
VOCATIONAL EDUCATION
AND TRAINING IN EUROPE

DENMARK



Please cite this publication as:

Andersen, Ole Dibbern & Helms, Niels Henrik (2019). *Vocational education and training in Europe: Denmark*. Cedefop ReferNet VET in Europe reports (2018).

http://libserver.cedefop.europa.eu/vetelib/2019/Vocational_Education_Training_Europe_Denmark_2018_Cedefop_ReferNet.pdf

Authors: Ole Dibbern Andersen and Niels Henrik Helms

Validated by: Liv Maadele Mogensen, Danish national representative for ReferNet

Peer-reviewed by Margareth Haukås and Kjersti Skjervheim, DIKU – Norwegian Agency for International Cooperation and Quality Enhancement in Higher Education (Cedefop ReferNet Norway)

Reviewed by Jelena Letica, Cedefop

© NCE – University College Copenhagen (Cedefop ReferNet Denmark), 2018

Reproduction is authorised, provided the source is acknowledged.

This VET in Europe report is part of a series prepared by Cedefop's ReferNet network. VET in Europe reports provide an overview of national vocational education and training (VET) systems of the EU Member States, Iceland and Norway. The reports help to understand VET's main features and role within countries' overall education and training systems from a lifelong learning perspective, and VET's relevance to and interaction with the labour market.

VET in Europe reports follow a common Cedefop format. They are available a:

<http://www.cedefop.europa.eu/EN/Information-services/vet-in-europe-country-reports.aspx>.

The opinions expressed here do not necessarily reflect those of Cedefop.

VET in Europe reports are cofinanced by the European Union and ReferNet national partners.

ReferNet is a network of institutions across Europe representing the 28 Member States, plus Iceland and Norway. The network provides Cedefop with information and analysis on national vocational education and training. ReferNet also disseminates information on European VET and Cedefop's work to stakeholders in the EU Member States, Iceland and Norway.

<http://www.cedefop.europa.eu/en/events-and-projects/networks/refernet>

Table of contents

CHAPTER 1. External factors influencing VET	5
1.1. Demographics	5
1.2. Migration.....	6
1.3. Labour market	7
CHAPTER 2. Providing VET from a lifelong learning perspective	11
2.1. VET in the Danish education and training system.....	11
2.1.1. Primary and lower secondary education (basic schooling).....	12
2.1.2. Upper secondary education.....	13
2.1.3. Adult education	15
2.1.4. Higher education	15
2.2. Participation rates in education and training	16
2.3. Government-regulated VET provision.....	19
2.3.1. Vocational upper secondary education and training (EUD).....	19
2.3.2. Admission	21
2.3.3. Content	22
2.3.4. Apprenticeships.....	23
2.3.5. Assessment	24
2.4. Quality assurance.....	25
2.5. Teachers and trainers.....	25
2.5.1. Recruitment.....	26
2.5.2. Roles and functions.....	27
2.5.3. In-service training.....	27
2.5.4. Training of trainers	27
2.6. Alternative pathways to vocational qualifications	28
2.6.1. New apprenticeships.....	28
2.6.2. Combined vocational and general upper secondary education	29
2.7. VET pathways at tertiary level	29
2.7.1. VET pathways for adults	31
2.7.2. VET pathways for adults at tertiary level.....	31
2.8. Other forms of training.....	32
2.8.1. Programmes for young people	32
2.8.1.1 Basic vocational training (EGU).....	32
2.8.1.2. Production schools.....	33

2.8.2. Youth education for young people with special needs (STU)	33
2.8.2.1. Combined post-compulsory education.....	34
2.8.2.2. Eud10 VET programme.....	35
2.8.3. Programmes for adults	35
2.8.3.1. Adult vocational training (AMU)	35
2.8.3.2. Measures to help job-seekers and people vulnerable to exclusion from the labour market	38
2.8.4. Private providers of VET	40
CHAPTER 3. Shaping VET qualifications	41
3.1. Shaping VET qualifications	41
3.1.1. Public authorities.....	41
3.1.2. Social partners	42
3.1.2.1. Advisory council	43
3.1.2.2. National trade committees.....	44
3.1.2.3. Local training committees.....	44
3.1.3. VET providers	45
3.1.4. Danish VET system reform.....	46
3.2. Shaping AMU qualifications	48
3.2.1. Public authorities and social partners	48
3.2.2. VET providers	49
3.3. Recognition of prior learning	49
3.4. Quality assurance.....	51
3.5. The Danish national qualification framework (NQF).....	52
CHAPTER 4. Promoting participation in vocational education and training.....	53
4.1. Financing mainstream ('youth') VET	53
4.1.1. Financing training colleges.....	53
4.1.2. Financing training in companies	54
4.2. Financing VET for adults - AMU	54
4.3. Guidance and counselling for learning, career and employment.....	55
4.4. Role of social partners in matching provision with labour market needs in mainstream education	60
4.5. Incentives for VET learners.....	61
4.6. Incentives for companies	62
Abbreviations.....	63
References.....	65
Other sources.....	69

List of figures and tables

Tables

Table 1.	Learners in mainstream education in October 2017.....	16
Table 2.	Participation in supplementary courses, 2016.....	17
Table 3.	Students entering VET basic programmes in August 2017.....	21
Table 4.	Students within EGU.....	32
Table 5.	Students at a course of training at a production school.....	33
Table 6.	Students in youth education for young people with special needs	34
Table 7.	Expenditure on main youth education pathways (2018)	54

Figures

Figure 1.	Population of Denmark.....	5
Figure 2.	Population projections 2018-60 by age	6
Figure 3.	Employment by sector (2016)	8
Figure 4.	VET in Denmark's education and training system.....	11
Figure 5.	Stakeholder involvement in Denmark	43
Figure 6.	The Danish national qualification framework (NQF)	52

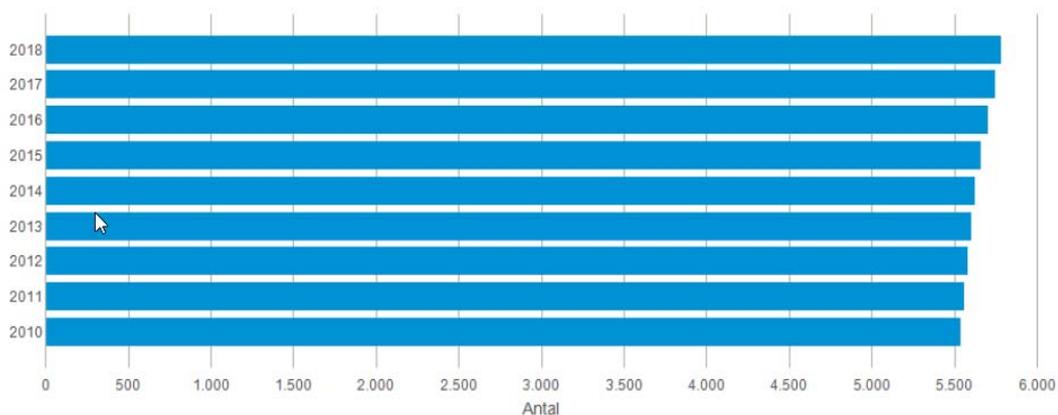
CHAPTER 1.

External factors influencing VET

1.1. Demographics

In 2018, the population of Denmark reached approximately 5.8 million, representing a steady increase during the previous two decades (Figure 1).

Figure 1. **Population of Denmark**



N.B.: Population numbers are indicated in thousands.

Source:

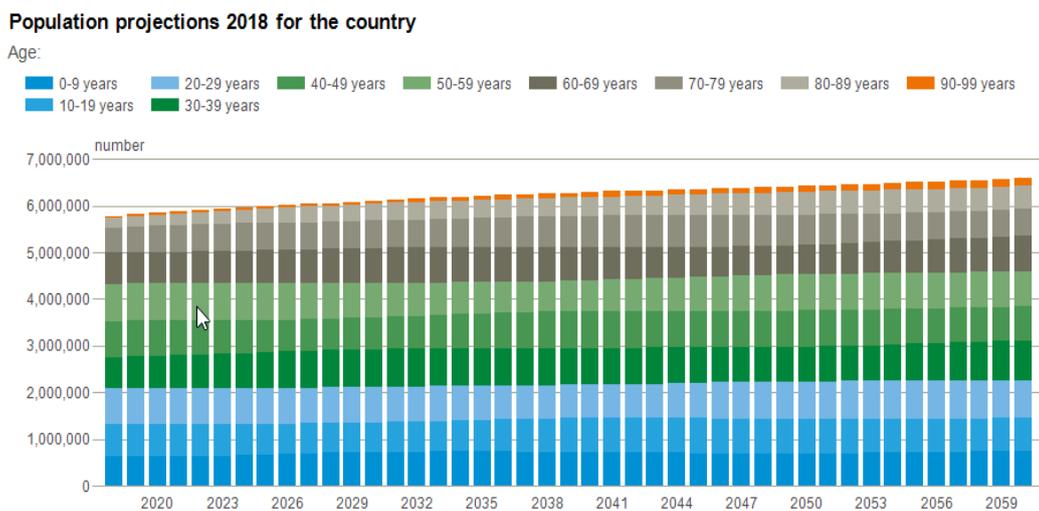
https://www.statistikbanken.dk/statbank5a/Graphics/MakeGraph.asp?gr_type=2&gr_stacked=1&gr_width=900&gr_height=400&gr_fontsize=11&menu=y&PLanguage=0&pxfile=201851215839220169060HISB3.px&wonload=900&honload=400&rotate=&scautopivot=True&sortdata=false&maintable=HISB3

The fertility rate fell to 1.75 in 2017 from 1.88 in 2010 (Statistics Denmark, 2018). This decrease has been widely attributed to factors such as growing job insecurity and a stagnant housing market resulting from the global financial crisis. Nevertheless, fertility rates in Denmark remain well above the European average. One explanation for the relatively high fertility rate is the extensive system of heavily subsidised public day-care centres and Danish laws regarding maternity and paternity leave. These factors allow both parents to return swiftly to the labour market or to participate in education and training activities after becoming parents, with most children entering day-care at an early age.

Like the rest of Europe, the Danish population is getting older. The average age was 41.5 years in 2018 (40.6 years for men and 42.4 years for women) (Statistics Denmark, 2018). Average life expectancy in 2018 was 79.0

years for men and 82.9 for women. While life expectancy has increased, Denmark continues to lag behind most other European countries, not least its Scandinavian neighbours (Eurostat). Nevertheless, Danes are living longer: since 1990 the number of people over the age of 80 has increased dramatically by 36% (Statistics Denmark, 2018). This trend is expected to continue, with the proportion of the population over the age of 70 expected to increase rapidly (Figure 2).

Figure 2. **Population projections 2018-60 by age**



Source:

https://www.statbank.dk/statbank5a/Graphics/MakeGraph.asp?menu=y&maintable=FRDK118&pxfile=2018512155739220169910FRDK118.px&gr_type=3&PLanguage=1

The next two decades are expected to see a considerable increase in the number of citizens receiving public benefits and a decrease in the active workforce due to the ageing of the population. The government is therefore encouraging the population to remain within the labour market beyond the minimum pensionable age and is offering retraining initiatives to increase the attractiveness of older generations to employers. The 2009 welfare settlement means that the pensionable age will gradually rise from 65 to 67 (and 68 by 2030), while the existing early retirement scheme is being phased out.

1.2. Migration

Immigration is higher than emigration (in 2017 the immigration figure was 89 382 and the emigration figure 64 751, resulting in net migration of 24 631)

(StatBank Denmark). This is considerably lower than in neighbouring countries such as Germany and Sweden. Migration figures, however, include Danish citizens returning home after a period abroad and Danish citizens born outside the country entering Denmark. Similarly, Danes accounted for only 32% of total annual emigration in 2017, the remainder being foreign citizens leaving Denmark following a period of residence in the country. Nevertheless, an increasing proportion of the total population is made up of foreign immigrants and their descendants. In January 2018 this group accounted for 13.4% of the Danish population. Of these, 58% have a non-western background. In 2017 Poland was the most common country of origin, followed by Syria and Turkey ⁽¹⁾ (Statistics Denmark, 2017).

Providing education and training opportunities to those with a non-Danish ethnic background in order to ensure their integration into the labour market continues to be a policy focus. In the beginning of 2016 the government launched a new VET training programme for immigrants, called IGU, with the aim of facilitating labour market integration. In April 2018 a total of 1440 IGU contracts were signed, and seventy to eighty new contracts are issued each month ⁽²⁾.

1.3. Labour market

The Danish labour market is characterised by a high participation rate, partly due to the high activity rate of women. In 2017 the employment rate for women was 75.7%, compared to a EU28 average of 66.5% (the corresponding figures for men were 81.5% and EU28 78.0%; Eurostat). In terms of where people are employed, Figure 3 shows trade and transport to be the largest employment sectors in Denmark.

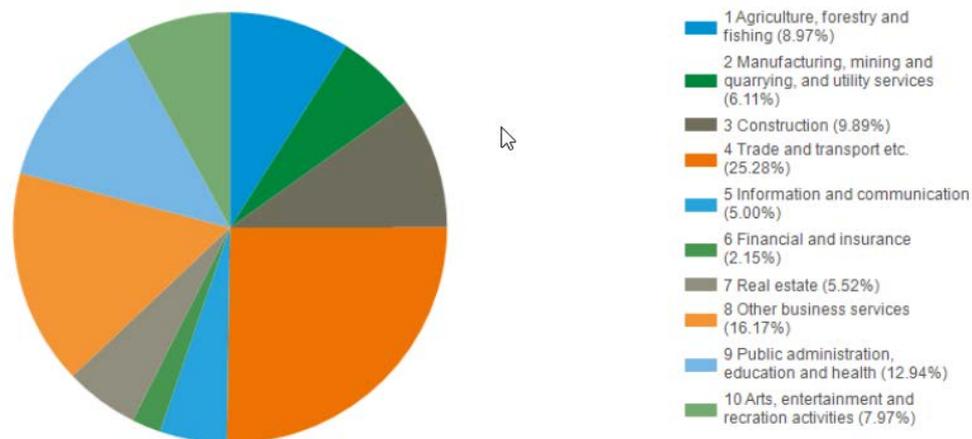
⁽¹⁾ Danmarks Statistik: Indvandrere i Danmark 2017, 2017.

⁽²⁾ Udlændinge og integrationsministeriet: Integrationsuddannelse – supplerende statistikker, 2018.

Figure 3. **Employment by sector (2016)**

Workplaces and job

Unit: Work places at the end of November | Region: All Denmark | Time: 2016 | Industry (DB07 10-grouping)



Source: Statistics Denmark

Unemployment rates have risen steeply since the onset of the financial crisis in 2008, from a low of 3.4% to 6.1% in 2010 and a current rate of 4.4%. This is nonetheless below the EU28 average of 6.7%. Youth unemployment, at 9.5%, likewise remains below the EU28 figure of 14.9% (Eurostat, 2018). Nevertheless, tackling youth unemployment is seen as a political priority. Education and training are considered crucial to these efforts. One in five young people has yet to embark on a course of education or training providing them with genuine job qualifications at a time when the demand for unskilled labour is continuing to fall.

This follows a period when extremely low levels of unemployment meant it was relatively easy to find work even without qualifications. However, education and training provide little guarantee of employment to, for example, young people with training in the most market-sensitive sectors, such as construction, or young academics, who have been affected by cutbacks in the public sector, which has been particularly hard hit by the economic downturn.

Even though there are job insecurities in some sectors, there are expected to be big shortages of skilled labour in the future. In some areas this is already a serious challenge.

The Economic Council of the Labour Movement ⁽³⁾ estimates that there will be a shortage of 70 000 skilled workers, 25 000 in the academic profession and 40 000 with a professional bachelor's degree, in 2025, as well as 110 000 people without any education or only a general upper secondary education that will not be sufficient for the labour market. In May 2014 the Danish government launched a plan for growth (Vækstplan.dk), one of the targets of which is to create a thousand new apprenticeship places per year. The aim of this initiative is to strengthen the dual system and enhance the number of young people completing VET. The education ministry ⁽⁴⁾ commissioned a report by the consultancy company Deloitte on Apprenticeship Potential and Benchmarking of VET Colleges ⁽⁵⁾. Deloitte's analysis estimates the potential number of additional apprenticeship agreements at 33 755 – that is, far more than the actual number of apprenticeship agreements that currently exist. In order to use this potential, in 2016 the partners in the tripartite negotiations agreed on a plan to create 8 000 to 10 000 new apprenticeship places before 2025.

Reintegrating the unemployed within the workforce and ensuring that young people are not left excluded from the labour market is likely to pose one of the main challenges for education and training in Denmark, in the coming years, especially for adult VET, if solutions are to be found to the growing shortage of labour.

In 2013-14, Parliament passed two major reforms to address and solve labour market-related problems:

- (a) in 2013, the government passed a reform of the unemployment benefit system with the aim of enhancing the provision of labour;
- (b) since 2014, due to the reform of the social security system, unemployed people under the age of 30 who receive social benefits will be obliged to take part in education or training.

Both reforms present new challenges for the Danish VET system (see Chapter 3). The large number of refugees in Europe and their ability to enter the labour market is also on the political agenda. Within the tripartite negotiation process, the social partners have agreed on a new vocational

⁽³⁾ Danmark kommer til at mangle faglærte, Arbejderbevægelsens Erhvervsråd, Marts 2016.

https://www.ae.dk/sites/www.ae.dk/files/dokumenter/publikation/ae_ubalancer.pdf

⁽⁴⁾ The official name is the Ministry for Children, Education and Gender Equality.

⁽⁵⁾ Praktikpladspotentiale og benchmarking af erhvervsskolerne. Deloitte, January 2015, UVM.

programme for refugees in Denmark. This provides an opportunity for refugees to enter a job-training programme (IGU, referring to page 8) for up to 24 months, and provides a financial incentive for companies to employ and train refugees. The government and the social partners continued their discussions in 2016 on the anticipated shortage of skilled workers and the attempt to ensure an increasing number of practical placements in VET ⁽⁶⁾.

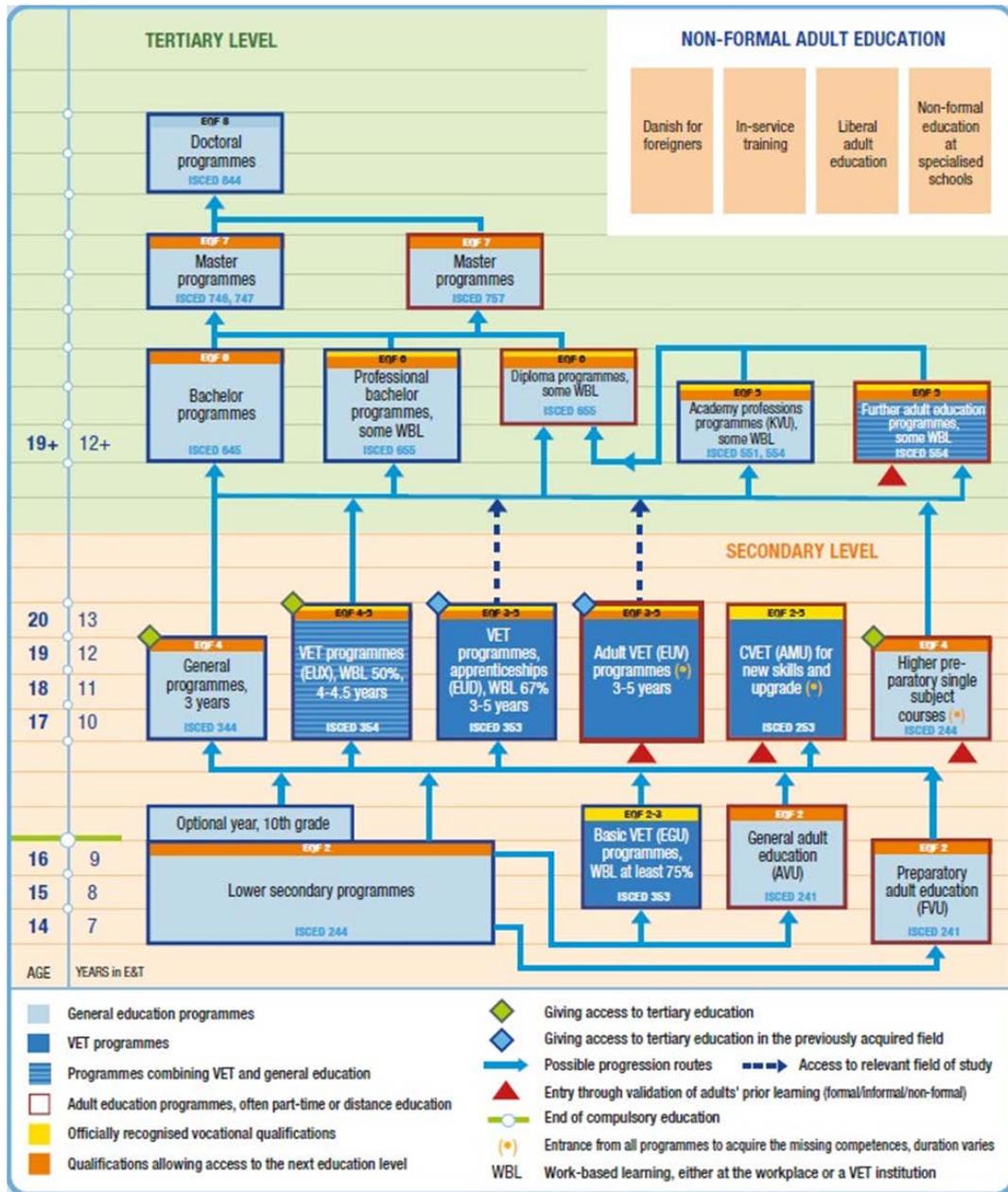
⁽⁶⁾ <http://www.cedefop.europa.eu/en/news-and-press/news/denmark-new-vocational-programme-refugees>

CHAPTER 2.

Providing VET from a lifelong learning perspective

2.1. VET in the Danish education and training system

Figure 4. VET in Denmark's education and training system



Source: Cedefop and ReferNet Denmark

The Danish education and training system has two parallel tracks:

- (a) general education;
- (b) vocational and general adult education and continuing training.

Children participate in mainstream education from the age of six and progress through the system during their youth into adulthood. Adult education and continuing training (CVT) mirrors the qualifications provided within the mainstream system but is designed specifically for adults. It also provides opportunities to acquire supplementary qualifications. As such, combined the two parallel systems provide a framework for lifelong learning. For an overview of the Danish qualifications framework for lifelong learning, see chapter 3.5.

2.1.1. Primary and lower secondary education (basic schooling)

Basic schooling is compulsory from the ages of six to sixteen, that is, from pre-school class to ninth grade. In 2017 ⁽⁷⁾, 46.2% of the youth cohort decided to continue to the optional tenth grade ⁽⁸⁾ rather than enter an upper secondary programme directly. The tenth grade is an option for young people to acquire academic competence and clarity about their choices before entering youth education (either general or vocational upper secondary education). An initiative in the 2015 VET reform will combine the 10th grade and VET programmes into a programme called EUD10.

Primary and lower secondary education is generally integrated into and located within the comprehensive Danish *Folkeskole* ⁽⁹⁾, although other types of institution, such as private independent schools, also exist. Of the youth cohort, 80.0% attended the comprehensive Danish *Folkeskole* in school year 2016/17. There is a tendency to move towards private compulsory schooling. In the same school year (2016/17), 15.9% attended a private school ⁽¹⁰⁾. Of the rest of the youth cohort, 4.1% attended special programmes. Primary and lower secondary education is completed by taking an examination providing access to upper secondary (youth) education.

Within the adult education and continuing training system, there are two programmes at EQF level 2. Preparatory adult education (FVU) provides

⁽⁷⁾ <https://www.uvm.dk/statistik/grundskolen/elever/soegning-til-ungdomsuddannelserne>

⁽⁸⁾ The reform has been implemented from 1st of August (Ministry of Education, 2014c).

⁽⁹⁾ Municipal primary and lower secondary school, literally 'folk' or 'people's school'.

⁽¹⁰⁾ <http://www.uvm.dk/Service/Statistik/Statistik-om-folkeskolen-og-frie-skoler/Statistik-om-elever-i-folkeskolen-og-frie-skoler/Elevtal-i-folkeskolen-og-frie-skoler>

courses in basic literacy and mathematics, as well as courses for those with learning difficulties or with Danish as their second language. General adult education (AVU) is provided to adults who, for whatever reason, did not complete lower secondary education or need supplementary education in particular subjects. Qualifications at this level are equivalent to the ninth or tenth grade leaving examination.

2.1.2. Upper secondary education

Upper secondary education consists of both general upper secondary education and vocational upper secondary education and training (*erhvervsuddannelse* - EUD). General upper secondary education programmes usually last three years and prepare students for higher education at tertiary level. Five different qualifications result from five corresponding programmes ⁽¹⁾:

- (a) upper secondary leaving qualification (*studentereksamen* - STX) (EQF 4);
- (b) higher preparatory examination ⁽²⁾ (*højere forberedelseseksamen* - HF) (EQF 4);
- (c) higher commercial examination (*højere handelseksamen* - HHX) (EQF 4);
- (d) higher technical examination (*højere teknisk eksamen* - HTX) (EQF 4);
- (e) combined vocational (journeyman's test) and general upper secondary leaving qualification (EUX) (EQF 4-5).

HHX and HTX are sometimes referred to as vocationally oriented upper secondary education. Specifically they target higher education at business schools and technical and engineering courses of higher education respectively; however, as they do not provide direct vocational qualifications, meaning that students have to complete higher education before entering the labour market, they are placed in the general education category. Access to higher education depends on the student's choice of subjects and the grades achieved. On 1 December 2014, the Danish government launched a proposal for a reform of the entire upper secondary general education system with a focus on an enhanced level of general skills, a simpler structure, new forms of evaluation and testing, and a requirement for entry-level grades (Ministry of

⁽¹⁾ In these five programmes, there are several opportunities to specialize to some extent in, for example, modern languages or the natural sciences, but the final qualification remains the same.

⁽²⁾ The higher preparatory examination will in the future be profiled as a pathway for students with a non- academic profile and can be completed without a formal examination.

Education, 2014). Reform of upper secondary education has been on the political agenda since spring 2015, and an agreement was reached to implement the reform from 2017. The main focus is specific access requirements for attending the general upper secondary level, while the possibility of cooperation between different tracks (STX, HF, HHX, HTX) and institutions has been enhanced, for example, in the form of mixed classes in specific subjects.

Vocational education and training (EUD) (EQF 3-5) includes agricultural, commercial, technical, and social and healthcare programmes. EUD qualifications provide access to the labour market as a skilled worker or to specific short- and medium-cycle higher education programmes at vocational colleges and academies or university colleges. EUD will be explored in more detail below (Section 2.3.1).

In 2012, the EUX programme was introduced with the aim of bridging the gap between general upper secondary education and vocational upper secondary education and training. It also offers highly motivated young people the opportunity to gain both vocational qualifications providing direct access to the labour market and general qualifications providing similar opportunities to continue in higher education as students in the four general upper secondary programmes.

From 2012 until August 2015, a number of VET programmes acquired experience with EUX. In the 2015 VET reform, EUX is highlighted as a priority and a strategic focus in order to enhance the attractiveness of VET. The VET reform emphasises that EUX programmes must be implemented in as many different VET fields where it makes sense and where the trade committee supports it. At the moment 42 different technical VET fields (approximately half of all programmes) and all business programmes have implemented EUX. Social and health care has implemented EUX since the second semester of 2016 (see Section 2.3).

The EUX programme has become quite popular. In 2018, 30% of all students choosing VET wanted a EUX programme in order to obtain a full VET qualification and a study preparatory qualification as well. Consequently, Danish VET institutions are working intensively to develop new learning arrangements combining learning outcomes from VET and general upper secondary institutions.

So far there have only been a few EUX graduates, and it is too early to predict their progress in continuing education and training or the labour market.

However, there is no doubt that the EUX programme has succeeded in attracting a more motivated and dedicated type of student to VET ⁽¹³⁾.

2.1.3. Adult education

The adult education (age 25 and above) and continuing training system includes three types of programmes at upper secondary level: higher preparatory single subjects (HF-*enkeltfag*) (EQF 4), basic (vocational) adult education (EUV, *Erhvervsuddannelse for voksne*) (EQF 3-5), which is equivalent to EUD, and adult vocational training programmes (AMU, *Arbejdsmarkedsuddannelser*) (EQF 2-5).

One of the main target groups for the first programme is adults needing to supplement an existing upper secondary qualification in order to gain access to a particular higher education programme.

EUV programmes target low-skilled workers with at least two years of relevant work experience and allow acquisition of qualifications equivalent to EUD, which incorporate validation of prior learning (see Section 2.2)

AMU programmes provide specific work-related skills training aimed at both skilled and unskilled workers. The programmes enable the acquisition of:

- (a) general skills;
- (b) specific job-/sector-related skills;
- (c) labour management skills.

AMU programmes are offered at a wide array of different levels, not only upper secondary.

2.1.4. Higher education

In broad terms, higher education comprises:

- (a) professionally oriented short- and medium-cycle programmes where the short-cycle programmes lead to an academy profession degree and are offered at academies of professional higher education, while the medium-cycle programmes lead to a professional bachelor's degree and are offered by university colleges;
- (b) research-based long-cycle programmes offered at universities where most students continue to a master's degree programme after completing a

⁽¹³⁾ A preliminary evaluation of EUX was published in 2017.

<https://uvm.dk/aktuelt/nyheder/uvm/udd/erhvervs/2017/mar/170315%20eux%20har%20potentiale%20til%20at%20tiltraekke%20en%20ny%20type%20elever%20til%20erhvervsuddannelserne>

bachelor's degree. The former can then provide access to doctoral programmes.

There are corresponding programmes within the adult education and continuing training system: short-cycle further (vocational) adult education (VVU), medium-cycle diploma programmes, and long-cycle master's programmes. As part-time courses, these programmes allow participants to combine education with a working career, as well as improving the integration of the individual's professional and life experience.

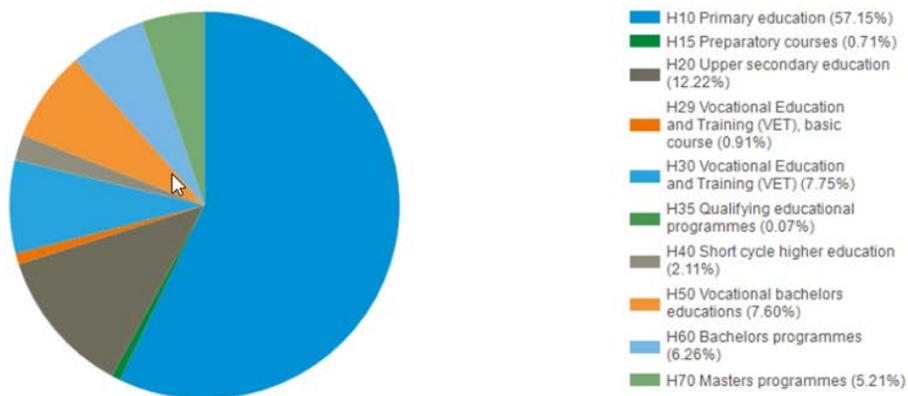
2.2. Participation rates in education and training

Tables 1 and 2 show enrolment data in mainstream, adult and continuing training.

Table 1. **Learners in mainstream education in October 2017**

Educational activity

Status: **Students per 1st October** | Sex: **Men and women, total** | National origin: **Total** | Ancestry: **Total** | Age: **Age, total** | Time: **2017** | Education



Source: Statistics Denmark

Table 2. Participation in supplementary courses, 2016

Participation in supplementary courses by unit, points in time, highest education completed, sex, age, region, field of education and time		2016
Full-time equivalents		
Calendar year		
TOT Total		56 359
Men and women, total		
Age total		
All Denmark		
	TOT Total	56 359
	H10 Primary education	7 658
	H15 Preparatory courses	4 015
	H20 Upper secondary education	9 697
	H25 Danish language courses at language centers	10 423
	H30 Vocational Education and Training (VET)	668
	H35 Qualifying educational programmes	737
	H39 Labour market educations, AMU	7 449
	H40 Short cycle higher education	4 259
	H50 Vocational bachelors educations	6 259
	H60 Bachelors programmes	259
	H70 Masters programmes	2 934
	H80 PhD programmes	0

Source:

http://www.statbank.dk/statbank5a/Graphics/MakeGraph.asp?menu=y&maintable=UDDAKT12&pxfile=2018517103915220482931UDDAKT12.px&gr_type=5&PLanguage=1

Table 2 shows that total participation in adult education and continuing training in 2016 amounted to 56 359 full-time learner equivalents. Many adult education and continuing training programmes have a short duration. In total about 871 000 persons participated in one or more adult education and continuing training programmes in 2016 (Statistics Denmark, 2018).

Denmark has the highest levels of participation in adult education and continuing training within the EU, regardless of levels of educational attainment. In 2017, the figure for Danish participation in education and training among the population aged 25-64 was 32.5 % compared with EU28 average of 10.9% (Eurostat, 2018). These figures refer to all forms of education and training activity, both formal and non-formal. The high participation rates reflect several specific characteristics such as the national strategy to focus on knowledge-intensive specialist sectors and lifelong learning, a large public sector, and a tradition of strong ties between educational institutions and social partners. Adult vocational training programmes (AMU - *Arbejdsmarkedssuddannelser*), offering short vocational training programmes to skilled and unskilled workers, as well as to the unemployed, have a significant role to play in this regard.

After completing ninth or tenth grade in 2018, 93% of all students chose some form of further education or training activity, either general upper secondary education (73.1%), or vocational upper secondary education and

training (VET) (19.4%) (Ministry of Education, 2018). As suggested by the discrepancy in these two sets of figures, students in VET are generally older than those in general upper secondary education. While the average age for young people commencing general upper secondary education is 16.6, the equivalent for those entering VET is 22 (Ministry of Education, 2018). Young people also take longer to complete VET programmes: the average age for those completing a general upper secondary qualification in 2017 was 19.5, while in VET, it was 28.9. There is a very wide spread in age in VET that is not found within general upper secondary education. Since 2007, the average age at entering a VET programme has increased by 1½ years (Det Økonomiske Råd, 2014).

One reason why young people generally start later and spend more time completing VET programmes than general upper secondary programmes is that the transition from lower secondary to general upper secondary education is often seen as a more natural transition than the transition to VET, as this involves a move away from the classroom into the workplace. Also, many young people enrol in general upper secondary education, but later transfer to a vocational pathway. The typical duration of three to four years for a VET programme compared with three years for general upper secondary education is another possible reason.

The 2014 VET reform addresses this issue by focusing on establishing an attractive learning environment at the VET colleges in the EUD10 and EUX programmes so that young people with both academic and practical skills will find VET programmes attractive and can see themselves at a VET college. However, there is also a final and more worrying explanation: at any point in time, a considerable number of students enrolled in VET are likely to be inactive, not currently attending classes or not be in a training placement, although they have not (as yet) officially dropped out. This also happens in general education, but completion rates are considerably lower in VET.

Since in the dual VET system in Denmark all VET students need to sign a contract with a company to complete the programme, the high share of students on the verge of dropping out can also be explained by the lack of apprenticeship agreements in companies and the fact that the Placement Centres have not yet had their full impact. Completion rates in VET in 2017 were 53%, compared to almost 86% in the general upper secondary programmes (Ministry of Education, 2018). The VET reform addresses this skewing by setting as a clear target that, by 2020, 25% of a youth cohort must

chose VET after compulsory school and 30% in 2025 ⁽¹⁴⁾ (19.4% in 2018). The corresponding completion rates in VET must be 60% in 2020 and 57% in 2025.

Improving pathways from VET to higher education is currently a political priority, and recent figures demonstrate why further efforts are necessary: the most recent figures for students completing an EUD programme in 2015 show that, 6 months later, only 8% were continuing in higher education ⁽¹⁵⁾. In part, these figures can be seen as a reflection of the limited opportunities available to EUD students, who frequently need to gain additional general subject qualifications ⁽¹⁶⁾ at higher levels in order to gain access to higher education.

2.3. Government-regulated VET provision

2.3.1. Vocational upper secondary education and training (EUD)

Since 2015, VET has consisted of four vocational entries, each with their own broad basic programmes providing access to several more specialised main programmes:

- (a) Care, health and pedagogy;
- (a) Office, trade and business service;
- (b) Food, agriculture and experience;
- (c) Technology, construction and transportation.

The basic programme consists of two basic courses of twenty weeks each (half a year). The first course provides general and broad vocational skills. It devotes more time and provides a better foundation for making one's final choice of education. The second course is targeted at the main course in a specific VET programme. Young people who start a VET more than one year after they have completed level 9 or 10 can go straight to the second part of the initial VET programme.

The basic programme alone does not provide students with the necessary qualifications to enter the labour market. However, having completed a basic programme, students are eligible to enter one of more than a hundred main

⁽¹⁴⁾ <http://statweb.unic.dk/Databanken/uvmdatabank/fullClient/Default.aspx?report=EOU-gym-overg27-tiludd-frafuldf&res=1242x532>

⁽¹⁵⁾ <http://statweb.unic.dk/Databanken/uvmdatabank/fullClient/Default.aspx?report=EOU-gf-overg6-tiludd-frafuldf&res=1366x560>

⁽¹⁶⁾ These courses can be obtained at Adult Education Centres (VUC).

programmes, each leading to a specific full vocational qualification ranging from flight mechanic to event coordinator and from fitness instructor to multimedia animator. The main programmes also include several 'steps' (trin) and specialisations, each corresponding to a specific position in the labour market.

The steps allow students to leave college without completing one of the main programmes in its entirety while still achieving a partial qualification providing access to the labour market. An additional advantage is that students can easily return – and have the right to do so – at a later date and to pick up where they left off in order to acquire additional qualifications corresponding to the relevant main programme.

Specialisations, meanwhile, divide the main programmes into branches, each providing more specific competences targeted at a particular area of the vocational field. An example is the main 'veterinary nurse' programme: there are two specialisations – 'veterinary nurse, small animals', and 'veterinary nurse, horses' – each taking three years and two months to complete. However, there is also a 'veterinary nursing aide' step, which takes one year and ten months. Students completing the latter qualification will be able to take up a position as a veterinary nursing aide within the labour market, but will also be able to return at a later date and resume their studies to become a qualified veterinary nurse.

Taking into account these steps and specialisations, a total of over three hundred different vocational qualifications are available (Ministry of Education, 2018). The main programmes in technical subjects typically take three to three-and-a-half years, although they range from one to five years ⁽¹⁷⁾. Commercial programmes are generally shorter, typically lasting two years.

In terms of the number of students entering VET programmes, Technology, Construction and Transportation is by far the largest area covered by VET.

⁽¹⁷⁾ Programs with a duration under three years are very rare, but they exist.

Table 3. **Students entering VET basic programmes in August 2017**

Basic programmes	Number of students
Care, Health and Pedagogy	4 299
Office, Trade and Business Service	6 510
Food, Agriculture and Experience	3 584
Technology, Construction and Transportation	12 566
Total	26 959

Source: <https://uvm.dk/-/media/filer/uvm/udd/erhverv/pdf18/.../180830-tilgang-til-eud.pdf>

In general, there are more male than female students in VET: 68% men and 32% women in 2017. However, the distribution is very uneven among the various branches. In commercial training and social and health-care training, for example, there are more female apprentices, while the opposite applies to technical training ⁽¹⁸⁾.

2.3.2. Admission

Admission to basic programmes is offered to anyone who has completed compulsory schooling at *Folkeskole* or equivalent and obtained the pass mark in Danish and Maths in the leaving examination from 9th or 10th grade respectively, unless they have an apprenticeship contract with a company. Young people attending the first part of the basic programme just after compulsory school must be declared 'study-ready' based on an assessment of their academic, personal and social competences conducted by either the college or the local youth guidance centre (*Ungdommens Uddannelsesvejledning*). These assessments consider a broad range of factors such as grades, motivation and conflict management skills and are used in compiling individual education plans (*Elevplan*).

All students completing a basic programme are entitled to complete one of the associated main programmes. These programmes generally commence with an on-the-job training placement. As such, the student must not only have completed the relevant basic programme, but also have an apprenticeship contract with an approved training company ⁽¹⁹⁾ prior to being admitted to the main programme. The students are duty-bound to seek out suitable placements. When no suitable placements are available in a desired

⁽¹⁸⁾ <http://www.statistikbanken.dk/statbank5a/default.asp?w=1366>

⁽¹⁹⁾ See below for further details of the approval process and opportunities for training placements within a college.

programme, students are offered admission to another associated main programme where placements are available. Another possibility is for the student to enter a training agreement with the college itself, where practical training also takes place in a Placement Centre.

For some programmes (32), admission to the second of the two basic courses is limited.

This is to ensure that the number of students is aligned with labour market needs. In these cases, all students are either admitted in accordance with a quota or are required to have a training agreement with an enterprise prior to commencing the second part of the relevant foundation course.

VET is free of charge and also entitles the student to an apprentice's salary and/or student grant (the latter only for students aged 18 or over).

2.3.3. Content

Virtually all VET programmes are organised according to a dual principle whereby students alternate between periods spent at a training placement, generally in an enterprise, and periods of college-based learning ⁽²⁰⁾.

The introductory basic programmes are predominantly school-based ⁽²¹⁾ and combine theoretical, classroom-based learning with more practical workshop-based learning to varying degrees, with, for example, the commercial programme concentrating more on classroom-based learning than many of the more technical programmes. Basic programmes combine common competence goals, where students are given a broad introduction to the competences to be acquired in the associated main programmes and pursue specific competence goals aimed at individual programmes.

While exact distribution varies according to both the programme and the needs of the individual student, the main programmes generally comprise alternating periods of workplace-based training and college-based teaching in a ratio of 2:1. College-based teaching in the main programmes can be divided into four types of subject:

- (a) general subjects are often familiar to students from their previous schooling, including English, mathematics, Danish, etc. However, in VET, the content of these subjects is adapted to the particular programme so that, for example, mathematics for carpenters will concentrate on areas relevant to working as a carpenter and will be quite different from

⁽²⁰⁾ There are two exceptions where training is entirely college-based: building montage technician and web integrator.

⁽²¹⁾ Other possible pathways are presented later in this chapter.

- mathematics for veterinary nurses. General subjects also include other broad subjects such as product development and basic materials science;
- (b) trade-specific area subjects, e.g. for carpenters, which may include subjects such as introduction to carpentry tools and basic technical drawing;
 - (c) specialized subjects will often build on the competences provided by area subjects, but will be further geared to specific job functions. Examples of specialized subjects for carpenters are timber construction or carpentry tools level 2;
 - (d) optional subjects provide students with an opportunity to gain either specific vocational competences aiding transition to the labour market or competences providing access to further education such as qualifications in general subjects at a higher level.

College-based teaching in the main programmes is organized through an integrated approach, and students frequently work on projects where they are expected to incorporate what they have learned in different subjects and combine both general and more specialized competences.

2.3.4. Apprenticeships

Apprenticeships are based on a contract or training agreement between an apprentice and a company. All training companies are approved by the social partners through the relevant trade committee and thus have to meet certain requirements, for example, a certain level of available technology and the ability to offer various tasks in an occupation. Currently 58 296 companies are approved to offer apprenticeship training in at least one field of training. Many can offer apprenticeships in several fields. Once a company has been approved to provide training placements, it does not need to renew this accreditation unless it has not been active for five years or more.

Colleges and companies work closely together to make sure that training takes place in accordance with the law when compiling an individual education plan for the student in question. These plans are compiled for every student to ensure coherence between the student's wishes and the actual training programme. Students also have a personal educational portfolio that is intended to increase their awareness of the learning process. While the educational plan indicates learning pathways and shows how the various elements of the training programme, both college-based and workplace-based, combine to provide the student with the necessary competences, the portfolio documents indicate the actual learning and skills that the student has acquired.

Improving the availability of training placements is a political priority. Due to the lack of practical placements and full-scale apprenticeship contracts, in 2011 the government decided to create fifty practical training centres around the country affiliated with vocational institutions. These centres, which have been implemented since 2013, provide an alternative for apprenticeship training, as they can engage in shorter training agreements with companies and can take responsibility for part of the practical training.

2.3.5. Assessment

Basic courses are completed with a project which forms the basis of an externally graded examination. This is done by an external examiner appointed by the school and validated by the ministry. This examination constitutes an assessment of students' achievements in relation to the competence goals necessary to enter their chosen main programme. Students are issued with a certificate documenting the subjects and levels they have achieved; this certificate forms the basis for entering the main programme.

In the main programmes, there are various forms of assessment throughout the course, including both oral and written examinations, and both theoretical and practical project work. The exact form of assessment can differ from programme to programme.

Programmes include both subject-specific examinations (for example, in English or mathematics) and broader assessments to evaluate students' abilities to combine the knowledge, skills and competences acquired from the programme as a whole.

At the end of each training placement, the company issues a certificate to the college, the student and the trade committee listing the student's achievements.

The final examination, which generally takes place during the final period of college-based learning, also varies from programme to programme. In some cases it consists entirely of a college-based examination; in others it comprises a combination of a college-based examination and a journeyman's test (*svendep prøve*); in yet others it involves only the journeyman's test conducted by local training committees. However, most common is a combination of an assessment of project-based practical assignments and a theoretical examination, either oral, written or both.

The relevant local trade committee nominates external examiners. Generally, two external examiners assess individual students in cooperation with the teacher. The training college, in consultation with the trade committees, develops the content of examinations. After passing the

journeyman's certificate, the graduate acquires a qualification at skilled-worker level and is able to enter the labour market (Ministry of Education, 2014h). Qualifications are linked to different levels in the Danish qualifications framework for lifelong learning; for further details, see Annex 2.

2.4. Quality assurance

For quality assurance of vocational colleges, various approaches are employed. Self-assessment remains the primary mechanism, but external monitoring is increasing in importance. Since the 1980s a shift has taken place from detailed regulation of input to framework regulation of output. The aim of output regulation is to increase the focus on results and quality so that the practices of institutions meet political objectives, including adaptation to the needs of regional and local business sectors for education and competence development (Ministry of Education, 2014i).

Monitoring is conducted at two levels:

- (a) System level. This looks at the effectiveness of the more than a hundred different main programmes in terms of employment frequency among graduates. The Ministry of Education then enters into dialogue with national trade committees about any programmes which fail to reach the targets in order to assess their relevance in terms of labour market needs and possible steps for improvement;
- (b) Institutional level. At this level, monitoring can be divided into content monitoring and financial monitoring. The first concerns the degree to which a vocational college is providing its programmes in accordance with the legislative framework. The second monitors the college's compliance with budgetary constraints as laid down by the education ministry.

Completion, dropout and examination pass rates likewise enter into the quality appraisal of a vocational college. Within companies, the social partners supplement ministerial monitoring through national trade committees and local training committees, appraising the quality of graduates, curricula, apprenticeships within enterprises, etc.

2.5. Teachers and trainers

Two distinct teacher profiles can be identified in VET:

- (a) general subject teacher, usually university graduates or graduates with a professional bachelor's degree in teaching;

- (b) vocational subject teacher, usually with a VET background and substantial experience in the field (normally at least five years of professional experience is required).

There are no requirements for teachers to have a pedagogical qualification prior to their employment. Pedagogical training (*Diplomuddannelsen i Erhvervspædagogik*) is part-time in-service training based on interaction between theory and practice. This programme was introduced for all teachers employed in VET and AMU recruited after 15 January 2010 and replaces the previous teacher-training course (*Pædagogikum*). The objective is to improve teaching skills to a level equivalent to teachers in compulsory education with a professional bachelor's degree. The broader objective is related to the government's goal of a 95% completion rate, resulting in several new challenges facing VET teachers due to an increasingly heterogeneous student body. The new programme is the equivalent of one year of full-time study (60 ECTS) and the acquired qualification is placed at EQF level 6. It is, however, generally conducted as a part-time study to root training in practical teaching experience. New teachers must enrol in the programme within one year of gaining employment at a VET college or AMU centre. The programme must be completed within a period of six years. The programme was developed by the Danish National Centre for the Development of Vocational Education and Training (*Nationalt Center for Erhvervspædagogik*, NCE), a centre of excellence collecting, producing and disseminating knowledge on VET based in University College Copenhagen (UCC). The programme was developed in cooperation with an advisory group consisting of representatives of teacher associations and college management organisations, as well as the Ministry of Education. There are three compulsory and five optional modules, as well as a final examination project. Both NCE and other providers at different university colleges offer the programme ⁽²²⁾.

2.5.1. Recruitment

Colleges and training centres have autonomy in staff recruitment. The Ministry of Education is not involved in teacher recruitment procedures, and teachers are not civil servants entering the system through tests. Many part-time teachers have no formal pedagogical competences, but are well respected

⁽²²⁾ For further information, see:

https://cumulus.cedefop.europa.eu/files/vetelib/2016/ReferNet_DK_TT.pdf

within their fields and are able to ensure that VET students acquire knowledge which is up-to-date with developments in their respective trades.

2.5.2. Roles and functions

Regarding roles and functions, teachers are involved in developing local educational plans, research and development projects, quality development and the daily management of lessons, often through teacher teams. The role of teachers has changed into one of facilitator of learning, coach and guidance counsellor. These changes have happened due to the introduction of new pedagogical and didactical principles, for example, focusing more on individual learning needs than a fixed body of knowledge to be acquired by the student, and changing qualification and curricula structures making increased use of modularisation.

2.5.3. In-service training

Once qualified to teach in VET, there is no general legislation on in-service training. Individual teachers are obliged to keep their subject-specific and pedagogical knowledge up to date. The college is required to draw up a plan for the competence development of the teachers at the college. On this basis, and in cooperation with the teacher, the college determines the individual's professional in-service training plan. Courses are offered locally by many providers in accordance with market conditions. A certificate is normally awarded to participants, but a recognised qualification is not generally awarded. The new VET reform requires skills updating for teachers and leaders in VET institutions at a level equivalent to 10 ECTS points. The updating will continue until 2020, and Dkr 400 million (EUR 53 million) has been granted for it.

2.5.4. Training of trainers

In-company trainers play an important role in VET, given the dual training principle characteristic of all VET in Denmark. There are different types of trainers with different responsibilities: planners, training managers and daily trainers. However, there are very few legal requirements to become a trainer.

Trainers in enterprises who are responsible for apprentices must be craftsmen. They must have completed a VET programme for which they have received a 'journeyman's certificate' and have work experience.

Trade committees for each VET programme consisting of social partner representatives are in charge of approving enterprises as training enterprises. Committees consider technical equipment, the variety of products produced

and the tasks performed by the enterprise and in some instances the number of qualified staff available to perform the training, allowing them to assess whether the training provided is at an acceptable level.

Just as no pedagogical qualifications are required for in-company trainers, there are also no in-service training requirements or control mechanisms. Quality assurance, beyond that undertaken voluntarily by the enterprise, is restricted to informal contacts between the VET college and enterprise. The AMU systems provide a number of courses of one to two weeks duration to support the training of trainers. The courses are not mandatory and are mostly used by the social-care and health-care professions.

2.6. Alternative pathways to vocational qualifications

2.6.1. New apprenticeships

As well as entering a main programme through one of the basic courses, since 2006 it has been possible for learners to start directly in a company with which they have an apprenticeship contract. This pathway is known as the new apprenticeship (*Ny Mesterlære*). New apprenticeships were introduced as an alternative pathway into the main programmes and are part of the government's strategy for reducing dropout rates within VET. Pupils undertaking a main programme via the new apprenticeship pathway will typically spend the first year of their education receiving practical training in a company. The initiative is aimed in particular at pupils who may struggle or lack the motivation to complete the more theoretical school-based education without first gaining practical insights into the field. However, pupils will still have to follow some school-based teaching as agreed in their individual education plans.

New apprenticeships have been introduced in all areas of EUD (technical, commercial, etc.), although a few national trade committees have chosen to opt out, meaning that students cannot enter the associated main programmes (such as electricians and plumbers) via this route. The school and the company, together with the pupil, are responsible for planning and organising the form and content of practical training and developing the pupil's individual education plan based on a description of the competences to be gained from the main programme in question and an assessment of the pupil's actual competence.

New apprenticeships, along with other new programmes such as combined vocational and general upper secondary education (see below for

further details), increase the flexibility of the various pathways in VET and reflect an overall policy trend throughout the educational sector towards more differentiated and individualized teaching methods.

Most students still choose to start their education with a basic course at a vocational college. In 2017 the number of new 'regular' apprenticeship contracts was 42 717, while the number of new 'new apprenticeship' contracts was 1 851. Those entering the latter were generally younger. There were also considerable differences between programmes. New apprenticeships were most popular in the areas of body and style – training as a hairdresser accounted for the largest single number of new apprenticeship contracts in any field – and human food. In other fields, new apprenticeship contracts were more or less non-existent (Ministry of Education, 2014j).

2.6.2. Combined vocational and general upper secondary education

Combined vocational and general upper secondary education (EUX) (EQF 4-5) was introduced in 2010 and offers an opportunity for young people to obtain both general and vocational upper secondary qualifications, thereby providing full access to both higher education and the skilled labour market. The programme is still in its early stages and is currently offered in conjunction with 47 of the main programmes. Programmes are developed by relevant national trade committees and approved by the Ministry of Education. EUX is high on the political agenda as a mean to increase both the attractiveness of VET and the general permeability of the Danish education system. In addition, EUX plays a large role in the new VET reform and will be implemented in all VET areas.

2.7. VET pathways at tertiary level

Several short-cycle higher education programmes (*Erhvervsakademiuddannelser*, KVV) lasting two years are offered by the ten business and technical academies (*erhvervsakademier*), resulting in the award of an academy profession degree (*erhvervsakademigrad*, AK). Medium-cycle professional bachelor's programmes typically lasting three and a half year are generally offered by seven university colleges and award professional bachelor's degrees. Admissions requirements for academy profession and professional bachelor's programmes are either relevant vocational upper secondary education and training (EUD) or general upper secondary education combined with relevant labour market experience. There may be more specific requirements regarding certain attainment levels within particular general

subjects for some programmes (applicants with a VET background may have to take additional general education qualifications as a supplement). An academy profession degree can provide access to a supplementary diploma degree programme. The latter allows graduates to build on an academy profession degree to bachelor's-equivalent level in the same field. A professional bachelor's degree, meanwhile, can provide access to certain university-based master's programmes. With the exception of EUX qualifications, VET does not provide direct access to university-based bachelor's programmes.

Academy profession programmes, professional bachelor's and diploma degree programmes qualify students to perform practical tasks on an analytical basis. Apart from theoretical subjects, programmes are usually completed by a project examination and always contain a degree of workplace training.

Examples of KVV programmes (40 in total with specialisations) include:

- (a) dental hygienist;
- (b) installation electrician;
- (c) multimedia designer;
- (d) laboratory technician;
- (e) marketing manager, etc.

Professional bachelor's programmes (74 in total with specialisations) include:

- (a) teacher;
- (b) social educator;
- (c) midwife;
- (d) radiographer;
- (e) occupational therapist;
- (f) biomedical laboratory scientist;
- (g) nurse;
- (h) leisure manager;
- (i) journalist;
- (j) social worker;
- (k) a wide range of engineering programmes.

These programmes are state-financed and form part of the higher education system. In 2017, 36 272 students were enrolled in KVVU and professional bachelor's programmes. This figure indicates a significant increase over previous years of more than 50%. To strengthen cohesion at the tertiary level, since autumn 2011 all higher education from KVVU to PhD level

has been placed under the jurisdiction of the Ministry of Higher Education and Science.

2.7.1. VET pathways for adults

The VET reform has established a new VET pathway for adults ⁽²³⁾ called EUV (EQF3-5). VET for adults (EUV) takes as its starting point the education and experience that the adult already possesses. Essentially this means that adults with at least two years of relevant work experience will receive an education without a basic programme or internship.

Adults who do not fulfil the requirement of two years of relevant work experience will essentially receive an education with a shorter internship of a maximum of two years. These adults may also follow the second part of the basic programme.

2.7.2. VET pathways for adults at tertiary level

Adults have full access to the mainstream tertiary education system. However, there is also a parallel system at tertiary level specifically tailored to the needs of adults, for example, by providing courses over a longer duration on a part-time basis, largely during evenings and weekends, to allow ongoing employment. Further vocational adult education (Videregående Voksenuddannelse, VVU (EQF 5)) provides qualifications equivalent to an academy profession degree. Like academy profession programmes, VVU programmes are offered at business and technical academies, but, in addition to an appropriate VET qualification or a general upper secondary qualification, they also require two to three years of relevant work experience. By drawing on participants' prior learning in the labour market, the same qualifications can be gained over a shorter period of study. However, as VVU programmes are offered as part-time programmes, the actual duration will usually be between two and three years. Students must complete the programme within six years of commencing it. A total of 34 VVU programmes are offered, including areas such as retail, interpreter, international transport and logistics, and information technology.

⁽²³⁾ Adults are people above 25.

2.8. Other forms of training

2.8.1. Programmes for young people

2.8.1.1. Basic vocational training (EGU)

Basic vocational training ⁽²⁴⁾ is aimed at unemployed young people aged below thirty who are unable to complete another form of education or training which might equip them with qualifications to enter the labour market. The goal is to improve their vocational and personal skills and inspire them to enter the labour market or pursue further training possibilities.

Training is full-time and lasts two years on average. It is primarily practical, with little theoretical content, and combines alternating school-based (one third) and workplace-based training (two thirds). The training programme is set on an individual basis and may contain elements from the main programmes; training may take place at vocational colleges, agricultural colleges, social- and health-care colleges, etc., but is not anchored in one particular institution. Each training period should be concluded as an individual training element which may be accredited by other training programmes. Statements are issued giving details of training content, job function, marks, etc. On completion of the entire training programme, a certificate is issued by the college. Any completed elements from a main programme can later be transferred as credit if entering the relevant programme.

Trainees receive a salary for their periods of workplace training and financial support from the state during training at college. The wage level is set by collective agreement in the trade. The provision for basic vocational training is at the discretion of the municipality in which the trainee lives.

Table 4. **Students within EGU**

2012	2013	2014	2015
231 631	2 331	238 238	2 337

Source: Statistics Denmark.

⁽²⁴⁾ According to a political agreement from October 2017 a reform of the whole preparatory youth education system will come into force from august 2019. The new system (FGU - Preparatory Basic Education and Training) consists of three main entries: general basic education, basic production training and basic vocational education.

2.8.1.2. *Production schools*

Production schools are aimed at young people aged below 25 who have not completed upper secondary education or find it difficult to see a way forward in further education or in the labour market. Most either come from compulsory schooling or have completed a VET foundation course without completing a main course. The purpose is to help clarify the individual's future career path, and individual guidance is provided on a day-to-day basis. Furthermore, production schools have the task of helping young people fulfil the admission requirements in Danish and mathematics (grade 2 - passed).

The 82 production schools base their activities on workshops and give a priority to learning through experience and practical work cooperation. Workshop subjects range from carpentry or metalwork to media or theatre.

Learning mainly takes place by doing, but theoretical training is also offered, although it is not mandatory. There are no examinations, but participants must attend practical training if they want to stay at the school for the entire training period.

Participation is limited to one year or shorter. The schools are independent institutions, but they receive funding from the municipality and state, as do the participants. A certificate of attendance is issued at the end of the stay, but there are no exams and no marks given.

Table 5. **Students at a course of training at a production school**

2012	2013	2014	2015
5 841	5 718 718718	5 760	5 513

Source: Ministry of Education.

Of the total number of graduates in 2009, 37% participated in courses of less than three months duration (Ministry of Education, 2011b). On completion of a course at a production school, 34% were in the educational and training system (generally entering one of the VET foundation courses), while 10% gained employment half a year after leaving the production school (in 2013). According to a survey conducted in 2016, taking a course in a production school generally seems to have a negative effect on employability (DEA 2016, Notat, http://dea.nu/sites/dea.nu/files/notat_forlist_men_ikke_fortabt_1.pdf).

2.8.2. **Youth education for young people with special needs (STU)**

Youth education for young people with special needs is intended for young people with intellectual disabilities or other special needs, 16 to 25 years of age, who are unable to complete another upper secondary programme, even

with special needs assistance. The Act on Young People with Special Needs (2007) stipulates that local authorities are obliged to offer young people with special needs a three-year youth-education programme upon completion of compulsory schooling.

The programme is not necessarily vocational, but generally combines general, vocational and practical elements. The three-year programme begins with a twelve-week clarification period, on the basis of which an individual education plan is drawn up in collaboration with local youth guidance services, students and their parents. The objective is that students acquire personal, social and academic competences enabling them to have adult lives that are as independent and active as possible, perhaps with access to further education and training and/or employment as well. In preparing students for adult life, the programme seeks not only to continue academic development begun during compulsory schooling, but also to ensure that students encounter everyday practical situations and develop socially. As such, an education plan can consist of periods spent at various institutions, including VET colleges, production schools, folk high schools, continuation schools and schools of domestic science, as well as various work placements. On completion, students receive documentation of the competences acquired. STU has become more popular in recent years, with an increase of 700 students between 2010 and 2011. The average age is 18.2 years, and 63% are men, 37% women. Since 2010, 74% of the students have completed the programme, the rest having dropped out or enrolled in another programme. 66% of the students who attend STU have general learning difficulties, and more than one-third have development disorders (Ministry of Education, 2014).

Table 6. **Students in youth education for young people with special needs**

2012	2013	2014	2015	2016
4 522	5 047	5 431	5.774	5 810

Source: Ministry of Education

<http://statweb.unic.dk/databanken/uvmDataWeb/ShowReport.aspx?report=EAK-bestand-usb>

2.8.2.1. *Combined post-compulsory education*

Combined post-compulsory education is an occupation-oriented, qualifying post-compulsory education programme offered to people aged 15-24 who do not possess the necessary vocational, social or personal skills to complete a VET or an upper secondary education. Students may also obtain a foundation qualifying them for further education.

Combined post-compulsory education is aimed at young people who are motivated to undertake education but do not possess a realistic chance of completing it.

Combined post-compulsory education has a maximum duration of two years and leads to the title of “occupation assistant” within a specified job area. At the same time, students will have an opportunity to transfer to another post-compulsory education programme if they obtain the necessary skills, and they may leave the program for an occupation after one and a half and two years respectively.

This education is offered within approximately ten centrally decided occupational themes. It is the intention that this form of education be provided through institutional cooperation within a specific geographical area.

2.8.2.2. *Eud10 VET programme*

EUD10 is an option for transition from compulsory school to VET. It prepares learners for VET and ensures that they meet the admissions requirements. This is aimed at pupils who are motivated to undertake a VET, but who do not meet the admissions requirements or are uncertain whether this form of education is the right choice for them.

The programme is organised in such a way that it makes up for pupils’ lack of educational readiness, including poor skills in Danish and maths, and it must introduce young people to the four main basic vocational clusters of VET. According to the Danish Evaluation Institute (EVA), 3% of the pupils in 9th grade are heading for EUD10 in 2018 ⁽²⁵⁾.

2.8.3. Programmes for adults

2.8.3.1. *Adult vocational training (AMU)*

AMU programmes provide participants with skills and competences applicable in the labour market and primarily directed towards specific sectors and job functions. The programmes may either deepen the participant’s existing knowledge in a particular field or broaden it into related fields.

AMU programmes target both low-skilled and skilled workers, but they are open to all citizens who are either resident or employed in Denmark,

⁽²⁵⁾ <http://www.statistikbanken.dk/statbank5a/default.asp?w=1366>

irrespective of educational background. Some AMU courses are also targeted at the unemployed ⁽²⁶⁾. The objectives are threefold:

- (a) to contribute to maintaining and improving the vocational skills and competences of participants in accordance with the needs of the labour market and to further the competence development of participants;
- (b) to contribute to solving problems in labour-market restructuring and adaptation in accordance with the needs of the labour market in both the short and long terms;
- (c) to give adults the possibility of upgrading competences for the labour market, as well as personal competences through opportunities to obtain formal competences in vocational education and training ⁽²⁷⁾.

To meet these objectives, AMU is set up as a flexible system responsive to changing demand for different skills and competences within the labour market. As such, approximately 3 000 AMU programmes meet the continuing training needs of adult unskilled and skilled workers and technicians in a wide range of sectors and trades. About two hundred new programmes are developed each year, while existing programmes that are considered too outdated to satisfy current labour market requirements may be scrapped. However, to provide an easy overview, these programmes have been gathered into approximately 130 joint competence descriptions, equivalent to 130 job areas. These descriptions consist of a description of a typical workplace, relevant competences in the job area and a list of adult training programmes or single subject courses leading to these competences. As such, joint competence descriptions group programmes relevant for upskilling in a particular area of the labour market. The same programme can figure in more than one joint competence description. AMU programmes and joint competence descriptions are compiled by the social partners in the form of ten national, trade-specific adult education and continuing training committees and are approved by the Ministry of Education ⁽²⁸⁾. The exception is programmes specifically developed for and funded by a particular enterprise to meet their training needs.

⁽²⁶⁾ For further details of education and training opportunities for the unemployed, see Section 2.3.2.2.

⁽²⁷⁾ Ministry of Education, Adult vocational training in Denmark: short vocational training programmes mainly for low skilled and skilled workers on the labour market. <http://eng.uvm.dk/Education/Adult-education-and-continuing-training/Adult-vocational-training>

⁽²⁸⁾ See section 3.2 for further details on the shaping of VET qualifications within AMU.

The programmes are generally of relatively short duration, ranging from half a day to fifty days, with an average duration of one week. AMU programmes can be grouped into three broad categories:

- (a) specific job- or sector-related competences, such as gaining new technical knowledge;
- (b) general competences, such as use of (non-job specific) ICT;
- (c) personal competences, such as communication skills.

Depending on what best corresponds to the needs of enterprises and participants, courses can take the form of traditional classroom teaching, training in open workshops, distance learning or training at the workplace and be spread over several consecutive days, over a longer period or conducted as evening classes. Programmes can be combined both within and across qualification areas and alternate between theory and practice. Each participant has an individual training plan (Elevplan) which outlines the goals to be achieved and can combine any programmes covering different areas and competences relevant to his or her job sector.

In compiling individual training plans, an assessment of prior learning often plays a key role. In 2007, a legal framework was implemented for the recognition of prior learning in the adult education and continuing training system. This gives all adults the right to an assessment of non-formal and informal learning, which can act as the basis for designing the individual educational plan or be detailed on a certificate officially recognising competences acquired through informal or non-formal learning. The individual competence assessment procedure ensures that needs for further education are determined on an individual basis. The plans have to consider the following core elements:

- (a) labour-market policy needs as the basis for the AMU programme;
- (b) programme aims and objectives;
- (c) purpose of the individual educational plan (initial or specialised training, etc.);
- (d) the participant's skills and required entrance qualifications;
- (e) certification.

AMU providers — vocational colleges, AMU training centres and private providers — are responsible for providing adequate training according to individual training plans and ensuring that aims and objectives are met ⁽²⁹⁾. Upon completion, participants receive a certificate. In around 120

⁽²⁹⁾ For more details of AMU providers and their responsibilities, see Section 3.2.2.

programmes, this certification is a formal requirement for fulfilling certain job functions (such as operating certain machinery). However, the certificates do not provide direct access to further education and training, although they can be included in an assessment of prior learning resulting in credit transfer, for example, if entering a mainstream VET programme in the same field. AMU certificates are also included in the Danish qualifications framework for lifelong learning, placed anywhere from level 2 to level 5. In 2017, there were approximately 457 250 participants in AMU courses, a significant drop of almost 596 000 since 2010. This could partly be explained by the high pace and bustle of industry during this period, and partly by the rigidity and formal structures of the education system.

However, as many of these courses are of very short duration (as little as half a day), the figures for full-time equivalent students are much lower at just 7 690 in 2016 (Statistics Denmark, 2018). This again represents a significant fall in comparison with 2010 figures. Most participants in the programmes either have VET as their highest level of education (51%) or compulsory schooling (25%) (VEU-rådet, 2011, p. 45).

In terms of teacher training, the same qualification requirements apply as within VET.

2.8.3.2. *Measures to help job-seekers and people vulnerable to exclusion from the labour market*

Some training provisions are specifically targeted at the unemployed and people at risk of exclusion, such as those with a criminal background or with a history of substance abuse, refugees and the disabled. Previously, two stakeholders were central: the public employment service (*Arbejdsformidling*, AF), and local municipalities, with the latter being responsible for persons who had not contributed to unemployment insurance. However, since 2007, these efforts have been concentrated in 94 job centres under municipal jurisdiction, which use the following labour market instruments:

- (a) activation offers for young unemployed persons comprising education and training opportunities in the mainstream VET system, special courses at AMU training centres, production school courses, folk high school courses and adult education centres ⁽³⁰⁾. The objective is to improve skills and competences, thus improving individuals' opportunities in the mainstream education and training system and in the labour market. Duration and

⁽³⁰⁾ Folk high schools (*folkehøjskoler*) provide non-formal, non-vocational adult education.

certification differ greatly depending on the individualized educational plan;

- (b) specialised AMU courses requested by municipalities. These help ensure that training offers correspond to local skills needs and that they are organised according to the same principles as the remaining AMU system;
- (c) municipal activation schemes, which may include production school courses, courses at folk high schools, adult education centres or other activities initiated by the municipality;
- (d) basic (vocational) adult education programmes (VEU, see above), although this offer is not restricted to the unemployed;
- (e) wage subsidies — individuals who are unemployed can be employed with a public wage subsidy. Those employed within the public sector receive up to DKK 126.32 per hour (EUR 17) for up to a year when meeting the criteria ⁽³¹⁾. Employers receive a grant of DKK 113.46 (EUR 15.25) and are obliged to pay full pension contributions for or to the individual according to the labour market agreement ⁽³²⁾. Employment with wage subsidies can be combined with participation in training programmes. The general objective is primarily that the workplace may decide to retain an employee under regular conditions after completion of the subsidized period, and secondarily that the individual gains work experience and relevant labour market competences. It is generally the task of the individual to find a position, although social workers will sometimes be able to provide assistance.
- (f) IGU, a new VET programme for immigrants ⁽³³⁾.

The precise requirements for entering the various activation schemes, as well as their form and content, vary considerably, as they fall under municipal jurisdiction and are thereby subject to local conditions and priorities. They are also greatly dependent on the economic situation, with demands on the unemployed generally being greater during periods of economic growth.

⁽³¹⁾ 2018 criteria: <https://star.dk/media/2041/lynoversigt-over-loentilskud-og-tilknyttede-regelsaet-pr-april-2018.pdf>

⁽³²⁾ <https://www.retsinformation.dk/Forms/R0710.aspx?id=177118>

⁽³³⁾ <http://www.cedefop.europa.eu/en/news-and-press/news/denmark-new-vocational-programme-refugees>

2.8.4. Private providers of VET

According to the VET policy in Denmark, private providers should be more involved in vocational adult education and training efforts as independent providers, both through cooperation and as competitors of the traditional providers in terms of institutions for business education.

Therefore, the legal framework for VET states that private providers can be officially approved– alongside public VET institutions – by the Ministry of Education to provide VET training and education or part of it.

It is also intended that institutions for vocational training or other private institutions that are authorized to provide training programs should as far as possible outsource training tasks to private institutions when jobs provided through outsourcing can be acquired better either for the same rate or at the same level, but less expensively.

Against this background, once a year the institutions' boards are obliged to adopt a procurement policy to support the institutional management's concrete decisions regarding the management of this obligation.

Recently, a number of private providers have been approved by the Ministry of Education to provide VET training programmes. Most of the private provision falls within the legal framework of AMU in the form of shorter courses (typically one-week).

CHAPTER 3.

Shaping VET qualifications

VET in Denmark is organised in accordance with the dual principle, meaning that the social partners play a key role in relation to both the content and organisation of VET. Moreover, the Danish VET system is characterized by a high level of stakeholder involvement, where not only the social partners, but vocational colleges, teachers and students are involved in the development of VET qualifications based on consensus and shared responsibility.

While there is much common ground between VET and adult education and continuing training, with some vocational colleges offering both, the exact composition of the two organizational frameworks differs in terms of precisely which organizations and institutions are involved. As a consequence, the two fields will be dealt with separately here.

3.1. Shaping VET qualifications

VET is centralised in terms of providing nationally recognised qualifications (decision-making level), but to some extent also decentralized (i.e. pedagogically), as VET providers are autonomous when it comes to adapting VET to local needs and demands (implementation level). Figure 5 presents the Danish model of stakeholder involvement.

3.1.1. Public authorities

Parliament sets out the overall framework for VET, which is administered by the Ministry of Education. The Ministry has overall parliamentary, financial and legal responsibility for VET, laying down the overall objectives for programmes and providing the legislative framework within which stakeholders, social partners, colleges and enterprises are able to adapt curricula and methodologies to the needs of both students and the labour market. The Ministry is responsible for ensuring that VET programmes have the breadth required for a youth education programme and can allocate the necessary resources to it. Since the beginning of the 1990s, the Ministry has regulated

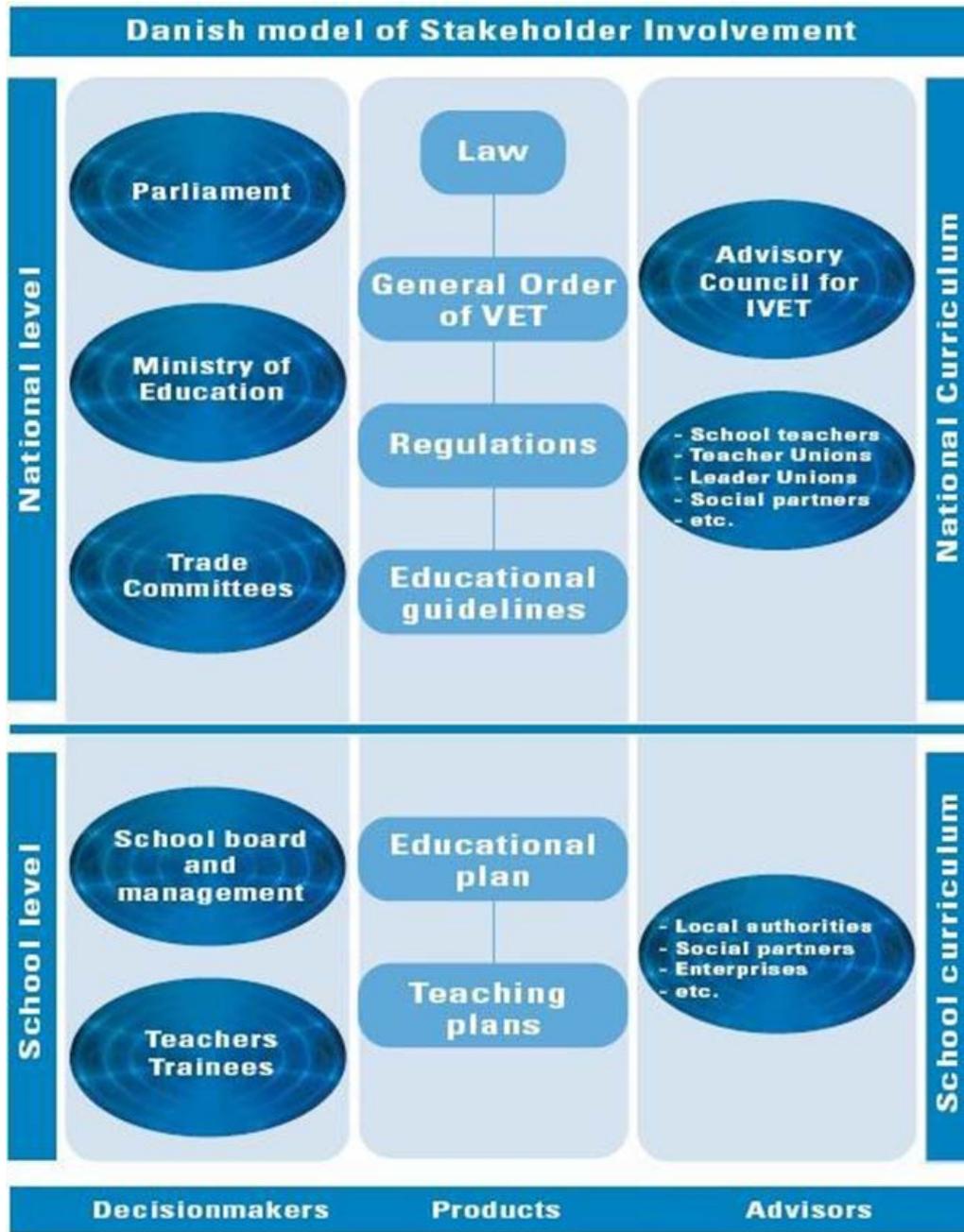
VET provision through a system of targeted framework governance based on providing ‘taximeter’ grants per student ⁽³⁴⁾.

3.1.2. Social partners

Social partners play an institutionalized role at all levels of VET, from the national advisory council on vocational upper secondary education and training (*Rådet for de grundlæggende Erhvervsrettede Uddannelser*), which advises the Ministry of Education on principal matters concerning VET, to playing an advisory role at the local level through local training committees comprised of representatives of the social partners who advise colleges on local adaptations of VET. Their most important role is to ensure that VET provision is in line with the needs of the labour market.

⁽³⁴⁾ The Danish taximeter system links the majority of state funding to grants determined by activity level. The system is described in detail in a fact sheet (Ministry of Education, 2014n).

Figure 5. Stakeholder involvement in Denmark



Source: www.uvm.dk

3.1.2.1. *Advisory council*

The national advisory council consists of 31 representatives from the social partners. In its advisory capacity, the council monitors developments in society and highlights trends relevant to VET. The council makes recommendations to

the Ministry regarding the establishment of new VET programmes and the adaptation, amalgamation or discontinuation of others.

3.1.2.2. *National trade committees*

National trade committees (*faglige udvalg*) constitute the backbone of the VET system. Approximately 50 trade committees are responsible for 106 main programmes. The committees normally have between ten and fourteen members and are formed by labour market organisations (with parity of membership between employer and employee organisations).

Among their core responsibilities, national trade committees:

- (a) perform a central role in the creation and renewal of VET courses by closely monitoring developments in their particular trade. They also have a dominant position in formulating learning objectives and final examination standards based around the key competences that are deemed to be required in the labour market;
- (b) conduct relevant analyses, development projects, etc., and maintain close contact with relevant stakeholders;
- (c) decide the regulatory framework for individual courses within boundaries set by the legislative framework. They decide which trade is to provide the core of the training, the duration of the programme and the ratio between college-based teaching and practical work in an enterprise;
- (d) approve enterprises as qualified training establishments and rule on conflicts which may develop between apprentices and the enterprise providing practical training;
- (e) function as gatekeepers to the trade, as they are responsible for issuing journeyman's certificates in terms of content, assessment the actual holding of examinations.

Trade committees and their secretariats are financed by participating organisations (Ministry of Education, 2008).

3.1.2.3. *Local training committees*

Local training committees, meanwhile, are affiliated to each vocational college⁽³⁵⁾ and ensure close contact between vocational colleges and the local community, thus improving responsiveness to particular local labour-market needs. They consist of representatives of local employers and

⁽³⁵⁾ Typically, more than one local training committee is associated with each college, with the various committees covering different fields of EUD.

employees appointed by national trade committees, as well as representatives of staff, management and students appointed by colleges. Training committees work closely alongside colleges in determining the specific curriculum of colleges, including which optional subjects are available. They assist and advise national trade committees in approving local enterprises as qualified training establishments and in mediating conflicts between apprentices and enterprises. Finally, training committees help to ensure that enough suitable local training placements are available.

3.1.3. VET providers

Colleges assume everyday responsibility for teaching and examinations. As already noted, they work closely with local training committees in determining course content. As self-governing institutions, vocational colleges are led by a governing board with overall responsibility for the administrative and financial running of the college and educational activities in accordance with the framework administered by the education ministry. The board consists of teachers, students and administrative staff representatives, as well as social partner representatives. The board takes decisions regarding which programmes are offered at the college and their capacity, imposes local regulations and guidelines, guarantees responsible administration of the college's financial resources, including approval of budgets and accounts, and hires and fires the operational management (director, principal, dean or similar). The operational management, meanwhile, is responsible for implementing the overall objectives and strategies set out by the governing board.

117 institutions offer basic vocationally oriented education programmes. 97 of these are technical colleges, commercial colleges, agricultural colleges or combination colleges. In addition, twenty colleges offer social and health care training programmes. A number of the colleges offer their programmes through local branches at addresses other than the main college.

In addition to VET, these colleges may offer the general upper secondary qualifications higher commercial examination HHX (højere handelseksamen) and/or higher technical examination HTX (højere teknisk eksamen), EUX (combined upper secondary and vocational education) and AMU (adult vocational training courses). Furthermore, courses and programmes specifically commissioned by enterprises and short-cycle higher education programmes are offered in cooperation with other colleges. In recent years, the trend has been towards institutional consolidation, with a series of mergers

leading to a considerable reduction in the number of institutions, which, in turn, are larger and can offer the student a greater choice of programmes.

To provide students with the relevant transversal competences, vocational colleges focus on learning instead of teaching. Students therefore work on a project-oriented basis and in groups, learning how to collaborate to achieve a goal. Students play an active role in their own learning processes, rather than passively receiving knowledge from teachers.

3.1.4. Danish VET system reform

Since 2000 there has been a decline in the number of young VET students entering directly from compulsory school. Another recurring problem is high dropout rates. The Danish government therefore launched a proposal for a reform of the Danish VET system, Improving Vocational Education and Training. This proposal was ratified in Parliament in the summer of 2014 and contains a number of initiatives aiming to enhance the attractiveness of the Danish VET system.

The 2014 reform establishes four overall objectives for vocational education and training, which are translated into measurable targets for monitoring VET development at the central and provider levels:

- (a) objective 1: more students choose VET immediately following compulsory schooling (grade 9 or 10);
 - (i) result target 1.1: at least 25% of a cohort must choose VET immediately following compulsory schooling. This share must increase to at least 30% by 2025;
- (b) objective 2: more students complete VET;
 - (i) result target 2.1: the completion rate must be improved from 52% in 2012 to at least 60% by 2020 and at least 67% by 2025;
- (c) objective 3: VET must challenge all pupils so they may reach their fullest potential;
 - (i) result target 3.1: the share of the most gifted students – measured as the share of students who complete a total number of subjects at a level which exceeds the compulsory minimum level set by vocational committees – must increase year by year. A baseline will be established using the 2013/14 school year as a benchmark;

- (ii) result target 3.2: the high employment rate ⁽³⁶⁾ (92%) for newly graduated students (within a year of final examination) must be maintained;
- (d) objective 4: trust in VET and the well-being of VET students must be strengthened;
 - (i) result target 4.1: the well-being of the students and the satisfaction of the businesses that hire the students must be gradually increased until 2020.

The objectives provide a clear framework and direction for vocational institutions. In addition, the objectives provide a well-defined foundation for results-based follow-up and evaluation for both the government and the individual vocational institutions.

Some of the most important elements in the reform are:

- (a) clear targets;
- (b) an attractive education environment for youngsters;
- (c) a simpler structure and greater clarity in the VET system;
- (d) better opportunities for further education and training;
- (e) a new VET pathway for adults aged 25 and over;
- (f) clear entry requirements and better training options for all young people;
- (g) new vocational tenth grade (EUD10);
- (h) new combined youth education;
- (i) more and better teaching to provide more highly skilled graduates;
- (j) continued efforts to create apprenticeships and enhanced training guarantees;
- (k) focus on guidance.

The reform was introduced in August 2015 and is closely followed by KORA, the Danish Institute for Local and Regional Government Research, and EVA, the Danish Evaluation Institute.

⁽³⁶⁾ Torben Pilegaard Jensen and Britt Østergaard Larsen (2011). Unge i erhvervsuddannelserne og på arbejdsmarkedet, AKF-rapport.

3.2. Shaping AMU qualifications ⁽³⁷⁾

3.2.1. Public authorities and social partners

Cooperation with social partners is an integral part of national labour-market policy, including in areas primarily regulated by legislation: for example, health and safety at work, job placement services, measures to combat unemployment and unemployment insurance. Likewise, while adult vocational training (AMU) is the overall responsibility of the Ministry of Education, the social partners are involved at both the national and local levels, playing a key role in management, development, priority-setting, organization and quality assurance, as well as being represented on school boards and educational committees (Ministry of Education, 2014m).

In the adult education and continuing training system, the same institutional structure exists as in EUD (Figure 4), with the following bodies ensuring the involvement of the social partners in the development of adult education and continuing training:

At the national level an advisory National Council for Adult Education and Continuing Training (VEU-rådet) has been set up for the Minister of Education, as well as eleven continuing training and education committees, each responsible for a specific sector of the labour market. At the local level, providers of adult vocational training programmes are in close dialogue with local trade committees and businesses in the implementation of new programmes.

Each continuing training and education committee submits annual labour reports to the National Council for Adult Education and Continuing Training. The report presents activity levels of the previous year and estimates levels in the coming year. Trends and developments in the given area are also analyzed. There may be areas such as robotics in the field of industry or interdisciplinary social co-operation for social workers. This is used by the national committee to regulate and initiate source areas and also numbers (Ministry of Education 2018, <http://eng.uvm.dk/adult-education-and-continuing-training/adult-vocational-training>)

⁽³⁷⁾ Applies to AMU and any elements of GVU provided as AMU (GVU is intended to provide equivalent qualifications to EUD and as such is largely governed by the same educational objectives).

3.2.2. VET providers

There are approximately 90 public providers of AMU in Denmark, including colleges also offering VET programmes, as well as some private providers.

To receive accreditation as a public AMU provider, an institution must participate in the local VEU centre (*Voksen- og Efteruddannelses Centre* or VEU centre). The thirteen VEU centres were established in January 2010 to provide a unified gateway to both general adult education and vocational adult education and continuing training, including educational and career guidance, with a greater focus on quality and effectiveness⁽³⁸⁾. Within AMU, where short-term responsiveness to local and regional labour-market training needs is essential, VEU centres have the identification and integration of skills needs as one of their five primary functions.

Providers of programmes are locally based, with programme success dependent on close cooperation between local enterprises and training institutions and on the degree to which programmes are adapted to local needs. As such, another objective in associating all public AMU providers with a local VEU centre is to improve their ties with the local and regional labour markets and their potential for closely coordinating local educational, employment, and business and growth policy.

The governing boards of colleges and AMU training centres are responsible for appointing local training committees. These must consist of an equal number of representatives from employee and employer organisations. A college or AMU centre determines whether to appoint one or several committees (separate committees for different vocational fields). They can also decide to cooperate with local vocational colleges (VET providers) and appoint local committees covering both VET and AMU. This is part of a government strategy to encourage collaboration and synergy between AMU and other VET providers.

3.3. Recognition of prior learning

The young participant in vocational education will have his or her competence assessed in the initial period of the education. The competence assessment should clarify the pupil's requirements in relation to the education they want. The competence assessment is based on previous education or employment. The goal is to ensure that the education program that the college offers the

⁽³⁸⁾ Due to a reform the centers will close in 2019.

pupil allows him or her to start at the right level and to avoid duplicating education. The college should allow the competence assessment to be included in the preparation of the pupil's individual education plan, so that the pupil is credited with relevant parts of the programme ⁽³⁹⁾.

Adults can have their competences assessed in relation to adult vocational courses and adult vocational education. In respect of short courses this is an option known as *Individuel Kompetence Vurdering* (IKV), or Individual Competence Assessment. The individual citizen has a right to this assessment and can even obtain financial compensation for the time spent in this process, which takes between half a day and five days.

Recognition of prior learning results in an individual plan for education and a competence document documenting the formal qualifications, the individual's prior experiences and learning equivalents, or a course certificate depending on the relevance and validity of his or her former experiences (<https://www.retsinformation.dk/Forms/R0710.aspx?id=152433#Kap6>).

In seeking adult vocational education, it is compulsory to have one's prior learning and experiences assessed. That means that every adult above 25 years of age who intends to embark on vocational education should participate in so-called "*realkompetencevurdering*", RKV, or RPL, Recognition of Prior Learning. This process takes between half a day and five days and leads the participant to one of three models:

EUV 1 (Adult Vocational Education 1); the learner has at least two years of relevant workplace experience. This means that the practice-based periods of the course and its initial part are left out (introductory basic programmes called Grundforløb 1, (Basic Course 1). In the case of mercantile vocational education, the primary part is included in the adult version.

EUV 2 (Adult Vocational Education 2); the learner has less than two years of relevant workplace experience. An education plan should be drawn up reflecting the participant's experiences, which will usually exclude the initial part and shorten the other parts.

EUV 3 (Adult Vocational Education 3); the learner has no relevant workplace experience. Adults should follow the same education plan as young people, but should not have the initial part (GF 1, Grundforløb 1 or Basic Course 1) (<https://uvm.dk/-/media/filer/uvm/.../pdf18/.../180321--vejledning-euv-marts-2018.pdf>).

⁽³⁹⁾ <https://www.uvm.dk/erhvervsuddannelser/adgang-og-optagelse/realkompetencevurdering>

3.4. Quality assurance

The various qualifications offered in the Danish education and training system are organized in accordance with the national qualifications framework set out below. The Danish qualifications framework for lifelong learning was developed by an interdepartmental working group with representatives from four separate ministries, as well as some other stakeholders from the Danish education system. At the end of 2006, the Minister for Education launched a project to draw up a national qualifications framework for Denmark. A proposal was approved in 2009 to place existing qualifications in the framework and was completed at the end of 2010.

In total, the Danish qualifications framework has eight levels covering all levels from the leaving examination of primary and lower secondary school to the PhD degree. It also covers supplementary qualifications, such as adult VET ⁽⁴⁰⁾. Only officially recognized, validated and quality-assured programmes are included in the qualifications framework. Informal and non-formal learning are only recognized to the extent that they are formalized through a process of the validation of prior learning corresponding to one of the included qualifications.

Quality assurance mechanisms are part of the validation process when it comes to including new qualifications in the framework. In terms of VET, trade committees (at the upper-secondary level) and further education and training committees (adult VET) assess programmes and make recommendations for their placement in the framework to be approved by the Ministry of Education. For each educational field, guidelines have been produced to aid committees in their assessment and are quality-assured through consultation with independent experts. Procedures and criteria for including VET qualifications in the framework are the subject of an evaluation report compiled by the Danish Evaluation Institute (EVA, 2011).

⁽⁴⁰⁾ A full overview of the various qualifications covered and their placement within the framework is available from:

<http://ufm.dk/uddannelse-og-institutioner/anerkendelse-og-dokumentation/dokumentation/kvalifikationsrammer/europaeisk-kvalifikationsramme-efq?searchterm=EQF> [accessed 7.7.2016].

3.5. The Danish national qualification framework (NQF)

Figure 6. The Danish national qualification framework (NQF)

Level	Degrees and certificates	Certificates for supplementary qualifications
1	Certificate for the 9th grade at Folkeskole (primary and lower secondary school) leaving examination	Certificate for preparatory adult education (FVU) Certificate for single subject courses at general adult education level G (9th grade) (AVU)
2	Certificate for the 10th grade at Folkeskole (primary and lower secondary school)	Basic vocational education and training certificates (VET foundation course) Certificate for single-subject courses at general adult education levels F and E (10th grade) (AVU) Adult vocational training certificates (AMU)
3	Certificate or journeyman's certificate for vocational education and training (e.g. social and health-care helper, industrial assistant) (VET)	Basic vocational education and training certificate Higher Preparatory Examination, single-course subject (HF-enkeltfag) Certificate for single subject courses at general adult education level D (AVU) Adult vocational training certificates (AMU) Certificates for single-subject VET courses
4	Certificate for general upper secondary education programmes (STX, HHX, HTX, HF) Certificate or journeyman's certificate for vocational education and training (e.g. social and health-care assistant, industrial technician) (VET) Combined general upper secondary education certificate and certificate or journeyman's certificate for vocational education and training (EUX)	Certificates for supplementary single-subject courses at the upper secondary level (GSK) Higher Preparatory Examination, single-subject course (HF-enkeltfag) Adult vocational training certificates (AMU) Certificates for single-subject VET courses
5	Certificate or journeyman's certificate for vocational education and training (e.g. film and TV production technician, aircraft mechanic) (VET) Academy profession degrees (<i>erhvervsakademigrad</i>) Further adult education degrees (VVU)	Adult vocational training certificates (AMU) Certificates for single-subject VET courses
6	Bachelor's degrees (BA/BSc) Professional bachelor's degrees Diploma degrees	
7	Master's degrees (candidatus) Master's level degrees	
8	PhD degrees	

Source: EVA, 2011, p. 63ff.

CHAPTER 4.

Promoting participation in vocational education and training

In Denmark, public financing of VET is a fundamental characteristic of the system, and there is no sign that this is going to change. The government attaches great importance to improving the quality and efficiency of education and training systems in order to equip all individuals with the skills required for a modern workforce in a knowledge-based society, while at the same time permitting career development and reducing skills mismatches and bottlenecks in the labour market.

The basis for achieving these objectives is a highly developed and publicly financed system of basic, secondary and further education and training which also recognises relevant non-formal and informal competences and, in particular, practical work experience.

4.1. Financing mainstream ('youth') VET

VET is based on alternative models where training takes place in turns at college and in an enterprise. The state finances training at colleges, while enterprises finance on-the-job training; apprentices receive an apprentice's salary while in the company, as laid down in the collective agreements.

4.1.1. Financing training colleges

In 2015, the state spent a total of DKK 8 006 million (EUR 108 million) on basic courses and main programmes (Table 6). A considerable proportion of these funds were distributed to colleges in accordance with the 'taximeter' principle, whereby funding is linked to some quantifiable measure of activity, for example, the number of full-time equivalent students, with a set amount awarded per unit. Among other things, this system provides an incentive for colleges to increase retention within the system.

Besides the 'taximeter' rate, VET providers also receive an annual fixed grant for the maintenance of buildings, salaries, etc. The total state grant is provided as a block grant which institutions use at their own discretion within the boundaries of the legislative framework and specific institutional objectives.

Table 7. **Expenditure on main youth education pathways (2018)**

VET youth education	EGU and production schools	Upper secondary education ⁽⁴¹⁾
DKK 7 173.3 million (EUR 963 Million)	DKK 1 263.3 million EUR 170 Million)	DKK 12 178 million (EUR 1 635 million)
		Upper Vocational Education
		DKK 3 085.4 million (EUR 414 million)

Source: National budget 2018.

4.1.2. Financing training in companies

All employers, both public and private, pay a sum into the ‘employers’ reimbursement scheme’ (*Arbejdsgivernes Uddannelsesbidrag*), regardless of whether or not they provide apprenticeship placements. This fund finances both VET and AMU. From 2018, all employers will be obliged to pay an annual contribution of DKK 2 702 (362 EUR) per full-time employee. These funds are then allocated to work places that take in apprentices so that they do not bear the cost of training alone. These employers receive reimbursements for wages paid during apprentices’ periods of college-based training.

4.2. Financing VET for adults - AMU

AMU is largely publicly financed. Providers receive ‘taximeter’ funding and must negotiate budgets and targets with the Ministry of Education annually. In addition, there is a participation fee for most courses, on average corresponding to approximately EUR 100 per week, which is generally paid by the employer. Unemployed participants taking part in AMU as part of their individual employment plan are exempt from any fees. These costs are covered by the Ministry of Employment.

Participants are entitled to a fixed allowance, the state grant system for adult training (*VEU- godtgørelse*). In 2018, the amount available is DKK 4 300 (EUR 578) per week, corresponding to the maximum unemployment insurance benefit rate. As most participants are employed and receive a full salary during the training period, this allowance is primarily paid to employers as partial

⁽⁴¹⁾ General, vocational and others.

reimbursement of wages. As with apprenticeship training (EUD, see above), expenditure for the allowances is covered by the employers' reimbursement scheme, to which all enterprises contribute a fixed amount regardless of levels of participation in adult education and continuing training activities.

Participants may also receive a transport allowance and financial support for board and lodging, covered by AUB, if programmes are offered at a considerable distance from the participant's home.

4.3. Guidance and counselling for learning, career and employment

The provision of educational and vocational guidance for young people is given a high priority in Denmark. The Danish Act on Guidance aims to develop a transparent guidance system with easy access to high quality services ⁽⁴²⁾. Guidance is regarded as a continuous process that should help young people become more conscious of their abilities, interests and possibilities, thus enabling them to make informed decisions regarding education and employment. The Act defines seven main aims of the guidance, according to which education, training and career-related guidance must:

- (a) help to ensure that the choice of education and career will be of the greatest possible benefit to the individual and society, and that all young people complete education or training leading to vocational or professional qualifications;
- (b) be targeted particularly at young people, who, without specific guidance, will have difficulties in relation to the choice and completion of education, training and career;
- (c) take into account the individual's interests and personal qualifications and skills, including informal competencies and previous education and work experience, as well as the expected need for skilled labour and self-employed business people;
- (d) contribute to limiting, as much as possible, the number of students who drop out or who change from one education and training programme to another and ensure that the learner completes the chosen education with the greatest possible academic or vocational and personal benefits;

⁽⁴²⁾ According to the law on guidance all young people have the right to guidance, but guidance must be differentiated and targeted at young people with the most obvious need for guidance.

- (e) contribute to improving the individual's ability to seek and use information, including ICT-based information and guidance about choice of education, educational institution and career;
- (f) help to ensure coherence and progression in the individual's guidance support;
- (g) be independent of sectorial and institutional interests, meaning that guidance should be provided by practitioners with an approved guidance education or recognized competencies at the same level.

Today, the Ministries of Education and Higher Education are responsible for guidance and have a coordinating role in relation to the guidance system.

The Act on Guidance covers guidance in the education system, especially in connection with transition within the system, and supports the Danish government's declared goals that by 2015, 95% of all young people should complete a youth education programme, and that by 2020, 60% should complete a higher education programme. The government wishes to make it easier for citizens to make realistic decisions about learning opportunities and careers for the individual's own sake and for the good of society as a whole. The Danish guidance system should be seen in this perspective. The system consists of the following key elements:

- (a) youth guidance centres — *Ungdommens Uddannelsesvejledning*;
- (b) regional guidance centres — *Studievalg*;
- (c) a virtual guidance centre — e-guidance centre;
- (d) centres for adult education and continuing training — VEU centres ⁽⁴³⁾.

All educational institutions are obliged to provide educational support, which includes guidance to their students, particularly with regard to helping students complete their education and training. A national guidance portal, www.ug.dk, provides education guide containing information and different kinds of supportive guidance tools.

Youth guidance centres: *Ungdommens Uddannelsesvejledning*

Local authorities must ensure that guidance is provided on choices in youth education and careers. 56 municipal youth-guidance centres provide guidance services to young people up to the age of 25. The 56 centres represent the 98 local authorities in Denmark, each centre covering a

⁽⁴³⁾ According to a political agreement the centres will be closed in 2018 and the guidance will be placed in the educational institutions instead as well as there will be established a single point of access at a central level.

'sustainable' area in terms of the number and variety of upper secondary institutions, as well as geographical distance ⁽⁴⁴⁾.

Youth guidance centres focus on guidance in relation to the transition from compulsory to upper secondary education or, alternatively, to the labour market. The main target groups are:

- (a) pupils in compulsory school — forms 7 to 9 (10) — with focus on 15- to 17-year-olds. In cooperation with schools, guidance practitioners assess the 'educational readiness' of pupils before they can enter youth educational programmes. Under current legislation dating from 2014, schools will play a more dominant role in assessing pupils' social and personal skills from 8th grade. Individual guidance will primarily be given to pupils in 8th grade who are assessed as not yet ready for youth education. All pupils will have collective guidance regarding information about possibilities in youth educational programmes, the labour market etc.;
- (b) young people under the age of 25 who have not yet completed a youth education or training programme and are not in employment. The centres are obliged to establish contact with this group of young people and to help them get back into education and training or employment.

Local authorities define the overall framework for guidance activities in their areas. The objectives, methods, planned activities and performance (results, outcome) of each youth guidance centre are published on the Internet.

The importance of cross-sectoral cooperation is emphasised in Danish legislation on guidance to ensure a coherent guidance system and regular sharing of experience, knowledge and best practice. Youth guidance centres must thus work closely with:

- (a) primary and lower secondary schools and youth education institutions in their respective areas;
- (b) local businesses and the public employment service.

In cooperation with school principals, youth guidance centres organize guidance activities at schools. Teachers are responsible for the provision of general careers education from grade 1 to grades 9 or 10, and youth guidance centres must participate in planning these activities in cooperation with

⁽⁴⁴⁾ From 2019 the municipalities can organize the youth guidance in various forms – UU centres are optional.

schools. Guidance in relation to the transition to youth education is provided by youth guidance centres.

Guidance is regarded as a continuous process that should increase young people's awareness of their abilities, interests and possibilities, thus enabling them to make informed decisions regarding education and employment. Youth guidance centres may be considered the first step in a lifelong process of guidance.

Regional guidance centres: Studievalg

Seven regional guidance centres together with a central management facility have responsibility for guiding:

- (a) students in upper secondary programmes;
- (b) young people and adults outside the education and training system who wish to enrol in a programme of higher education.
- (c) guidance is offered on a regional basis in collaboration with institutions of youth education and higher education institutions.

Regional guidance centres are responsible for:

- (a) guidance on the transition from upper secondary programmes to programmes of higher education;
- (b) provision of information about all higher education programmes in Denmark and the occupations or professions that higher education programmes may lead to.

Regional centres organize a wide variety of careers education and careers guidance activities for all students in upper secondary education at students' schools. This includes workshops, seminars and careers fairs, as well as individual and group guidance sessions.

Further, people from both the target groups mentioned above are welcome to call, e-mail or visit the centres to obtain information or to make an appointment for a guidance session. The regional guidance centres are contracted with the Ministry of Education for periods of four years. Like youth guidance centres, regional guidance centres are obliged to cooperate with relevant partners in their regions to ensure a coherent guidance system and a regular exchange of experience, knowledge and best practice. Relevant partners include:

- (a) youth education and higher education institutions;
- (b) social partners;
- (c) local authorities;
- (d) e-guidance centre (see below).

E-guidance centre

In January 2011 the Ministry of Education launched the national virtual guidance portal (www.evejledning.dk), where the national guidance unit offers its services through virtual communication and guidance tools to guide applicants. Guidance counsellors can be contacted seven days a week from morning to evening and can be reached by e-mail, phone, text message or online chat. The unit consists of full-time staff in a centre in Copenhagen and part-time staff spread geographically and connected to local and regional guidance centres.

VEU centres

The national network of 13 VEU centres (see Section 3.1.3) was established in January 2010 and should raise quality levels and increase coordination and access locally and regionally for adult vocational education. However, they are due to be phased out in 2018. In the future contact with enterprises and individuals will take place at the institutional level and through a national (digital) portal.

National guidance portal: Uddannelsesguiden.dk

The 'education guide' is an Internet-based information and guidance tool. This guidance portal contains information about all education programmes and up-to-date labour-market information. The target groups for the guidance portal are all citizens, young people, adults and parents, as well as pupils and guidance centres. The Ministry of Education is responsible for the portal and has operational responsibility for it, as it is run in-house by its own editors.

Virtual resource centre

The Ministry of Education's Department of Guidance functions as a national centre of guidance expertise for guidance practitioners. The centre is mainly aimed at professional guidance counsellors, people working with guidance-counsellor training, public authorities and decision-makers. The most important task is to contribute to the coordination and quality development of guidance by making information about guidance-related subjects available to people involved in guidance.

4.4. Role of social partners in matching provision with labour market needs in mainstream education

National trade committees and national advisory councils on initial vocational education and training (*Rådet for de Grundlæggende Erhvervsrettede Uddannelser*, REU) and on adult education and continuing training (*Rådet for Voksen- og Efteruddannelse*, VEU) (Chapter 3) are responsible for updating VET programmes and ensuring that they integrate the skills and labour market's competence needs nationally.

A new VET programme is set up after a need has been identified by one of the national trade committees. They draw up a proposal containing some recommendations and information regarding projected job and apprenticeship opportunities, estimated intake, and analyses and forecasts regarding the skills and competence needs within the field. This proposal is sent to the Ministry of Education, which, based on advice from REU or VEU, has the final word on whether or not to establish a suggested VET programme. Should the Ministry decide to approve the proposal, the national trade committee is responsible for outlining the objectives and scope of the programme, after which the Ministry determines the financial aspects and other details before issuing a regulation describing the aims of the programme, its content, assessment, examinations, etc.

The Ministry of Education compiles reports annually on developments in all vocational fields and the need for changes in the supply of VET programmes based on responses submitted by national trade committees. These reports are produced for each of the four basic access routes.

VET programme curricula are agreed between national trade committees (*faglige udvalg*) and the Ministry of Education for each individual programme. Trade committees submit recommendations to renew curricula so that VET programmes and qualifications keep up with the demands of industry, based on qualification analyses and in-depth knowledge of the field in question. Recommendations must be accompanied by quantitative and qualitative data. Committees must, for example, provide information on opportunities for employment and practical work training, on the annual intake for the scheme, and on any existing analyses and forecasts concerning qualification requirements in this area.

At the regional and local levels, vocational colleges and social partners are able to influence VET programmes so they are adapted to the specific skills needs of local business and industry, and to regional development plans

through local training committees. Their main function is to provide assistance to colleges regarding the local planning of VET programme content, as well as strengthening contacts between colleges and the local labour market. Each college is attached to at least one local training committee to assist with its VET provision.

The provisions and agenda for modernizing the adult vocational education are decided in the tripartite agreement between the government and the social partners on adult education (*Trepartsaftale om styrket og mere fleksibel voksen-, efter- og videreuddannelse* ⁽⁴⁵⁾ (2018-21). This offers better funding for the providers and participants, as well as for companies. Furthermore, providers will be allowed to divide the courses into smaller units. The potentials of e-learning should be exploited, and Recognition of Prior Learning (RPL) must be used more strategically. RPL is to be carried out in organisations independently of the educational institution.

4.5. Incentives for VET learners

Danish VET learners are entitled to receive financial support during their education and training. If the VET student signs a contract with a company, he or she will receive a salary during the education and training period. The salary is between DKK 9 500 and 12 500 per month (EUR 1 275 -1 675) and increases each year.

If the VET student does not have a contract with a company, he or she is entitled to receive financial support from *Statens Uddannelsesstøtte*, SU (the Danish students' Grants and Loans Scheme) when the student is enrolled in the basic course (GF1 and GF2).

If the student is living with his or her parents, the monthly amount is DKK 946 (EUR 125). If the student is living apart from the parents and is twenty years of age, the monthly amount is DKK 6 090 (EUR 800).

A student receiving financial support from the SU is also entitled to take out a loan with the SU. The monthly amount of the loan is normally DKK 3 116 (EUR 420). Loans must be repaid with interest of 4% during the period of education and with interest at the national discount rate + 1% after finishing that period.

⁽⁴⁵⁾ <https://uvm.dk/trepart/trepart-om-voksen-og-efteruddannelse/aftalens-maalsaetninger>

4.6. Incentives for companies

The latest tripartite agreement of August 2016 has launched a couple of new incentives for Danish companies aiming to establish more contracts with apprentices. The overall goal is to establish 10 000 new contracts in 2025.

First, companies can provide a much clearer picture of themselves as educational operators, giving them the option of assessing whether they are in line with political expectations.

Companies that fail to sign the necessary number of contracts must pay a fine of DKK 27 000 (EUR 3 620) for each missing contract compared to the size of the company. On the other hand, companies that meet the standard number of contracts will receive a 7.4% higher refund from AUB to motivate them to sign the expected number of contracts.

In some Danish regions, public employers have laid down rules concerning the involvement of private companies in projects, underlining that the company cannot be engaged in public activities if the number of apprentices is below the standard.

Among the incentives promoting companies' interest in having their low-skilled workers participate in adult vocational education is the wage compensation scheme. Companies are partly compensated for the wages they pay to their employees who are participating in education at a rate in 2018 of DKK 4 300 (EUR 4 300) a week equivalent to the highest level of unemployment benefit (<http://www.veug.dk/borger/veu-godtgoerelse>). The companies should pay for the courses. In 2018 the payment will be between DKK 590 (EUR 79) and DKK 950 (EUR 127) per person per week ⁽⁴⁶⁾.

⁽⁴⁶⁾

https://www.efteruddannelse.dk/VEUPortal/faces/AppFrontPage?_afLoop=25641937152909845&_afWindowMode=0&_afWindowId=null#%40%3F_afLoop%3D25641937152909845%26_afWindowId%3Dnull%26_afWindowMode%3D0%26_adf.ctrl-state%3Dnmse46dof_4

Abbreviations

AMU	Arbejdsmarkedsuddannelserne	Adult vocational training programmes
AVU	Almen Voksen Uddannelse	General adult education
DE	Danske Erhvervsskoler	Danish business and technical colleges
EGU	Erhvervsgrunduddannelse	Basic vocational training
EUD	Erhvervsuddannelse	Vocational upper secondary education and training
EUV	Erhvervsuddannelse for Voksne	VET for adults
EUX	EUX	Combined vocational and general upper secondary education
EVA	Danmarks Evalueringsinstitut	Danish Evaluation Institute
FGU	Forberedende Grunduddannelse	Preparatory basic education and training
FVU	Forberedende Voksenuddannelse	Preparatory adult education
GSK	Gymnasiale Suppleringskurser	Supplementary examination courses
GVU	Grunduddannelse for voksne	Basic (vocational) adult education
HF	Højere Forberedelseseksamen	Higher preparatory examination
HHX	Højere handelseksamen	Higher commercial examination
HTX	Højere teknisk eksamen	Higher technical examination
KVU	Kortere videregående uddannelse	Short-cycle higher education programmes
NCE	Nationalt Center for Erhvervspædagogik	Danish National Centre for the Development of Vocational Education and Training
REU	Rådet for de grundlæggende erhvervsrettede uddannelser	Council for Initial Vocational Education and Training
STU	Særligt tilrettelagt Ungdomsuddannelse	Youth education for young people with special needs
STX	Studentereksamen	Upper secondary school leaving examination
UG	Uddannelses Guiden	Education guide

UU	Ungdommens Uddannelsesvejledning	Youth guidance centres
VUC	Voksen Uddannelses Center	Adult education centre
VVU	Videregående Voksenuddannelse	Further (vocational) adult education

References

- Bjørsted, E.; Knigge, N.S. (2011). *Ungdomsarbejdsløshed* [Youth unemployment]. <http://www.ae.dk/analyser/beskaeftigelsen-for-de-unge-falder-fortsat>
- Bjørsted, E. (2010). *Arbejdsmarkedskrise og jobtab* [Labour market crisis and job loss]. <http://www.ae.dk/analyser/krisen-har-kostet-200000-job-i-den-private-sektor>
- Cort, P. (2008a). *The Danish approach to quality in vocational education and training*. 2nd ed. <http://pub.uvm.dk/2008/vetquality2/helepubl.pdf>
- Cort, P. (2008b). *The Danish vocational education and training system*. 2nd ed. http://pub.uvm.dk/2008/VET2/The_Danish_VET_System_web.pdf
- DEA (2016). *Forlist, men ikke fortabt* [Shipwrecked, but not lost] http://dea.nu/sites/dea.nu/files/notat_forlist_men_ikke_fortabt_1.pdf
- Eurostat (2014). *Participation in education and training by sex, age groups and educational attainment*. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_ifs_02&lang=en
- Eurydice (2010). *Organisation of the education system in Denmark: 2009/10*. <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Denmark:Overview>
- EVA - Danish Evaluation Institute (2011). *Referencing the Danish qualifications: framework for lifelong learning to the European qualifications framework*. <http://english.eva.dk/publications/referencing-the-danish-qualifications-framework-for-lifelong-learning-to-the-european-qualifications-framework>
- Girotti, L.; Tilewska, Z. (2014). *Praktikpladsområdet 2013* [Internship area 2013]. http://www.uvm.dk/~media/UVM/Filer/Stat/PDF14/141201_Aarsstatistik%20praktikpladsomradet%202013.pdf
- Hwang, K.; Girotti, L. (2011). *Praktikpladssituationen ultimo november 2011* [Training placement situation at the end of November 2011]. <http://www.lo.dk/~media/LO/Fokus/EUDKampagne/2011-pp%20notater/ppnovember11.ashx?extension=.pdf>
- Jensen, Torben Pilegaard and Britt Østergaard Larsen (2011). *Unge i erhvervsuddannelserne og på arbejdsmarkedet* [Young people in VET and on the labour market]. AKF-rapport

- Ministry of Education (2003). *Bedre institutioner til bedre uddannelser: baggrund og analyse* [Better institutions for better education: background and analysis]. <http://pub.uvm.dk/2003/bedreinstitutioner/>
- Ministry of Education (2008). *Vocational education and training (VET)*. [http://eng.uvm.dk/Education/Upper-Secondary-Education/Vocational-Education-and-Training-\(vet\)](http://eng.uvm.dk/Education/Upper-Secondary-Education/Vocational-Education-and-Training-(vet))
- Ministry of Education (2010a). *AMU 50 år jubilæumsavis* [Adult vocational training, fifty years anniversary publication]. <http://www.uvm.dk/Aktuelt/~UVM-DK/Content/News/Udd/Voksne/2010/Sep/100922-50-aar-og-mere-eftertragtet-end-nogensinde>
- Ministry of Education (2010b). *Facts and figures 2009*. <http://eng.uvm.dk/News/~UVM-EN/Content/News/Eng/2010/Jun/100629-New-publication-Facts-and-Figures-2009>
- Ministry of Education (2010c). *Sektorregnskab for institutioner for erhvervsrettet uddannelse 2009* [Sector accounts for VET institutions 2009]. http://www.uvm.dk/Administration/Regnskab-og-revision/Det-finansielle-regnskab/~media/UVM/Filer/Adm/PDF11/Tilsyn%20og%20regnskab/110126_sektorregnskabs_for_erhvervsakademier_2009.ashx
- Ministry of Education (2011a). *Erhvervsuddannelserne: fakta og muligheder* [VET: facts and possibilities]. <http://www.uvm.dk/Service/Publikationer/Publikationer/Erhvervsuddannelser/2011/Erhvervsuddannelserne-fakta-og-muligheder>
- Ministry of Education (2011b) *Statistik om produktionsskoler* [Statistics on production schools]. <http://www.uvm.dk/service/Statistik/Erhvervsuddannelserne/Produktionsskoler.aspx>
- Ministry of Education (2012). *Education and training in Denmark: facts and key figures*. <http://eng.uvm.dk/News/~UVM-EN/Content/News/Eng/2012/120312-Facts-and-key-figures-for-education-and-training-in-Denmark-now-in-English>
- Ministry of Education (2014a). *Adgang til erhvervsuddannelser* [Access to vocational education]. <http://uvm.dk/Uddannelser/Erhvervsuddannelser/Adgang-og-eksamen-paa-erhvervsuddannelser/Adgang-til-erhvervsuddannelser>
- Ministry of Education (2014b). *Adult vocational training in Denmark*. <http://eng.uvm.dk/Uddannelse/Adult%20Education%20and%20Continuing%20Training/Adult%20vocational%20training.aspx>
- Ministry of Education (2014c). *Aftale om Bedre og Mere Attraktive Erhvervsuddannelser* [Agreement on Better and more Attractive

- Vocational Education and Training].
<http://www.uvm.dk/~media/UVM/Filer/Udd/Erhverv/PDF14/Feb/140224%20endelig%20aftalet%20ekst%2025%202%202014.pdf>
- Ministry of Education (2014d). *Årsstatistik Praktikpladsområdet 2013* [Annual Statistics Traineeships/ Internships in 2013].
http://www.uvm.dk/~media/UVM/Filer/Stat/PDF14/141201_Aarsstatistik%20praktikpladsomraadet%202013.pdf
- Ministry of Education (2014e) *Bekendtgørelse om pligt til uddannelse, beskæftigelse eller anden aktivitet* [Statutory order regarding the obligation for education, employment or other activity].
<https://www.retsinformation.dk/Forms/R0710.aspx?id=164131>
- Ministry of Education (2014f). *Gymnasieudspil: Gymnasier til fremtiden* [Secondary initiative: colleges for the future].
<http://www.uvm.dk/Aktuelt/~UVM-DK/Content/News/Udd/Gym/2014/Dec/141201-Gymnasieudspil-Gymnasier-til-fremtiden>
- Ministry of Education (2014g). *Improving vocational education and training: overview of reform of the Danish vocational education system*.
<http://eng.uvm.dk/~media/UVM/Filer/English/PDF/140708%20Improving%20Vocational%20Education%20and%20Training.pdf>
- Ministry of Education (2014h). *Praktikpladsen: mødested for elever og virksomheder* [Traineeships/internships: meeting place for students and companies]. <http://www.praktikpladsen.dk/>
- Ministry of Education (2014i) *Prøver og eksamen i erhvervsuddannelserne* [Tests and examinations in VET].
<http://www.uvm.dk/Uddannelser/Erhvervsuddannelser/Proever-og-eksamen/Om-proever-og-eksamen>
- Ministry of Education (2014j). *The taximeter system*. <http://eng.uvm.dk/Fact-Sheets/General/The-taximeter-system>
- Ministry of Education (2014k) *Tilsyn med erhvervsuddannelserne* [Monitoring of VET]. <http://www.uvm.dk/Uddannelser/Erhvervsuddannelser/Ansvar-og-aktoerer/Tilsyn-med-erhvervsuddannelser>
- Ministry of Education; Deloitte (2015a). *Praktikpladspotentiale og benchmarking af erhvervsskolerne*.
- Ministry of Education (2015b). *Statistik om folkeskolen og frie skoler* [Potential for internship and benchmarking of vocational schools].
<https://uvm.dk/statistik/grundskolen>
- Ministry of Education - National Agency for IT and Learning (2016). *9. og 10. Klasseselevernes tilmeldinger til ungdomsuddannelserne og 10. klasse mv* [9th and 10th grade students' enrollment for secondary education and 10th grade etc.]

- Ministry of Education (2017a) *Adult vocational training in Denmark: short vocational training programmes mainly for low skilled and skilled workers on the labour market*. <http://eng.uvm.dk/adult-education-and-continuing-training/adult-vocational-training>
- Ministry of Education (2017b). *Evaluering af EUX* [Evaluation of EUX]. <https://uvm.dk/aktuelt/nyheder/uvm/udd/erhvervs/2017/mar/170315%20eux%20ohar%20potentiale%20til%20at%20tiltraekke%20en%20ny%20type%20elver%20til%20erhvervsuddannelserne>
- Ministry of Finance (2014). *Finanslov 2014* [Budget 2014]. http://www.fm.dk/publikationer/2014/finanslov-for-finansaaret-2014/~media/Publikationer/Imported/2014/AFL14/Finanslov%207_WEB.pdf
- Ministry of Higher Education and Science (2013a). *The Danish education system*. <http://eng.uvm.dk/Education/Overview-of-the-Danish-Education-System>
- Ministry of Higher Education and Science (2013b). *Transparency tools for qualifications and competencies*. <http://ufm.dk/en/education-and-institutions/recognition-and-transparency/transparency-tools>
- Ministry of Immigration and Integration (2018). *Integrationsgrunduddannelsen – supplerende statistikker april 2018* [Basic integration programme - supplementary statistics april 2018]
- Pedersen, A.H. (2010). *Tal for produktionsskoler i kalenderåret 2009* [Statistics for the schools of production in 2009]. http://www.uvm.dk/Service/Statistik/Statistik-om-erhvervsuddannelserne/~media/UVM/Filer/Stat/Erhvervs/PDF11/110119_produktionsskoler2_009.ashx
- Statistics Denmark (2014). *Statistical Yearbook 2014*. <http://www.dst.dk/en/Statistik/Publikationer/VisPub.aspx?cid=17959>
- Statistics Denmark (2017). *Indvandrere i Danmark 2017*. [Immigrants in Denmark 2017] <https://www.dst.dk/Site/Dst/Udgivelser/GetPubFile.aspx?id=20705&sid=indv2017>
- VEU-rådet (2011). *Strategiske fokusområder 2011* [Strategic focuses 2011]. http://www.uvm.dk/Service/Publikationer/Publikationer/Uddannelse-og-undervisning-for-voksne/2011/~media/Publikationer/2011/Uddannelse%20og%20undervisning%20for%20voksne/Strategiske%20fokusomraader%20VEU%20raadet%20december%202011/strategiske_fokusomraader.ashx

Other sources

- Andersen, O.D.; Gottlieb, S.; Kruse, K. (2016). Supporting teachers and trainers for successful reforms and quality of vocational education and training: mapping their professional development in the EU – Denmark. Cedefop ReferNet thematic perspectives series.
http://libserver.cedefop.europa.eu/vetelib/2016/ReferNet_DK_TT.pdf
- Annual status reports from the national trade committees [in Danish]:
http://www.fagligeudvalg.dk/index.php?option=com_content&view=category&layout=blog&id=70&Itemid=91
- Arbejderbevægelsens Erhvervsråd (2016). Danmark kommer til at mangle faglærte.
https://www.ae.dk/sites/www.ae.dk/files/dokumenter/publikation/ae_ubalancer.pdf
- Eurostat [s.d.]. European and international statistics.
<http://ec.europa.eu/eurostat/>
- Ministry of Education [s.d.]. Elevplan [Education plan].
<http://www.elevplan.dk/>
- Ministry of Education. Homepage in English language. <http://eng.uvm.dk/>
- Ministry of Education [s.d.]. Publikationer på erhvervsuddannelsesområdet. [Publications on vocational education and training].
<http://www.uvm.dk/Service/Publikationer/Uddannelse-og-undervisning-for-voksne>
- Ministry of Education [s.d.]. Publikationer på voksenuddannelsesområdet. [Publications on adult education].
<http://www.uvm.dk/Service/Publikationer/Erhvervsuddannelser>
- Ministry of Education. Publications of the Ministry of Education in English language. <http://www.eng.uvm.dk/service/Publications.aspx>
- Ministry of Education [s.d.]. UddannelsesGuiden. [Guide to education and training: education guide - primarily in Danish, but including a section on programmes taught in English]. <http://www.ug.dk/>
- ReferNet Denmark (2016). Denmark- new vocational programme for refugees.
<http://www.cedefop.europa.eu/en/news-and-press/news/denmark-new-vocational-programme-refugees>
- Statistics Denmark [s.d.]. StatBank Denmark
<http://www.statbank.dk/statbank5a/default.asp?w=1024>
- VIRK. Arbejdsgivernes Uddannelsesbidrag [Employers Education Contributions]. <https://uvm.dk/ministeriet/organisationen-i-ministeriet/raad-naevn-og-udvalg/arbejdsgivernes-uddannelsesbidrag>