway who have completed lower secondary education have a statutory right to upper secondary education and training. At the upper-secondary level, they can opt for a general or vocational programme (Eurydice, 2021^[1]). In 2021, 46% of students transiting to upper secondary education applied for vocational education and training (VET) programmes – a number that has stayed constant over the past years (Utdanningsdirektoratet, 2021^[2]).

In the school year 2020/21, ten upper secondary VET programmes led to more than 190 different trade or journeyman certificates. It is common for upper secondary schools to provide both general and vocational education, though the teaching facilities might be located in separate buildings. Most upper secondary VET programmes follow the main two-plus-two model (Haukås and Skjervheim, 2018^[3]), in which students spend the first two years in an upper secondary school followed by two years of apprenticeship training in a training company or public institution. Depending on the trade, other models are also possible, such as a three-year-long school-based pathway (e.g. interior design, piano repair, or gardening), a one-plus-three model (e.g. chimney sweeper, locksmithing, or industrial footwear production), a two-plus-two-and-a-half model (e.g. remotely operated subsea operator, telecom worker, or lift installer), a three-plus-one model (e.g. heavy equipment mechanic), a three-plus-one-and-a-half model (e.g. automation or computer sciences), or a three-plus-two model (e.g. maritime electrician, aircraft power plant mechanic, or avionics mechanic). More than 70% of upper secondary VET programmes follow the three-year-long or the two-plus-two model (Haukås and Skjervheim, 2018^[3]).

VET programmes are usually concluded with a trade or journeyman examination (Utdanningsdirektoratet, 2020^[4]). Everyone who has completed upper secondary general or vocational education (or equivalent) can apply for a post-secondary VET programme at ISCED Level 5 (nationally referred to as tertiary VET). These programmes are offered by public and private vocational education colleges (*fagskoler*) and normally last six months to two years (Haukås and Skjervheim, 2018^[3]).

Those who successfully complete the first two years of upper secondary VET can gain eligibility to higher education by completing a one-year-long top-up programme, which is usually referred to as “supplementary studies qualifying for higher education” (Eurydice, 2021^[5]). Higher education institutions offer both vocational and non-vocational programmes at ISCED Levels 6 and 7. Both programme types are considered higher education programmes, and no formal distinctions are made between vocational and non-vocational programmes. There are multiple ways to access higher education following upper secondary VET, such as the one-year-long top-up programme or completing a two-year-long vocational programme at ISCED Level 5. Moreover, there are engineering bachelor programmes at ISCED Level 6 for which a relevant upper secondary VET qualification is sufficient to be admitted. In addition, after reaching a certain age (23 or 25 years old) and gaining several years of work experience, admission to higher education is facilitated (Haukås and Skjervheim, 2018^[3]).

Work-based learning

Most vocational programmes at the upper secondary level follow the two-plus-two model, in which two years of school education precede two years of apprenticeship training. Upper secondary schools are in charge of the first two years, whereas enterprises are responsible for the final two years of training. At school, students have core subjects (*fellesfag*),¹ which are the same for all VET programmes, and common programme subjects (*programfag*), which focus on trade-specific theory and practice. While the first year at school introduces the students to the vocational area, the second allows them to choose a specialisation and follow more trade-specific courses. Moreover, students already receive practical training in workshops and enterprises during the first two years of their training programme. The two-year-long apprenticeship

comprises practice-based training (typically one year) as well as productive work (usually one year) at either a training enterprise or a public institution (Haukås and Skjervheim, 2018^[3]). Public or private companies or organisations that have acquired the county authority approval to hire apprentices offer the practical on-the-job training part of an apprenticeship (Eurydice, 2021^[6]). As there is no statutory right for an apprenticeship placement, yet one for upper secondary education, students who could not find an apprenticeship placement may opt for a one-year-long practical school-based training programme, considered to be an alternative giving the students the right to take a trade test.

VET teachers and trainers

VET teachers provide school-based VET in general and vocational subjects. In order to counter the VET teacher shortage and an ageing teaching force, Norway launched a knowledge promotion initiative for VET teachers (*Yrkesfaglærerløftet*) in 2015 (Kunnskapsdepartementet, 2015^[7]). The initiative encompasses a variety of measures including scholarship schemes, flexible educational pathways for prospective VET teachers and other continuing and further education measures (Cedefop, 2020^[8]).

Each company providing apprenticeship placements needs to have a qualified training supervisor and at least one trainer. While enterprises can decide how they want to conduct the practical training, they need to document its planning, organisation, and assessment. In order to ensure the apprentice's learning progress, the trainers continuously evaluate the learner's skills development, which they formally discuss with the apprentice twice a year. The training supervisors have to make sure that the training respects the requirements defined in the Norwegian Education Act (Norwegian Centre for International Cooperation in Education (SIU), 2018^[9]).

In order to improve the cooperation between schools and companies, VET teachers can participate in an exchange programme with trainers whereby VET teachers are sent to enterprises to have a better understanding of how on-the-job training works, and training supervisors and trainers are sent to schools to familiarise themselves with school-based VET (Haukås and Skjervheim, 2018^[3]).

More details about teachers and trainers are provided in the following sections.

6.1.2. Governance

In Norway, the structure of the VET system and its curricula are formalised in national regulations that have to be respected by VET providers. The Ministry of Education and Research is responsible for national policy development and administration of VET at all levels. Regional county authorities are in charge of the provision of VET, allocate VET financing coming from the State budget, and take care of apprenticeship availability and supervision. National cooperation involves the National Council for VET, one vocational training council for each programme area, and national appeal boards. Regional co-operation takes place between county vocational training boards and examination boards.

Social partner representatives from business, industry and the public sector play an active role in developing the structure and curricula of upper secondary VET. They account for a majority of members of all advisory bodies for the upper secondary VET's decision-making system. Tripartite cooperation is essential to anticipate necessary skills of the country's workforce and ensure that VET corresponds to the needs of the labour market.

6.2. Entry requirements for teachers and trainers in VET in Norway

In Norway, an educational or vocational qualification in the relevant subject, four years of work experience (with some exception) and a teaching qualification (pedagogics and didactics) are required to teach in VET. For in-company trainers, there is no specific trainer qualification required, and they are generally only

expected to have a relevant vocational qualification and work experience. Moreover, there is no obligatory training for trainers in Norway.

6.2.1. Qualification, experience and skill requirements for teachers in VET

VET teachers must have a subject-related qualification in the subject they teach (e.g. a vocational qualification), a teaching qualification (focused on pedagogics and didactics) and relevant work experience. In case of teacher shortages, there is some flexibility for schools to temporarily hire VET teachers who do not fulfil all these requirements. There are no formal requirements for in-company trainers and supervisors, although they are generally expected to have vocational qualifications and work experience – and companies need to have competent supervisors and trainers to be able to deliver work-based learning.

General regulations and practice

The formal qualification requirements for all secondary teachers, including teachers of vocational and general subjects in upper secondary VET programmes, are specified in national regulations. Teachers must have two sets of formal qualifications, as well as work relevant experience:

- **Subject-related qualification:** For teachers of vocational subjects, the relevant qualification is mostly a vocational one (in addition to the teaching qualification described below), although other types of relevant qualifications are also allowed. The majority of these teachers hold a trade or journeyman certificate in relevant areas (ISCED Level 4), such as plumbing or electrical installation. In VET programmes that do not have an apprenticeship tradition (e.g. Healthcare, Childhood and Youth Development, or Service), many VET teachers have a bachelor's degree, for instance in nursing or economics (in addition to the teaching qualification). Teachers of general subjects in VET programmes, such as mathematics or Norwegian, should have a master's degree in the subject area and a teacher education qualification (Hiim, 2020^[10]).
- **Teaching qualification:** Depending on their prior qualifications and work experience, prospective VET teachers need to complete a vocational teacher education (*Yrkesfaglærerutdanning*, YFL) or a vocational practical pedagogical education (*Praktisk-pedagogisk utdanning for yrkesfag*, PPU-Y; see section Initial teacher education and training), which lead to a teaching qualification at ISCED Level 6 (Utdanningsdirektoratet, 2021^[11]).
- Teachers of vocational subjects have to demonstrate that they **have relevant professional work experience** (outside teaching) when they start a teacher education programme. The required length of professional experience ranges from two to four years, depending on one's formal qualification and the type of teacher education programme one is opting for (Øiestad Grande et al., 2014^[12]).

The requirements for post-secondary VET teachers are less specific than those for upper secondary VET teachers. Post-secondary VET teachers should have a qualification at least at the same level as the one they teach. If there is no available tertiary education qualification in that subject, professional experience can replace the formal education criterion. Moreover, post-secondary VET teachers are required to have pedagogical and digital competences (Lyckander and Øiestad Grande, 2018^[13]). A survey conducted by the Oslo Metropolitan University in 2018 mapped the general profile of post-secondary VET teachers, and found that almost 90% of the 853 surveyed teachers indicated that they have a higher education than required – in most cases, a bachelor's or master's degree. Moreover, around 70% have a pedagogical education. Those teaching online stated that they considered their digital competences mainly medium or good; however, only a few have a formal online pedagogical education. Around 60% of the surveyed teachers have extensive professional experience of at least ten years (Lyckander and Øiestad Grande, 2018^[13]).

Exceptions

When schools face difficulties finding qualified teachers, they may hire teachers who do not fulfil the teacher requirements by offering them a temporary contract that expires by the end of the school year (31 July). Schools may also recruit prospective teachers who are still in the process of completing their teacher education. In this case, the employer and the teacher decide on the appointment duration and in case of non-completion of the teacher education, the employment will not continue. Moreover, those who have already been considered qualified for a teaching position without having the necessary teaching qualifications – such as those who have years of relevant experience with a relevant vocational qualification or an applicant who is in the process of relevant education – may also be temporarily hired as a teacher in case of teacher shortages (Utdanningsdirektoratet, 2021^[11]).

6.2.2. Qualification, experience and skill requirements for in-company trainers

A company interested in providing work-based VET needs to be professionally assessed by the county vocational training board and then receive the formal and permanent approval by the county authority that enables it to act as a training establishment. In order to be approved, the enterprise has to satisfy the training content requirements stipulated in the Education Act² and needs to appoint a qualified training supervisor in charge of the training (*faglige ledere*) as well as one or more trainers (*instruktører*). In Oslo, for instance, the interested company submits an application form as well as proof of the prospective training supervisor's competence to the county authority. It is not defined what competence the supervisor must have, yet one is usually expected to have a journeyman certificate or six years of relevant work experience. The Norwegian Directorate for Education and Training is responsible for a national labelling scheme for approved companies with minimum one apprentice (Utdanningsdirektoratet, 2022^[14]). This agency arranges an approval meeting with the county authority and the enterprise. Before the approval meeting takes place, the company may participate in online courses designed for new learning companies and has to prepare an internal training plan. At the approval meeting, the internal training plan as well as the approval of the enterprise is reviewed by the county authority. Following the meeting, the company receives the agency's approval decision by letter (Oslo, n.d.^[15]). The number of approved apprenticeship enterprises was 20 953 in 2020/21, compared to 19 760 in 2016-17 (Utdanningsdirektoratet, n.d.^[16]).

In order to become a training supervisor or in-company trainer, the candidate does not have to follow a training or hold a specific trainer qualification. Typically, supervisors hold one of the following qualifications: i) trade or journeyman certificate, ii) master craftsperson certificate, iii) relevant higher education, or iv) relevant work experience (usually six years). Likewise, while there are no formal requirements for in-company trainers, they may showcase their competences through a vocational qualification and/or several years of work experience (Haukås and Skjervheim, 2018^[3]).

6.3. Initial preparation for teachers and trainers in VET in Norway

ITET in Norway has two pathways leading to the same qualification at ISCED Level 6: a vocational practical pedagogical education (PPU-Y) and a vocational teacher education (YFL). Prospective in-company trainers and supervisors do not need to follow a training, but The Norwegian Directorate for Education and Training offers free resources for them to prepare for their role. County municipalities, training offices, university colleges, and some enterprises also provide optional courses for training supervisors and in-company trainers.

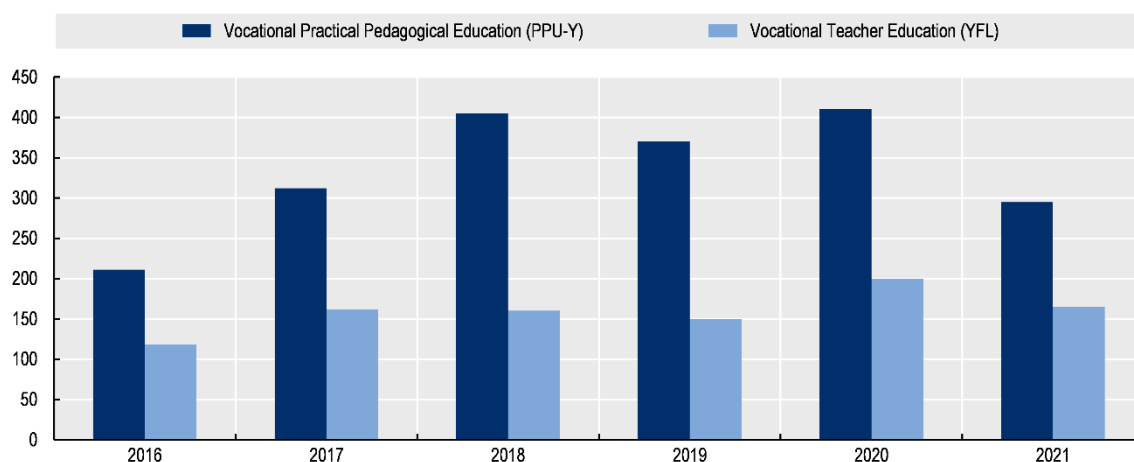
6.3.1. Initial teacher education and training

Teacher training providers, duration, entry requirements

To become a qualified VET teacher, candidates must complete a vocational practical pedagogical education (PPU-Y) or a vocational teacher education (YFL). While these two paths lead to the same qualification, they differ in length, content, and admission requirements, see Table 6.1 for a summary. The majority of prospective VET teachers opt for the vocational practical pedagogical education programme (see Figure 6.1) (Kunnskapsdepartementet, 2015^[17]). The teacher candidates choose which programme to enrol in according to their qualifications (Kunnskapsdepartementet, 2015^[17]).

Figure 6.1. The majority of prospective VET teachers in Norway opt for the vocational practical pedagogical education programme

Number of vocational practical pedagogical education and vocational teacher education graduates (2016-21)



Note: The number of graduates varies to this extent as several institutions do not admit students annually but according to recruitment needs.
Source: Utdanningsforbundet (2021^[18]), Lærerutdanningene - søkere og uteksaminerte kandidater 2021 (midlertidige tall), https://www.utdanningsforbundet.no/globalassets/var-politikk/publikasjoner/faktaark/faktaark_07.2021.pdf.

Universities and university colleges offer vocational practical pedagogical education and vocational teacher education. While the vocational practical pedagogical education is offered by several universities and university colleges across the country, the vocational teacher education is only offered at the Norwegian University of Science and Technology in Trondheim and at Oslo Metropolitan University (Utdanningsforbundet, n.d.^[19]).

The vocational practical pedagogical education is a one-year-long programme (60 ECTS). It is designed for those who have a professional bachelor's or master's degree, or for those who already hold a vocational (trade/journeyman) certificate with a post-secondary qualification (ISCED Level 5) and a general university and college admission certification. Before starting the programme, the candidates need to have gained relevant work experience of at least two years if they have a professional bachelor's or master's degree or four years if they have a trade/journeyman certificate (Utdanningsdirektoratet, 2021^[11]) (OsloMet, n.d.^[20]).

The vocational teacher education is a three-year-long bachelor programme (180 ECTS). Admission to this programme requires a general study competence (meaning the candidates are eligible for university or college studies), a trade or journeyman certificate, and at least two years of relevant work experience

following the completion of their upper secondary VET programme. Those who do not have a general study competence but are at least 25 years old and have five years of full-time relevant work experience or more may also apply (Utdanningsdirektoratet, 2021^[11]; OsloMet, n.d.^[20]).

Table 6.1. Difference between vocational practical pedagogical education and vocational teacher education in Norway

	Vocational practical pedagogical education (PPU-Y)	Vocational teacher education (YFL)
Provider	Several universities and university colleges across the country	Norwegian University of Science and Technology in Trondheim; Oslo Metropolitan University.
Length	1 year full-time or 2 years part-time (60 ECTS)	3 years (180 ECTS)
Admission requirement	- A professional bachelor's or master's degree; or a vocational certificate, a post-secondary qualification (ISCED Level 5) and a general university and college admission certification. - 2-4 years of relevant work experience	- General study competence that qualifies for university or college studies, and a trade or journeyman certificate, - At least two years of relevant work experience.
Content	Pedagogical theory, vocational didactics and supervised teaching, and practical pedagogical training lasting 60 days (or 12 weeks).	Vocational training and pedagogy, including in-depth studies in the future teacher's subject, vocations in the programme specifically on teaching in the first year of VET, and vocational pedagogy and didactics provided through practical training (130 days).
Qualification to obtain upon completion	ISCED Level 6	ISCED Level 6

Source: Utdanningsdirektoratet (2021^[11]), *Tilsetting og kompetansekrav*, <https://www.udir.no/regelverk-og-tilsyn/skole-og-opplaring/saksbehandling/larerkompetanse/#videregaende-opplaring>; OsloMet (n.d.^[21]), *Yrkesfaglærerutdanning*, <https://www.oslomet.no/studier/loi/yrkesfaglærerutdanning>

Target competences, content and curriculum

The vocational practical pedagogical education (PPU-Y) builds on the candidate's educational background in a relevant area and skilled work experience. The main fields of study include pedagogical theory, vocational didactics and supervised teaching, and practical pedagogical training lasting 60 days (or 12 weeks), which is divided into different stages throughout the programme (Hiim, 2020^[10]; OsloMet, n.d.^[21]).

The vocational teacher education (YFL) covers both vocational training and pedagogy. The programme encompasses: i) one component (60 ECTS) of in-depth studies in the future teacher's subject, ii) one component (60 ECTS) focusing on the breadth of vocations in the programme and specifically on teaching in the first year of VET, and iii) one component (60 ECTS) of vocational pedagogy and didactics provided through practical training. The practical training lasts 130 days and takes place during the second, third, fourth and sixth semesters. 70 days are spent on vocational pedagogical practice, whereas the remaining 60 days are spent on vocational practice taking place at companies (Hiim, 2020^[10]; OsloMet, n.d.^[21]).

The delivery of teacher education and training

In general, PPU-Y programmes in Norway are provided in a flexible way with the majority of students opting for part-time provision (Øiestad Grande et al., 2014^[12]), while the YFL programme is usually pursued full-time. Whereas students may choose to follow any of the two programmes online, they are still required to complete their practical training at schools and, if they opt for the vocational teacher education, in companies (OsloMet, n.d.^[20]) (OsloMet, n.d.^[21]).

There are several universities and university colleges that recognise prior learning and exempt their students from part of the entry requirements. For example, trades- or journeypersons who enter the vocational practical pedagogical education are normally required to have two years of vocational theoretical education, but universities and university colleges may exempt their students from this requirement based on their skills and experience (Utdanningsdirektoratet, 2021^[11]).

Financing of teacher education and training

ITET is financed by the government. Students pay a small fee to contribute to student welfare services and a copy fee, yet they do not pay tuition fees when studying at a public institution. Moreover, they can apply for government loans (*Lånekassen*) to finance their study material and living expenses. Up to 40% of these loans can be converted into grants under certain conditions (Lånekassen, 2021^[22]).³

School owners (e.g. municipalities, county municipalities, state or private schools) can apply for education and recruitment grants provided by the Norwegian Directorate for Education and Training to enable already employed teachers or candidates the school would like to hire to acquire the necessary teacher qualification. Depending on the programme, the grant ranges from NOK 123 000 (EUR 12 900) for the vocational practical pedagogical education to NOK 246 000 (EUR 25 800) for the vocational teacher education (Utdanningsdirektoratet, 2022^[23]; OsloMet, n.d.^[21]).

Quality assurance in initial teacher education and training

The Norwegian Act Relating to Universities and University Colleges⁴ stipulates that universities and university colleges should have an internal quality assurance system. Their quality assurance practices are periodically supervised and need to be approved by the Norwegian Agency for Quality Assurance in Education (NOKUT)⁵ – a professionally independent body under the Norwegian Ministry of Education and Research. Laws and regulations determine requirements for quality assurance practices. For instance, there needs to be a strategy for the practices that covers all areas relevant for the quality of the learning outcomes of students. Moreover, the institution's board and all management levels have to endorse the practices. Students' course evaluations also need to be taken into consideration. In addition to supervising higher education institutions' quality assurance practices, NOKUT is responsible for the contribution to and information provision on the quality development of Norway's higher education institutions, which provide ITET (Eurydice, 2022^[24]; LOVDATA, 2021^[25]; NOKUT, n.d.^[26]).

6.3.2. Preparation for in-company trainers

There are no formal requirements to become a supervisor or an in-company trainer, yet candidates usually have a vocational qualification and relevant work experience (see above). As prospective supervisors and trainers are not required to participate in dedicated training, this section will focus on the resources candidates may refer to when preparing for their role as an in-company trainer.

The Norwegian Directorate for Education and Training offers free resources for apprentice instructors on their [website](#), which include lectures and short movies showing how instruction can be carried out in practice (Norwegian Directorate for Education and Training, 2011^[27]). Moreover, county municipalities, training offices, university colleges, and some enterprises provide optional courses for training supervisors and in-company trainers (Utdanningsdirektoratet, 2016^[28]). For instance, on behalf of the Norwegian Directorate for Education and Training, Inland Norway University of Applied Sciences has developed a practice-oriented online course for training supervisors and in-company trainers that allows them to refine their assessment skills (HINN, n.d.^[29]). Most online resources and courses are free of charge.

The online resources and the courses usually target tasks training supervisors and in-company trainers have to complete and offer advice on how to build a fruitful relationship with the apprentice. The resources also focus on core competences that training supervisors and in-company trainers should acquire, such

as the ability to assess progress of the apprentice and to clearly communicate expectations, for instance. Often, training experiences are shared between the participants and external training supervisors, in-company trainers and apprentices (HINN, n.d.^[29]) (Utdanningsdirektoratet, n.d.^[30]). Norway provides state grants to counties for local initiatives that can be used for skills development for in-company trainers (Utdanningsdirektoratet, 2021^[31]).

References

- Cedefop (2020), *Developments in vocational education and training policy in 2015-19: Norway*, <https://www.cedefop.europa.eu/en/country-reports/developments-vocational-education-and-training-policy-2015-19-norway>. [8]
- Eurydice (2022), *Norway: Quality assurance in higher education*, <https://eurydice.eacea.ec.europa.eu/>. [24]
- Eurydice (2021), *Norway: Assessment in vocational upper secondary education*, <https://eurydice.eacea.ec.europa.eu/>. [5]
- Eurydice (2021), *Norway: Organisation of vocational upper secondary education*, <https://eurydice.eacea.ec.europa.eu/>. [6]
- Eurydice (2021), *Norway: Upper secondary and post-secondary non-tertiary Education*, <https://eurydice.eacea.ec.europa.eu/>. [1]
- Haukås, M. and K. Skjervheim (2018), *Vocational education and training in Europe - Norway*, [http://Vocational education and training in Europe - Norway](http://Vocational%20education%20and%20training%20in%20Europe%20-%20Norway). [3]
- Hiim, H. (2020), "The quality and standing of school-based Norwegian VET", *Journal of Vocational Education & Training*, Vol. 72/2, pp. 228-249, <https://doi.org/10.1080/13636820.2020.1734062>. [10]
- HINN (n.d.), *Vurdering i lærebedrifter og prøvenemnder*, <https://www.inn.no/studier/vare-studier/vurdering-i-leringbedrifter-og-provenemnder/>. [29]
- Kunnskapsdepartementet (2015), *Yrkesfaglærerløftet - for fremtidens fagarbeidere*, <https://www.ntnu.no/videre/yrkesfag>. [17]
- Kunnskapsdepartementet (2015), *Yrkesfaglærerløftet. Strategi for fremtidens fagarbeidere. [VETteacher knowledge promotion initiative. Strategy for further vocational workers]. Plan/strategi*, https://www.regjeringen.no/contentassets/18b2675273024ad3aeae27ecc4159edc/kd_yrkesfaglærerløftet_web_01.10.pdf. [7]
- Lånekassen (2021), *Universitet og høyskole*, https://utdanning.no/tema/utdanning/universitet_og_hogskole. [22]
- LOVDATA (2021), *Lov om universiteter og høyskoler (universitets- og høyskoleloven)*, <https://lovdata.no/dokument/NL/lov/2005-04-01-15>. [25]
- Lyckander, R. and S. Øiestad Grande (2018), *Kompetanse og kompetansebehov i fagskolene*, <https://skriftserien.oslomet.no/index.php/skriftserien/article/view/120/120>. [13]
- NOKUT (n.d.), *Om NOKUT*, <https://www.nokut.no/om-nokut/>. [26]

- Norwegian Centre for International Cooperation in Education (SIU) (2018), *Vocational education and training in Europe - Norway*, <https://www.cedefop.europa.eu/en/country-reports/vocational-education-and-training-europe-norway-2018>. [9]
- Norwegian Directorate for Education and Training (2011), *Etterutdanningsmateriell for Fag- Og Yrkesopplæring*, http://www.udir.no/Utvikling/Etterutdanningsmateriell_FY/ (accessed on 10 July 2020). [27]
- Øiestad Grande, S. et al. (2014), *Fram i lyset! En kartlegging av status og behov for lærerutdanning for yrkesfag*, https://khrono.no/files/2017/11/15/fram_i_lyset_hioa.pdf. [12]
- Oslo (n.d.), *Søk om å bli godkjent lærebedrift*, <https://www.oslo.kommune.no/skole-og-utdanning/fag-og-yrkesopplaring/larebedrift/bli-larebedrift/sok-om-godkjenning/>. [15]
- OsloMet (n.d.), *PPU for yrkesfag*, <https://www.oslomet.no/studier/lui/evu-lui/ppu-yrkesfag>. [20]
- OsloMet (n.d.), *Yrkesfaglærerutdanning*, <https://www.oslomet.no/studier/lui/yrkesfaglaererutdanning>. [21]
- Utdanningsdirektoratet (2022), *Bli lærebedrift*, <https://www.udir.no/utdanningslopet/videregaende-opplaring/bli-larebedrift/>. [14]
- Utdanningsdirektoratet (2022), *Utdannings- og rekrutteringsstipend*, <https://www.udir.no/kvalitet-og-kompetanse/etter-og-videreutdanning/utdannings--og-rekrutteringsstipend/>. [23]
- Utdanningsdirektoratet (2021), *Statistikk fag- og yrkesopplæring*, <https://www.udir.no/tall-og-forskning/statistikk/statistikk-fag-og-yrkesopplaring/>. [2]
- Utdanningsdirektoratet (2021), *Tilskuddsordning til kompetanseutvikling i fag- og yrkesopplæring*, <https://www.udir.no/kvalitet-og-kompetanse/lokal-kompetanseutvikling/tilskuddsordning-for-lokal-kompetanseutvikling-i-fag-og-yrkesopplaringen/#a156829>. [31]
- Utdanningsdirektoratet (2016), *Instruktørkompetanse*, <https://www.udir.no/kvalitet-og-kompetanse/kvalitet-i-fagopplaringen/Administrasjon/Instruktorkompetanse/>. [28]
- Utdanningsdirektoratet (n.d.), *Godkjente lærebedrifter*, <https://www.udir.no/tall-og-forskning/statistikk/statistikk-fag-og-yrkesopplaring/godkjente-larebedrifter2/godkjente-larebedrifter1/>. [16]
- Utdanningsdirektoratet (n.d.), *Vurderingspraksis*, <https://www.udir.no/laring-og-trivsel/vurdering/>. [30]
- Utdanningsdirektoratet (2021), *Tilsetting og kompetansekrav*, <https://www.udir.no/regelverk-og-tilsyn/skole-og-opplaring/saksbehandling/larerkompetanse/#videregaende-opplaring>. [11]
- Utdanningsdirektoratet (2020), *Norwegian vocational education and training (VET)*, <https://www.udir.no/in-english/norwegian-vocational-education-and-training/>. [4]
- Utdanningsforbundet (2021), *Lærerutdanningene - søkere og uteksaminerte kandidater 2021 (midlertidige tall)*, <https://www.utdanningsforbundet.no/var-politikk/publikasjoner/2021/larerutdanningene--sokere-og-uteksaminerte-kandidater-2021-midlertidige-tall/#:~:text=I%202021%20har%20154%20088,12%20974%20f%C3%B8rstevalgs%C3%B8kere%20i%20for>. [18]

Utdanningsforbundet (n.d.), *Yrkesfaglærerutdanning*,
<https://www.utdanningsforbundet.no/medlemsgrupper/videregaende-opplaring/ppu-eller-yfl-for-yrkesfagslarere/>.

[19]

Notes

¹ Norwegian, English, mathematics, physical education, natural sciences and social sciences.

² The Education Act states (Section 4-3.Approval of training establishments): “Establishments that assume the responsibility for training one or more apprentices, candidates for certificate of practice, training candidates or candidates for trade certificate at work must be approved by the county authority. Approval to function as training establishments can be granted to private and public enterprises and institutions and to bodies for collaboration between enterprises that assume a joint responsibility for training (training offices or training circles). The training establishment must have been professionally assessed by the county vocational training board before the county authority can give it its approval. The county authority must place decisive emphasis on the professional assessment by the vocational training board before making a final decision” (see [Act relating to Primary and Secondary Education and Training \(the Education Act\) - Lovdata](#) for more information).

³ If they complete their education successfully, do not live with their parents, and their income and wealth do not exceed a certain amount. Having children, disabilities, falling ill, or being older than 30 entitles them to apply for additional loans, grants, or scholarships.

⁴ *Lov om universiteter og høyskoler (universitets- og høyskoleloven)*, University and University Colleges Act.

⁵ *Nasjonalt organ for kvalitet i utdanningen*.

Annex A. Simplified ISCED mappings

Table A A.1. Simplified ISCED mapping Canada

ISCED level (2011) of qualification/educational attainment	Name of the Programme	Main qualifications awarded
244	Junior High or Middle School	Secondary/High/Intermediate School Programs; Junior Secondary/High School Programs; Middle School/Years Programs; Upper Elementary School Programs.
344	High School, Secondary School, or Senior Secondary	General Secondary/High School Programs; General Equivalency Diploma (GED); Adult Basic Education (ABE) Programs.
354	Vocational/Technical High School	Vocational Secondary/High School Programs; Diploma of Vocational Studies (DVS) Programs; Secondary School Vocational Diploma (SSVD); Diplôme d'Études Professionnelles (DEP).
444	Upgrading Program	Programs (typically completed in less than two years) that prepare students for: <ul style="list-style-type: none"> entry into career, technical, or pre-university programs: Orientation and Integration; Transition; Upgrading; College Preparation and ABE. undergraduate studies but are not undergraduate programs: Pre-University Diploma of College Studies (DCS); CEGEP General; Undergraduate Foundation.
453	Trade Certificate or Career, Technical, or Professional Training Program	Postsecondary Skills Programs (typically completed in less than two years) that usually lead to a specific career path that are neither apprenticeship, pre-university, undergraduate, nor graduate programs: College Certificate; (Vocational) Institution Certificate; Attestation of College Studies (ACS); Skills Training Certificate; Trade or Vocational Certificate; Certificate of Accomplishment/Achievement; Training Module.
453	Apprenticeship Program	In-class or technical components of apprenticeship training programs offered at postsecondary/secondary institutions. On-the-job training undertaken with an employer under the supervision of a journeyperson, registered with the appropriate provincial/territorial authority. Leading to Certificate of Apprenticeship. Certificate of Qualification obtained after completing an apprenticeship and passing the Certificate of Qualification exam. Journeyperson Certificate or Diploma.
544	Undergraduate Diploma or Certificate Program	Programs (typically completed in two or more years) that prepare students for entry into a bachelor's degree program (bridging option for a student who does not fully meet the requirements for entry into such a program). While these programs generally do not lead to a qualification, some credits may be granted towards a bachelor's degree.
554	College Diploma Program	Postsecondary Skills Programs (typically completed in two or more years) that usually lead to a specific career path and into the labour market that are neither apprenticeship, pre-university, undergraduate, nor graduate programs. College Diploma; Diploma of College Studies (DCS); CEGEP Technical.
554	Post-Career, Technical, or Professional Training Program	Postsecondary Skills Programs that usually lead to a specific career path and require a certificate or a diploma from a career to technical training program: Advanced Certificate/Diploma/Citation; Applied Certificate/Diploma; Post-Certificate or Diploma; Specialization Diploma in Technical Studies; Attestation of Vocational Specialization.
645, 655, 665	Undergraduate Programs	Bachelor's Degree; Bachelor of Arts/Sciences/Law; Collaborative/Joint/Associate Degree
647, 657, 667	Above Bachelor's Degree Credential or Equivalent	Post-Bachelor Certificate or Diploma Programs; Post-Degree Certificate or Diploma Programs; Advanced Post-Bachelor Programs Below a Master's Degree; Advanced Certificate or Diploma Programs which require a Bachelor's Degree
746, 756, 766, 747, 757, 767	Graduate programs	Master's Degree; Master of Arts/Science/Divinity; College-Applied Master's Degree. University-College Master's Level
748, 758, 768	Above Master's Degree Credential	Programs that prepare students for entry into a Doctorate Degree Program Graduate Qualifying Programs (Third Cycle)
844, 854, 864	Doctorate Degree Education or Equivalent	Earned Doctorate or Equivalent Programs: Doctor of Philosophy (Ph.D.)/Administration (D.B.A.)/Education (Ed.D.)/Music (Mus.D.)/Juridical Science (SJD). Graduate Programs (above the Third Cycle).

Note: See UNESCO Institute for Statistics (2012_[1]) for details about the ISCED-2011 classification. VET programmes at ISCED levels 3 to 5 are in bold.

Source: UNESCO Institute for Statistics (2022_[2]), ISCED Mappings, <http://uis.unesco.org/en/isced-mappings>.

Table A A.2. Simplified ISCED mapping Denmark

ISCED-2011 level of qualification/educational attainment	Name of the programme	Name of the qualification
344	Upper secondary education (AGYM)	Upper secondary school leaving examination (Studentereksamen, HF-eksamen)
344	Upper secondary education (EGYM)	Upper secondary school leaving examination (HHX-eksamen, HTX-eksamen)
344	Admittance examinations for engineering programmes	Admittance diploma for engineering programmes (Adgangseksamen, ingeniøruddannelsen)
353; 354	Vocational educational training, main course (EUD)	VET (Afgangsbevis fra erhvervsskole, faglært)
454	Short-cycle higher education, open adult education	Higher education, short cycle, adult education (Merkonom, teknonom, datanom)
550	Academy programmes (Tertiary adult education programmes), VVU	Academy programmes (Tertiary adult education programmes) (Akademiuddannelser (Videregående voksenuddannelse or VVU))
550	Business academy programmes	Business academy programmes (Erhvervsakademiuddannelser)
550	Other short-cycle higher education	Other short-cycle higher education (Øvrige korte videregående uddannelser)
640	Bachelor programmes	Bachelor
650	Bachelor programmes, engineering	Bachelor programmes, engineering
650	Bachelor programmes, adult education	Bachelor programmes, adult education
650	Officer (bachelor)	Officer (bachelor)
650	Vocational/professional bachelor programmes	Vocational bachelor examination
740	Masters programmes, 5 years	Master
740	Masters of Arts programmes	Master
750	Masters programmes, adult education	Master
750	Officer (Long-cycle higher education, LVU) (incl. immigrants' defence education)	Officer (Long-cycle higher education) (incl. immigrants' defence education)
840	Doctoral programmes/PhD.	Doctorate
840	Musical education (composer, instrumentalist, etc.)	Musical education (composer, instrumentalist, etc.)

Note: See UNESCO Institute for Statistics (2012^[1]) for details about the ISCED-2011 classification. VET programmes at ISCED levels 3 to 5 are in bold.

Source: UNESCO Institute for Statistics (2022^[2]), ISCED Mappings, <http://uis.unesco.org/en/isced-mappings>.

Table A A.3. Simplified ISCED mapping Germany

ISCED-2011 level of qualification/educational attainment	Name of the programme	Name of the qualification
244	Secondary general schools (Hauptschulen); Intermediate schools (Realschulen); Grammar schools (Gymnasien)	Lower secondary schools
344	Upper secondary, grammar, comprehensive and Free Waldorf schools	University entrance qualification
344	Specialised vocational high schools, 2 years	Fachhochschule entrance qualification
344	Specialised vocational schools: objective: university entrance qualification	Fachhochschule entrance qualification, University entrance qualification
354	Dual System	Qualification in the Dual System
354	Specialised vocational schools: occupational qualification; Dual vocational college; Full-time vocational training	Qualification of a vocational full-time school
354	Childcare worker programme at specialised vocational schools.	Qualification of social programmes (childcare worker, 2 years)
444	Specialised vocational high schools, 1 year	Fachhochschule entrance qual. (2 nd cycle)
444	Berufsoberschulen/Technische Oberschulen	University entrance qualification (second cycle)
454	Dual System (second cycle) for students with university entrance qualification	Dual System (second cycle) for students with university entrance qualification
454	Dual System (third qualification for students with university entrance qualification and vocational qualification)	Qualification in the Dual System (second cycle)
454	Specialised vocational schools: occupational qualification (second cycle) for students with university entrance qualification; Full-time vocational training programmes	Specialised vocational schools: occupational qualification (2nd cycle) for those with university entrance qualification
454	Vocational programmes/ Dual System/Programmes at Fachgymnasien, offering both an occupational qualification and a university entrance qualification (simultaneously or one after the other)	Vocational programmes offering both an occupational qualification and a university entrance qualification (simultaneously or one after the other)
453	Health/social sector programmes at specialised vocational schools (2 and 3 years)	Qualification of health/social sector programmes (2 and 3 years)
554	Master Craftsmen programmes at trade and technical schools (short)	Master Craftsmen's qualification (short)
655	Master Craftsmen programmes at trade & technical schools (long)	Master Craftsmen's qualification (long)
655	Trade and technical schools (technicians and for example economics, IT, domestic science)	Technician's qualification, qualification in economics, IT, domestic science
645	Vocational academies (Diploma)	Diploma (vocational academy)
645	Vocational academies; Colleges of public administration; Universities of Applied Science; University studies; Baden-Wuerttemberg Cooperative State University	Bachelor
645/647	Colleges of public administration (Diploma); Colleges of public administration (second Diploma)	Diploma (College of Public Administration)
645/647	Universities of Applied Science (Diploma); Universities of Applied Science (second Diploma)	Diploma University of applied science
647	Universities of Applied Science; University studies (2nd Bachelor)	Bachelor
747	Vocational academies; Baden-Wuerttemberg Cooperative State University; Colleges of public administration; Universities of Applied Science; University studies	Master
748	Vocational academies; Baden-Wuerttemberg Cooperative State University; Colleges of public administration; Universities of Applied Science; University studies (second Master)	Master
746/748	University studies (Diploma); University studies (postgraduate studies; supplementary studies)	University diploma, state examination
844	Doctoral studies	Doctoral degree

Note: See UNESCO Institute for Statistics (2012^[1]) for details about the ISCED-2011 classification. VET programmes at ISCED levels 3 to 5 are in bold.

Source: UNESCO Institute for Statistics (2022^[2]), ISCED Mappings, <http://uis.unesco.org/en/isced-mappings>

Table A A.4. Simplified ISCED mapping the Netherlands

ISCED-2011 level of qualification/educational attainment	Name of the programme	Name of the qualification
254	Vocational education: training to assistant level; (level 1); full time school based and dual programmes	secondary vocational education, assistant level (MBO 1)
254	Vocational education: training to assistant level; (level 1); part-time programmes, school based	secondary vocational education, assistant level (MBO 1)
244	Pre-vocational secondary education (including programmes with prevocational content, general content and mixed content)	prevocational secondary education (VMBO)
244	Junior general secondary education (first three grades of HAVO and VWO and combined classes)	proof to be admitted to grade 4 of general secondary education (HAVO or VWO)
244	Junior general secondary education for adults	junior general secondary education
353	Vocational education, basic vocational training (level 2); school based and dual programmes	secondary vocational education, basic level (MBO 2)
353	Vocational education, basic vocational training (level 2); part-time programmes, school based	secondary vocational education, basic level (MBO 2)
353	Vocational education, professional training (level 3); full-time school based and dual programmes	secondary vocational education, professional level (MBO 3)
353	Vocational education, professional training (level 3); part-time programmes, school based	secondary vocational education, professional level (MBO 3)
354	Vocational education, middle-management training (level 4); full-time school based and dual programmes	secondary vocational education, middle management level (MBO 4)
354	Vocational education, middle-management training (level 4); part-time programmes, school based	secondary vocational education, middle management level (MBO 4)
344	Senior general secondary education	senior general secondary education (HAVO)
344	Senior general secondary education	senior general secondary education (VWO)
344	Senior general secondary education for adults	senior general secondary education (HAVO)
344	Senior general secondary education for adults	senior general secondary education (VWO)
454	Vocational education, specialist training (level 4); full-time school based and dual programmes	secondary vocational education, specialist level (MBO 4)
550	Associate degree programmes	associate degree
650	Professional bachelor's degree programmes	bachelor degree (HBO)
640	Academic bachelor's degree programmes	bachelor (WO) degree
750	Professional master's degree programmes	master degree (HBO)
740	Academic master's degree programmes	master degree (WO)
840	Research assistants	doctorate, PhD

Note: See UNESCO Institute for Statistics (2012^[1]) for details about the ISCED-2011 classification. VET programmes at ISCED levels 3 to 5 are in bold.

Source: UNESCO Institute for Statistics (2022^[2]), ISCED Mappings, <http://uis.unesco.org/en/isced-mappings>.

Table A A.5. Simplified ISCED mapping Norway

ISCED-2011 level of qualification/educational attainment	Name of the programme	Name of the qualification
244	Lower secondary level	Compulsory education diploma
241	Introduction programme in Norwegian language and social conditions for new immigrants	Certificate in Norwegian language and civic studies for adult immigrants
341	Upper secondary, alternative course	certificate of competence
351	The training candidate scheme	Certificate of Competence, vocational training certificate
343	Upper secondary education, basic competence, study preparation education program	Certificate of competence
344	Upper secondary, general programmes	General university and college admissions certification
344	Preparatory courses	General university and college admissions certification
353 / 354	Upper secondary, vocational programmes	Vocational qualifications/trade certificate/journeyman's certificate
351	The Certificate of Practice	The Certificate of Practice Scheme
454	Post-secondary vocational education, short (< 2 years)/Tertiary vocational education	Professional degree
554	Post-secondary vocational education, 2 years/Tertiary vocational education	Higher professional degree
641	University college degree programme, 2 years	University college degree
645	Bachelor programme, 3-4 years	Bachelor's degree
645	Programmes in general teacher education and special subject teacher education in practical-aesthetic subjects - outside the Ba-Ma cycle	General teacher education and special subject teacher education in practical-aesthetic subjects
747	Master programme, 1 - 1,5 years	Master
747	Master programme, 2 years	Master
746	Master programme, 5 years	Master
747	Experience-based Master's programme	Experience-based Master's degree
746	Long professional programmes in Theology, Psychology, Medicine and Veterinary Science	Cand.theol., Cand.psychol., Cand.med., Cand.med.vet.
748	Specialist courses/Supplementary courses for foreign education	Specialist courses/Supplementary courses for foreign education
844	PhD programme	PhD
844	Artistic Research Fellowship Programme	Diploma in Artistic Research Fellowship Programme
844	Doctorate	Doctorate (dr.philos.)

Note: See UNESCO Institute for Statistics (2012^[1]) for details about the ISCED-2011 classification. VET programmes at ISCED levels 3 to 5 are in bold.

Source: UNESCO Institute for Statistics (2022^[2]), ISCED Mappings, <http://uis.unesco.org/en/isced-mappings>.

References

UNESCO Institute for Statistics (2022), *ISCED Mappings*, <http://uis.unesco.org/en/isced-mappings>. [2]

UNESCO Institute for Statistics (2012), *International Standard Classification of Education - ISCED 2011*, <http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf>. [1]

OECD Reviews of Vocational Education and Training

Preparing Vocational Teachers and Trainers

CASE STUDIES ON ENTRY REQUIREMENTS AND INITIAL TRAINING

Teachers and in-company trainers are central to vocational education and training (VET), as they support the school-to-work transitions of learners from diverse backgrounds. VET teachers develop learners' skills in school-based settings, while in-company trainers support learners during their time in work-based learning. Countries use different strategies to ensure an adequate supply of well-prepared VET teachers and trainers. This report focuses on two aspects: entry requirements for the VET teaching and training profession to ensure quality and consistency; and initial education and training for VET teachers and trainers to ensure that they are well-prepared when taking up their role. It draws lessons from policies and practices in Canada, Denmark, Germany, the Netherlands and Norway for developing a skilled teaching and training workforce through entry requirements and training, while maintaining sufficient flexibility.



PRINT ISBN 978-92-64-55796-3
PDF ISBN 978-92-64-43665-7



9 789264 557963