



International
Labour
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▶ ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

For developing, implementing, monitoring
and evaluating apprenticeship programmes



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For developing, implementing, monitoring
and evaluating apprenticeship programmes

It has seven modules:

- ▶ Overview

- 1** ▶ The quality apprenticeship training life cycle

- 2** ▶ Developing quality apprenticeship programmes

- 3** ▶ Preparing quality training places

- 4** ▶ Organizing apprenticeship training

- 5** ▶ Post-training transitions and evaluation

- 6** ▶ Innovations and strategies in apprenticeships

Edited by: Ashwani Aggarwal

Skills and Employability Branch, Employment Policy Department



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Volume 2: Guide for Practitioners

► Overview



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ILO Toolkit for Quality Apprenticeships. Volume 2: Guide for Practitioners
For developing, implementing, monitoring and evaluating apprenticeship programmes.
Overview

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Foreword

The ILO Centenary Declaration for the Future of Work adopted in 2019 came at a time of transformative change, driven by technological innovations, demographic shifts, climate change and globalization. These all have profound impacts on the nature and future of the world of work, and the place and dignity of people within it. Among other things, it called upon the ILO to direct its efforts towards promoting the acquisition of skills, competencies and qualifications for all workers throughout their working lives in order to address existing and anticipated skills gaps, and to pay particular attention to ensuring that education and training systems are responsive to labour market needs. Acknowledging the growing relevance of apprenticeship in addressing skills mismatch and smoothing transitions into the world of work and between jobs, the ILO has decided to place an item on Standard-Setting on Apprenticeships on the agenda of the 110th Session (2021) of the International Labour Conference.

Although its benefits are widely recognized, apprenticeship in its modern form is relatively complex, involving as it does the delivery of training via a multiplicity of venues and channels – enterprises, training institutions, assorted intermediaries and even on-line platforms – that requires effective coordination and collaboration. Other stakeholders, including workers' and employers' organizations, play a major role, with government typically providing the legal and regulatory framework. For many countries seeking to introduce apprenticeship for the first time, or those wanting to sustain and develop a pre-existing apprenticeship system, there are not only policy issues to address, but also many practical and operational challenges involved in delivering good quality apprenticeships.

The ILO has therefore developed the *ILO Toolkit for Quality Apprenticeships*, a two-volume resource aimed at supporting policy-makers and practitioners in improving the design and implementation of apprenticeship systems and programmes. Whereas volume 1 is a guide to policy issues, this volume offers comprehensive, practical guidance to developing and implementing apprenticeship programmes. Combining diverse national good practices with ILO experience, it includes over 125 tools and guides from more than 40 countries and institutions worldwide. Each tool can be adapted to fit national and local contexts and applied in different countries. Besides apprenticeship programmes, this Toolkit can also be used for other TVET programmes. For example, it contains tools for identifying skills needs, preparing occupational profiles and curricula, and developing instructional and learning materials and post-training transitions and evaluations.

Furthermore, this Toolkit highlights recent innovations and suggests strategies for strengthening apprenticeships in the fast-changing world of work. Considering technological advances, digitalization and the growing importance of digital skills, it offers over 20 digital tools that can play an integral part in the delivery, monitoring and evaluation of apprenticeship programmes, and maximize their benefits for individuals, enterprises, the economy and society as a whole.

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The *ILO Toolkit for Quality Apprenticeships (Volume 2)* is the result of a joint effort and reflects the contributions of experts from governments, employers' and workers' organizations, the ILO and other development agencies, the private sector, non-governmental organizations, and national training authorities and providers. It includes examples of the tools and practices of many public, private and not-for-profit organizations from more than 40 countries. Thanks are due to all those who directly or indirectly contributed to the Toolkit. Special thanks go to the Swiss Development Corporation (SDC) and the Ministry of Foreign and European Affairs of the Grand Duchy of Luxembourg for substantially funding the Toolkit.

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European Training Foundation (ETF) and the European Centre for the Development of Vocational Training (Cedefop).

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Ashwani Aggarwal conceptualized, designed and led the development process of the Toolkit. He also wrote many sections, revised, edited and finalised the Toolkit, after Simon Field and Winfried Heusinger had prepared an initial draft. Sylwia Golawska provided extensive support in finalising the Toolkit.

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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



► Overview

The dual vocational education and training system, in which apprentices spend time in both a host company and in vocational school, is a key element of success in the Swiss education system, and the main VET model in Switzerland.

About two-thirds of all young people in Switzerland take up an apprenticeship when they are about 15. Their job prospects are excellent as they are able to learn the skills that businesses require.

Johann N. Schneider-Ammann (former Swiss President), June 2016

Quality apprenticeships are cost-effective and can contribute to lowering youth unemployment rates, preparing skilled workers for a rapidly changing world of work and enhancing the productivity and competitiveness of enterprises. Governments, workers' and employers' organizations and international organizations are calling for the improvement and expansion of apprenticeships. For example, Labour and Employment Ministers of the G20 called on their member States to take action on apprenticeships and adopted the G20 Initiative to Promote Quality Apprenticeship (refer to section 3.1.2 of Toolkit 1). Similarly, member States of the ILO will discuss establishing a new International Labour Standard on apprenticeships during the International Labour Conference in 2021. Even while the world is deliberating on the best strategies to address the current and anticipated skills mismatches due to fast changing world of work, the World Economic Forum states that the future of work requires a return to apprenticeships.¹

Many countries, however, face challenges in scaling up and sustaining apprenticeship programmes and, increasingly, are seeking advice from the ILO. Therefore, the ILO has developed the *Toolkit for Quality Apprenticeships*, a two-volume resource guide intended to improve both the design and the implementation of apprenticeship systems and programmes. While the first volume provides advice to policy-makers on establishing or improving apprenticeship systems, this second volume provides guidance and tools for practitioners (see box A) to develop, implement and evaluate apprenticeship programmes.

This overview starts by explaining the ILO's approach to quality apprenticeships and then provides information on the users, key features and structure of this second volume of the Toolkit. It also explains how to use the tools presented in the Toolkit.

¹ See <https://www.weforum.org/agenda/2019/12/apprenticeships-future-work-4ir-training-reskilling/> for further details.

Box A Who are the apprenticeship practitioners?

A practitioner is a person who has a role in the design, planning, implementation, monitoring and evaluation of an apprenticeship programme. Examples of practitioners include the following:

- trainers, mentors, supervisors and human resources officers in an enterprise
- managers and teachers of TVET providers
- employment services providers and school counsellors
- labour inspectors
- experts and staff of other institutions involved in the development of standards, qualifications, curricula and learning aids; examinations and certification; monitoring and evaluation of apprenticeship programmes.

The types and roles of practitioners in a country depend on its policy and legal framework.

▶ 1.1 What are quality apprenticeships?

The ILO has developed the concept of quality apprenticeships to ensure that apprenticeship programmes are of sufficiently high quality and that they properly address labour market demand.¹ The first volume of the Toolkit outlined a framework for quality apprenticeships with the following key features (ILO, 2017, pp. 3–7):

- ▶ a tripartite system of governance
- ▶ remuneration
- ▶ a written agreement
- ▶ social security coverage
- ▶ a legal framework
- ▶ a programme of learning
- ▶ duration
- ▶ both on-the-job and off-the-job learning components
- ▶ a formal assessment process
- ▶ a recognized qualification.

The framework also provides guidance on developing quality apprenticeship systems based on the six building blocks shown in figure A. These are discussed in chapter 4 of volume 1 of the Toolkit.

¹ The International Labour Conference in 2021 and 2022 will discuss the establishment of a new standard(s) on apprenticeship, which may provide a definition of apprenticeships.

▶ Figure A Quality apprenticeship building blocks



Source: ILO, 2017.

▶ 1.2 Benefits of quality apprenticeships

Quality apprenticeships offer a variety of benefits to different stakeholders, particularly to apprentices, enterprises and government (ILO, 2017). These include:

- ▶ facilitating transitions to employment
- ▶ matching skills supply with fast-changing labour market needs
- ▶ increasing productivity and promoting sustainable enterprises
- ▶ offering a cost-effective form of VET delivery.

These benefits are discussed in chapter 3 of volume 1 of the Toolkit.

Apprenticeships can provide a strong foundation for a rewarding career. There are examples of apprentices who go on to become the chief executives and chairpersons of some of the best companies in the world (see box B).



Voices on Apprenticeships: A Skilled Workforce for the Future



Why are apprenticeships important?

Video: *Why are apprenticeships important? Views of ILO constituents and stakeholders,*
<https://www.youtube.com/watch?v=gK9UCDxg514>

Box B From apprentice to chief executive



- Mr Peter Voser, Chairman of ABB, started his career as a commercial apprentice in a bank in Switzerland.
- Mr Sergio P. Ermotti, Group Chief Executive Officer at UBS, started his career as a commercial apprentice in a bank in Switzerland. He stated:

It's no secret that apprenticeships are close to my heart – I know first-hand how effective this kind of education can be and how far it can take someone. After all, I started my career as an apprentice at a local bank in Lugano, Switzerland. And I dedicate time every year to advocate for apprenticeship programs, especially in countries where the apprenticeship system is not yet as well established as in my home country ... Young people learn in the real business world, develop critical communication and teamwork skills, and bring their own perspectives to bear. On top of this, work-based learning adapts in real-time based on what's happening in the industry and environment.

Source: <https://www.linkedin.com/pulse/agile-learning-changing-world-sergio-p-ermotti/>

Governments, enterprises and the apprentices can all benefit from positive returns on their investment in apprenticeships (see box C).

Box C Return on investment for apprenticeships



- In the United Kingdom, the economic return on public investment in apprenticeships is considerable. The present net value of each £1 of government investment in apprenticeships is estimated to be between £16 and £21 (National Audit Office, 2012).
- A study by the Centre for Economics and Business Research (Cebr) in the United Kingdom estimated that workers who have completed apprenticeships increase productivity by £214 per week on average (Cebr, 2013).
- A study of Indian small and medium-sized enterprises (SMEs) revealed that the benefits of offering apprenticeship training surpass the costs if apprentices are retained (ILO, 2014).
- In the United States, the return on investment for apprenticeships is \$27.7 for every dollar invested by government (Reed et al., 2012).
- In the Netherlands, wages for entry-level jobs for apprentice graduates are 30 per cent higher than those for graduates from school-based TVET (Government of the Netherlands, 2014).
- In Canada, the average benefit of apprenticeships to employers was shown to be 1.38 times the average cost (Canadian Apprenticeship Forum, 2006).



Historically, apprenticeships have been considered primarily as a means of facilitating the school-to-work transition for young people. However, rapid transformations in the world of work are placing new demands on older workers to acquire new and update existing skills throughout their working lives. In this context, the apprenticeship model is empowering youth with broad-based skills to acquire new skills throughout their career, as well as reskilling older persons to adapt to new demands in the workplace (see box D and the link to the Lifelong learning video).

Box D How can apprenticeships empower youth to keep pace with a fast-changing world of work?



There is a growing recognition that occupation-specific technical skills alone are insufficient to ensure lifelong employability. Apprenticeships should, therefore, also help develop broad-based soft skills, or transferable skills, such as learning to learn, communication, teamwork and digital skills, so as to build a strong foundation that enables workers to keep pace with the fast changes in the world of work. For example, in Germany, apprenticeship programmes aim to provide apprentices with full vocational capacity, also known as comprehensive action competence, in a wide range of activities so that they cope with the constantly changing requirements of working life (BIBB, 2014).



Video: Lifelong learning – Reinventing careers with IBM apprenticeships: Block chain specialist after losing nursing job,
<https://www.youtube.com/watch?v=9WTKJbbv5N8>

▶ 1.3 ILO Toolkit for Quality Apprenticeships

The *ILO Toolkit for Quality Apprenticeships* consists of two volumes: *Volume 1: Guide for Policy Makers* (Toolkit 1); and *Volume 2: Guide for Practitioners* (Toolkit 2 – this volume). The two volumes are linked to each other with the first volume providing guidance to policy-makers establishing or improving the policy framework and systems through the six building blocks for quality apprenticeships (figure A). The second volume, based on the six building blocks, guides practitioners in developing, implementing, monitoring and evaluating apprenticeship programmes. Both volumes provide comprehensive but concise information, guidance and examples of good practices and practical tools.

The two volumes of the ILO Toolkit deal with two different levels of the design and implementation of apprenticeships:

- ▶ The system level, addressed in Toolkit 1, concerns the design of an apprenticeship system and regulatory framework (usually nationally determined). It designates the place of apprenticeships within the education and training system, governance and social dialogue arrangements at national and regional levels, the law governing apprenticeships, funding arrangements and other policies related to apprenticeships.
- ▶ The programme level, addressed in Toolkit 2, refers to the processes and practices involved in developing and delivering apprenticeship programmes for particular occupations through high quality on- and off-the-job training. Additionally, it covers the monitoring and evaluation of apprenticeship programmes.

High quality system architecture provides the policy, regulatory and institutional framework that underpins the design and delivery of quality apprenticeship *programmes*, so the system and programme levels are closely intertwined.

The “architects” of apprenticeship systems are primarily policy-makers – the target audience of Toolkit 1. Those who create and implement apprenticeship programmes are primarily apprenticeship practitioners – the target audience of Toolkit 2. While the Toolkit distinguishes system and programme levels, the boundaries between the two levels are not always clear-cut: some policy-makers are also involved in implementing apprenticeship programmes, while many practitioners contribute to the development of apprenticeship policy at the system level.



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► Table A The different roles of the two toolkits

	Toolkit 1	Toolkit 2
Target group	Policy-makers Those involved in the development of apprenticeship policy	Practitioners Those involved in implementing apprenticeship programmes
Level	System National level – policy, law, place of apprenticeship within education system and role in labour market	Programme Sectoral, regional and local level – development and delivery of specific apprenticeship programmes
Examples	Establishing national and sectoral level bodies for social dialogue, including government, social partners and other stakeholders in apprenticeship	Mechanisms for social dialogue at sectoral, regional and local level to develop and deliver individual apprenticeship programmes
	Policy objectives ensuring that apprenticeship is closely related to labour market needs	Evaluation techniques, such as tracer studies that can identify the labour market outcomes of individual apprenticeship programmes. Mechanisms to use such information to monitor and quality assure programmes
	Policy objectives, strategies and incentives for inclusion, with reference to specific groups of individuals	Specific tools, such as pre-apprenticeship, and measures to lower drop-out rates and reduce the risk that those who struggle will not complete programmes

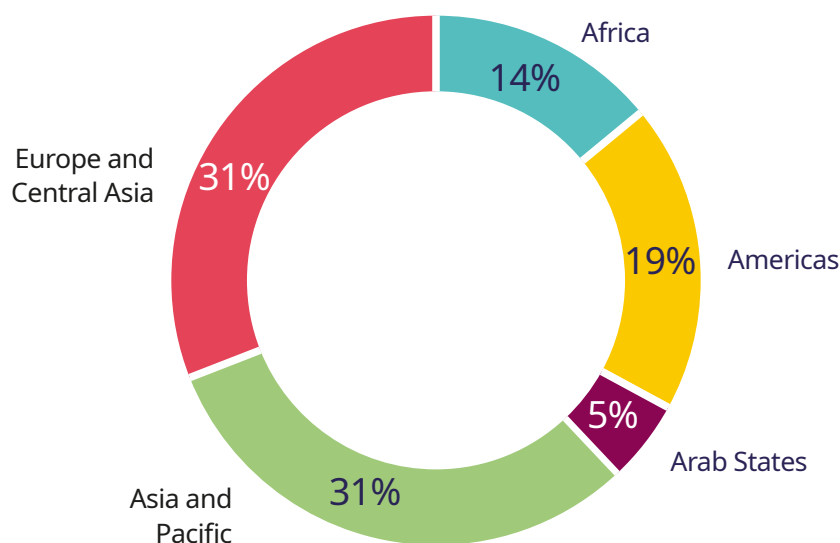
As explained in section 2.3 of Toolkit 1, quality apprenticeships can be distinguished from other types of work-based learning, including traineeships, internships and informal apprenticeships. These forms of work-based learning play a major role in the skills systems of many countries, but raise very different issues and are therefore best addressed separately. Accordingly, the ILO has developed a guide on upgrading informal apprenticeships, details of which are provided in section 6.2. The ILO, together with the International Organisation of Employers (IOE), has also developed a guide to assist enterprises in implementing apprenticeship programmes, which is cited in appropriate sections in this Toolkit.

▶ 1.4 Key features of the toolkit

The unique features of this second volume of the ILO Toolkit are listed below:

- ▶ offers comprehensive, practical guidance derived from diverse national practices and ILO experience
- ▶ presents over 125 tools, including publications and examples of good practice from more than 40 countries and development agencies
- ▶ includes tools from countries at different stages of economic development and with different levels of apprenticeship development, as well as representing regions from all around the world: Europe and Central Asia; the Americas; Africa; Asia and the Pacific and the Arab States (figure B)
- ▶ highlights recent innovations and emerging trends in apprenticeships; in particular, demonstrating:
 - » how technology is being used to enhance the effectiveness and efficiency of apprenticeship programmes (section 6.1.1)
 - » how apprenticeships are being used to bridge the skills gap in the digital economy (section 6.1.2)
- ▶ recommends strategies for promoting and transforming apprenticeships.

▶ Figure B Representation of countries by region





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Use of technology in apprenticeships

Recognizing the ongoing process of digitalization of TVET and skills systems, as well as the rapidly increasing importance of digital skills, this Toolkit offers a range of digital technology tools that play an integral part in the successful design, delivery and monitoring and evaluation of apprenticeship programmes. Such tools enhance and enrich the learning process, encouraging greater engagement from apprentices and, simultaneously, increasing the attractiveness of apprenticeships for youth. Furthermore, technology tools also facilitate the acquisition of technical and transferable skills, especially digital skills, therefore improving apprenticeship graduates' employability and adaptability to the continually evolving world of work.

Digital technology tools provided in this Toolkit seek to enhance the effectiveness and efficiency of apprenticeship programmes by supporting practitioners in the following ways:

- ▶ **Promoting apprenticeships** – through online vocational and career guidance, including platforms that connect employers with students for these purposes.
- ▶ **Recruiting apprentices** – through digital platforms for matching apprenticeships and employers, and online tests designed to support the selection of future apprentices.
- ▶ **Enhancing learning experience** – through digital instructional and learning media, including 3D visualization as well as platforms that create shared digital spaces to capture learners' workplace experiences and support teachers in the creation of learning activities.
- ▶ **Providing early warning** – on behaviour, performance of apprentices and likelihood of their dropping out of a programme by the application of artificial intelligence and data analytics.
- ▶ **Creating stronger relationships and coordinated support** – between apprentices, enterprises and TVET providers, through portals connecting different learning venues.
- ▶ **Monitoring of training** – through online (self)assessment and the use of mobile log-books throughout the apprenticeship.
- ▶ **Strengthening of knowledge sharing and networking** – through the use of mobile apps and online portals.

▶ 1.5 The tools and how they are selected

This Toolkit presents over 125 tools that have been developed and used by various countries and institutions throughout the world. They are organized in four modules, with each module divided into sections that cover different stages of the apprenticeship programme. The tools are presented in boxes with a summary of the key features of each tool and a web link to the original document or material so that it is readily available to the reader. For the purpose of this Toolkit, a “tool” can refer to a particular procedure, process or template used in the development and management of apprenticeship programmes (for example, how assessment is organized in a given country) that can be applied in different countries, usually adapted to national and local contexts, or any apprenticeship-related resources, including documents and publications that provide guidance to practitioners. In addition to sample tools, each section of modules 2 to 5 also offers a standardized tool in the form of a set of steps involved in the implementation of a particular process.

How are the tools chosen?

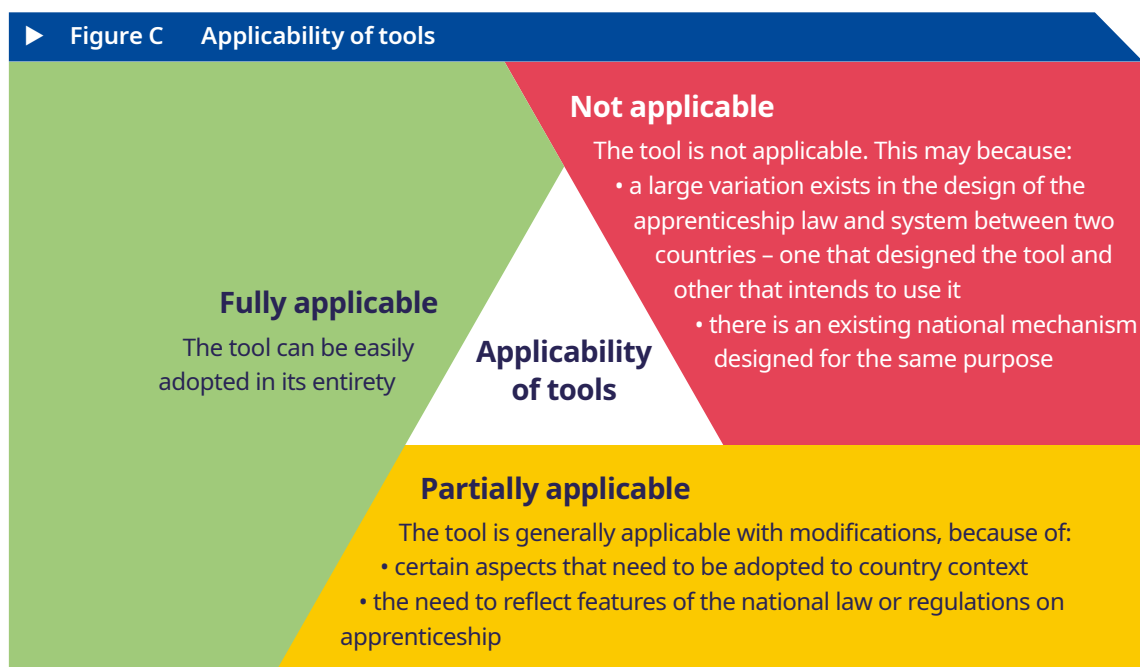
Following a literature review and consultations with development organizations, governments, social partners and experts from various countries, the ILO collected more than 500 potential tools from countries across the globe. Through a series of consultative processes, a final shortlist of over 125 tools was selected, based on the following criteria:

- ▶ The tools should come from different regions and countries in terms of geography and stages of development, to cater to the needs of users from a diverse range of countries with varied socio-economic conditions.
- ▶ The tools have been used successfully and are proven to represent good practices.
- ▶ The processes involved in using the tools are well-documented and provide the details needed by potential users, who may not have any prior experience in the development and implementation of apprenticeship programmes.

▶ 1.6 How should practitioners use the tools?

The tools presented in this Toolkit have been selected from a wide range of countries with different socio-economic conditions, therefore practitioners should bear in mind that not all tools will be applicable to their countries. Instead, practitioners should use this Toolkit as a source of guidance in delivering quality apprenticeships, to identify the relevant components of each tool and tailor them to their countries' specific needs and context. Some of the tools are in the national languages of the countries concerned. However, readers can use online translators, such as Google Translate, to translate the texts into other languages.

The applicability of the tools depends on a myriad of factors at the national, regional and local level. It is essential for users of this Toolkit to reflect carefully on their countries' particular circumstances, not only in terms of social and economic conditions, but also with regard to the place of apprenticeships within the broader policy framework and education system. For example, if apprentices have the legal status of employees, this will influence the nature of the apprenticeship agreement. For apprenticeships that are closely related to certain licensed trades, the transition of apprentices to the labour market is likely to be relatively straightforward, as apprentices would be awarded the licence following successful completion of the programme. National features such as these, and many others, will be extremely important in determining how apprenticeship is organized at the individual country level, and therefore how these tools can be applied (see figure C).



The online version of Toolkit 2 will be updated regularly, with new tools added and obsolete ones removed.



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▶ 1.7 Structure of Toolkit 2

Toolkit 2 is organized in seven modules.

The Overview module summarizes the ILO's approach to quality apprenticeships and clarifies the different roles of the Toolkit's two volumes. It also explains the target audience (practitioners), the key features and how to use the tools.

Module 1 sets out the quality apprenticeship life cycle and the processes involved. It also provides country examples of guides or manuals that offer guidance for various stakeholders to assist in the design and implementation of apprenticeships.

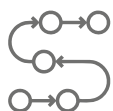
Each of modules 2 to 5 represents one of the four main stages of the apprenticeship life cycle and describes the key processes of each stage. Module 2 covers the development of a quality apprenticeship programme; module 3 addresses the preparation of quality training places; module 4 focuses on the organization and delivery of apprenticeship programmes, including both on- and off-the-job training; and module 5 discusses apprenticeship evaluation and post-training transitions of apprentices to the labour market or into further education and training.

Module 6 highlights the recent innovations and strategies for promoting apprenticeships.

Each of the sub-sections in those modules that describe the four main stages of the apprenticeship life cycle contains the following elements:



A description of the issue providing an overview of why this element is important in quality apprenticeships programmes.



A standardized tool designed as a set of steps required to implement a particular process.



Tips based on evidence of good practices, presented in green boxes.



Tools from different countries, presented in boxes with a summary of key features of the tool.



Digital technology tools.



The guide is also accompanied by a set of country and company case studies, which demonstrate examples of good practice in specific areas of planning, delivering, monitoring and evaluating apprenticeship programmes. The case studies are presented in blue boxes.



Modules 2 to 5 each contain a checklist to enable readers to evaluate the development and implementation of apprenticeship programmes in their national contexts and decide which elements of quality apprenticeships could potentially be strengthened.



Links to relevant videos or e-learning courses are provided where appropriate.



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

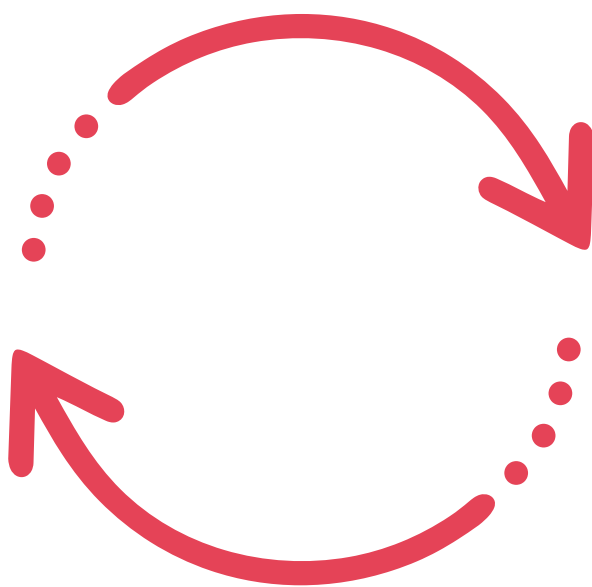
- ▶ **The quality apprenticeship training life cycle**



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

▶ The quality apprenticeship training life cycle



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For developing, implementing, monitoring and evaluating apprenticeship programmes.
Module 1: The quality apprenticeship training life cycle*

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ILO Toolkit for Quality Apprenticeships

▶ **Module 1 The quality apprenticeship training life cycle**

- Module 2 Developing quality apprenticeship programmes
- Module 3 Preparing quality training places
- Module 4 Organizing apprenticeship training
- Module 5 Post-training transitions and evaluation
- Module 6 Innovations and strategies in apprenticeships

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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



▶ The quality apprenticeship training life cycle

Apprenticeship ... is a crucial part of our long-term economic plan to secure a better future for Britain. It will help give us the skills to compete with the rest of the world. And it will mean more hope, more opportunity, and more security for our young people, helping them get on in life and make something of themselves ...

David Cameron (former UK Prime Minister), October 2014

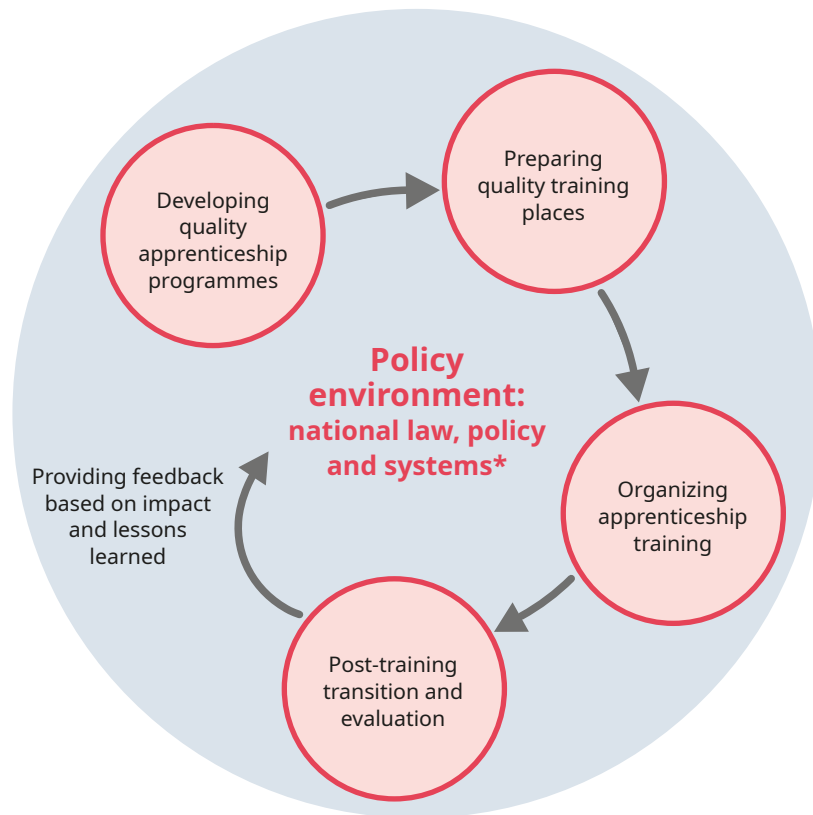
This module explains the quality apprenticeship training life cycle and processes, detailing the successive elements in the planning, implementation, monitoring and evaluation of apprenticeship programmes. It also presents some national examples of guides, manuals or frameworks for developing apprenticeships.

▶ 1.1 Introduction: The quality apprenticeship training life cycle

Figure 1.1 illustrates the quality apprenticeship training life cycle, which consists of four stages. The development of programmes is undertaken in stage 1, preceding, or sometimes carried out simultaneously with, stage 2 – the preparation of training places. Once the required preparations are in place, apprenticeship programmes can be organized and delivered (stage 3). After completing the programme, each apprentice's subsequent transition into employment or further education and training becomes one of the elements in the evaluation process (stage 4). The outcome of the evaluation, particularly in relation to the programme's impact and lessons learned, serves as feedback for the stakeholders in the policy environment. The programme's evaluation therefore informs the development or revision of national law, policies and systems, which in turn brings about improvements to the four stages of the quality apprenticeship life cycle. To ensure the quality and relevance of apprenticeships to the labour market, the six building blocks for quality apprenticeships (see the Overview module) should ideally underpin all four stages of the life cycle.

It is important to keep in mind that the illustration of the quality apprenticeship life cycle (figure 1.1) is a simplified presentation of what is actually a complex process. In reality, there could be many kinds of subtle interactions between various processes that cannot be captured in the diagram. The four stages do not necessarily progress in a linear manner but are highly likely to overlap. Furthermore, in practice, feedback is gathered not only towards the end of the life cycle as part of the evaluation, but as it is generated in each stage of the life cycle to inform every other stage and the policy environment.

► Figure 1.1 The quality apprenticeship life cycle



*The six building blocks of quality apprenticeship systems:

Meaningful social dialogue	Robust regulatory framework	Clear roles and responsibilities	Equitable funding arrangements	Strong labour market relevance	Inclusiveness
----------------------------	-----------------------------	----------------------------------	--------------------------------	--------------------------------	---------------

► 1.2 Understanding the apprenticeship policy framework and system

As illustrated in figure 1.1, the policy environment, which includes the national law, policies and regulatory and institutional framework, determines the way in which apprenticeship programmes should be developed and implemented. Therefore, as a minimum requirement, it is necessary for practitioners to fully understand the national policy environment before embarking on the development of an apprenticeship programme. The ILO evaluation tool for reviewing and assessing a country's apprenticeship system is provided in section 5.2.

▶ 1.3 Stages in the apprenticeship training life cycle

The four stages in the apprenticeship life cycle illustrated in figure 1.1 are explained in more detail below.

Stage 1: Developing quality apprenticeship programmes

Developing a programme is the first stage in the apprenticeship training life cycle. Practitioners should closely align the programme with both labour market demand and the country's qualification system. Effective collaboration between employers' and workers' organizations, who are aware of labour market demand, and education and training specialists, who are familiar with qualification standards and curricula development, is therefore essential to achieve these aims. The following processes are usually involved in developing an apprenticeship programme (see module 2):

- ▶ establishing an institutional framework for social dialogue
- ▶ identifying skills needs in sectors and occupations
- ▶ developing occupational profiles and curricula based on skills needs assessments
- ▶ providing instructional and learning materials.



Video: *World's leading IT company and a university jointly developed apprenticeship programme: Microsoft & Aston University Degree Apprenticeships,*
<https://www.youtube.com/watch?v=k33r6se9tFw>

Stage 2: Preparing quality training places

After developing a programme, the next stage is to ensure that all the training places have adequate facilities and systems and competent staff, as per the training regulation or curricula for a particular occupation or sector. In addition to an enterprise and a TVET centre, training can also take place in intermediary organizations. Therefore, in accordance with the quality assurance process, practitioners should support relevant institutions in preparing training places, which may involve the following aspects (see module 3):

- ▶ engaging and registering enterprises for providing apprenticeships training
- ▶ formulating apprenticeship agreements
- ▶ building partnerships in apprenticeship programmes
- ▶ ensuring the capacity of TVET providers to provide the off-the-job component of apprenticeships
- ▶ preparing staff to train and mentor apprentices.

To ensure quality training, some countries prescribe a procedure for registering or accrediting various training places.

Stage 3: Organizing apprenticeship training

Having established the basic conditions for an apprenticeship programme, the next step is to organize and deliver apprenticeship training, which may involve the following (refer to module 4):

- ▶ attracting candidates to participate in apprenticeship training
- ▶ recruiting apprentices
- ▶ developing a training plan
- ▶ implementing effective training delivery methods
- ▶ monitoring programmes, assessing competencies and certifying qualifications
- ▶ ensuring social inclusion.

To deliver the training effectively, it is important to support apprentices throughout the programme and to monitor their progress. In accordance with the building blocks of quality apprenticeship, apprentice recruitment needs to comply with principles of fairness and inclusion. Prior to recruitment, special measures, such as pre-apprenticeships, may be undertaken to help those prospective apprentices who lack the skills and qualifications necessary to successfully gain admission and complete the programme.

Stage 4: Post-training transitions and evaluation

Following the successful completion of the programme, apprentices may enter the labour market or pursue further and higher qualifications. The various pathways undertaken by apprenticeship graduates over the short and longer term can serve as an indicator of the quality and effectiveness of an apprenticeship. Therefore, post-training evaluation of apprenticeship programmes takes account of “tracer” studies that examine apprentices’ transitions after their graduation. Evaluation is not an end in itself, as it creates a feedback loop for policy-makers and practitioners, enabling them to improve the policy environment and programmes.

Once again, the building blocks of quality apprenticeship systems underpin the different aspects of programme implementation. While evaluation is primarily designed to assess whether a programme facilitates successful transition to the labour market (the key test of labour market relevance), it should also reflect the requirements of an inclusive approach. Therefore, the transitions of disadvantaged groups and women should be separately identified and monitored. Module 5 has two sections that illustrate the following main processes:

- ▶ transition to the labour market and further education and training
- ▶ evaluation of apprenticeship programmes.



Video: *TED talk – Apprenticeship career paths are critical for young people*,
<https://www.youtube.com/watch?v=1z3Fgtj8fqk>

▶ 1.4 Country guides

Some countries have developed guides or manuals to provide guidance for various stakeholders on designing and implementing apprenticeships. While these are country-specific documents, they may offer examples of good practices that can be helpful or even replicable in other country contexts. Another key purpose of including references to these country guides is to facilitate the development of an effective learning environment for policy-makers in other countries, who can use these resources to develop similar, but customized, guides or manuals for their countries.

The following examples have been chosen specifically to present diverse practices from all regions of the world – the Americas, Europe, Asia and the Pacific and Africa. These examples also represent both developed and developing countries, as well as countries at different levels in terms of the implementation of apprenticeships.

- ▶ In **Barbados**, the Vocational Training Board¹ provides information to potential apprentices on the admission policy for apprenticeship programmes, wages and costs, as well as details of different apprenticeship programmes and training centres.
- ▶ In **Brazil**, the *Apprenticeship Learning Manual*,² designed for employers, explains the law and sets out the rights and obligations of different stakeholders. It contains 69 sub-sections that seek to answer questions that an employer might have about the apprenticeship system. To ensure that both apprentices and employers fully benefit from the programme, it explains how the hiring of apprentices could be aligned with the interests of employers. It also states that employers should appoint mentors to supervise apprentices' learning. In addition to specifying that the apprenticeship agreement should stipulate working hours and remuneration, the manual also addresses issues such as the age range of apprentices (between 14 and 24 years old) and the fact that only accredited institutions may provide off-the-job training.
- ▶ In **Costa Rica**, *¿Cómo implementar la formación en la modalidad dual en Costa Rica?*³ is a guide designed for enterprises, detailing how companies can participate in apprenticeship programmes.
- ▶ In **El Salvador**, INSAFORP provides general information for potential apprentices and interested enterprises on the requirements for participating in apprenticeship programmes, detailing costs and the different types of apprenticeship available.⁴
- ▶ In **Germany**, *Education and occupation – Rights and duties during vocational training*⁵ provides guidance and information for apprentices and trainers, dual training facilitators,

¹ See <http://bvtb.gov.bb> for further details.

² See https://www.chegadetrabalho infantil.org.br/wp-content/uploads/2017/02/aprendizagem_pub_manual_aprendiz_.pdf for further details.

³ See https://www.aedcr.com/sites/default/files/guia_formacion_dual_aed-kas.pdf for further details.

⁴ See <https://www.insaforp.org.sv/index.php/formacion-dual> for further details.

⁵ See https://www.bmbf.de/upload_filestore/pub/Ausbildung_und_Beruf.pdf for further details.

The handbook is organized in three sections, including an introduction to the national apprenticeship system, an explanation of the key steps involved in developing an apprenticeship, and additional information and resources that support the development of national apprenticeships.

- ▶ In **Kenya**, the National Industrial Training Authority's website¹⁰ provides guidelines for all apprenticeship programmes, including basic, intermediate, advanced and graduate apprenticeship schemes. It provides an overview of each scheme, explains the rights and obligations of different stakeholders and contains sample documents, such as application forms for apprenticeship training, progress report forms and certificates.
- ▶ In the **Republic of Korea** (hereafter South Korea), the publication *Apprenticeships in Korea*,¹¹ produced by the Korea Research Institute for Vocational Education and Training (KRIVET), aims to provide an understanding of the country's apprenticeship system. Apart from presenting an overview of the system's current status and describing the development and operation of programmes, it also explores the challenges facing the system and offers strategies for improvement.
- ▶ In **Nepal**, the *Dual VET Apprenticeship* flyer¹² provides information to potential apprentices on the organization and delivery of apprenticeship programmes, eligibility criteria, assessment and certification, and career pathways. Furthermore, the *Dual VET apprenticeship journey* infographic¹³ presents in a simple way the apprenticeship journey from industry selection procedure to certification.
- ▶ In **New Zealand**, the website of MITO,¹⁴ one of the Industry Training Organisations, provides information and guidance on apprenticeships. The Tertiary Education Commission has published the *Code of good practice for New Zealand apprenticeships*.¹⁵
- ▶ In **Pakistan**, a handbook on apprenticeship¹⁶ has been developed by the British Council for the National Vocational and Technical Training Commission (NAVTTTC) to provide detailed advice on what an apprenticeship entails and the potential benefits for employers, as well as specifying the requirements and responsibilities of the employer, the apprentice and the chosen training institution. It describes the apprenticeship journey from recruitment to assessment and certification and provides five case studies to illustrate good practices already taking place in Pakistan.
- ▶ In **South Africa**, the merSETA, one of the 21 Sector and Education Authorities established to promote skills development, has produced comprehensive information and guidance

¹⁰ See <https://www.nita.go.ke/resources/downloads/national-industrial-training-schemes.html> for further details.

¹¹ See <http://www.krivet.re.kr/eng/eu/ek/euBAAVw.jsp?pgn=1&gk=&gv=&gn=E1-E120171447> for further details.

¹² See https://drive.google.com/file/d/1jHO2GN74XS3x-58rjRn6ncq7suV0FH_S/view for further details.

¹³ See https://drive.google.com/file/d/1bvtEQ1SfAVhFILQBe8V_rcho-745ryOH/view for further details.

¹⁴ See <https://www.mito.org.nz/get-qualified/apprenticeships-and-training/> for further details.

¹⁵ See <https://moetec.cwp.govt.nz/assets/Publications-and-others/53b2761140/The-code-of-good-practice-for-new-zealand-apprenticeships.pdf?r=1> for further details.

¹⁶ See https://www.britishcouncil.org/sites/default/files/apprenticeships_in_pakistan_-_a_handbook_and_guide.pdf for further details.

on learnership¹⁷ and apprenticeship¹⁸ programmes. The website provides information on conditions of apprenticeship and implementation guidelines, and details the responsibilities of different stakeholders. In addition, an interactive online resource¹⁹ supports the implementation of apprenticeships. The digital guidelines describe the role and responsibility of each Stakeholder Group involved in the Centres of Specialization Programme and are presented as a user-friendly interactive online resource.

- ▶ In **Switzerland**, the *Apprenticeship handbook*²⁰ explains the law and provides information on the most important questions that might arise concerning apprenticeship. The handbook covers most aspects of apprenticeship, including the apprenticeship contract and its main legal provisions, the delivery of training by the employer, vocational school and professional organizations and the resources necessary to ensure its quality, as well as qualification and final examination procedures.
- ▶ In the **United States**, the resource *High school apprenticeships: A guide for starting successful programs*²¹ is aimed at high schools, colleges, businesses, community organizations and others seeking to collaborate on high-quality apprenticeships in their communities. It covers the basic principles of building a high school apprenticeship programme and includes examples of programme strategies. The guide is organized around the four key elements necessary to make high school apprenticeship programmes successful: building strong partnerships, aligning programmes to industry needs, designing quality programmes and promoting apprentices' success. Furthermore, *A quick-start toolkit: Building registered apprenticeship programs*²² provides a step-by-step guide to starting and registering an apprenticeship programme, from exploring the apprenticeship model as a workforce strategy to launching a new programme. An online training resource²³ is available to provide further information about the apprenticeship model.

¹⁷ See <http://www.merseta.org.za/sd/LearningProgrammes/Learnerships/Pages/default.aspx> for further details.

¹⁸ See <http://merseta.org.za/sd/LearningProgrammes/Appenticeships/Pages/Overview.aspx> for further details.

¹⁹ See <https://nadsc.dhet.gov.za/A21#/> for further details.

²⁰ See http://www.berufsbildung.ch/dyn/bin/21423-23922-1-sdbb_wegweiser_en.pdf for further details.

²¹ See https://www.apprenticeship.gov/sites/default/files/2019-04/HS_Apprenticeship_Youth_Guide_FINAL_2010831.pdf for further details.

²² See https://apprenticeshipusa.workforcegps.org/resources/2015/04/20/10/20/A_Quick_Start_Toolkit_Building_Registered_Apprenticeship_Programs for further details.

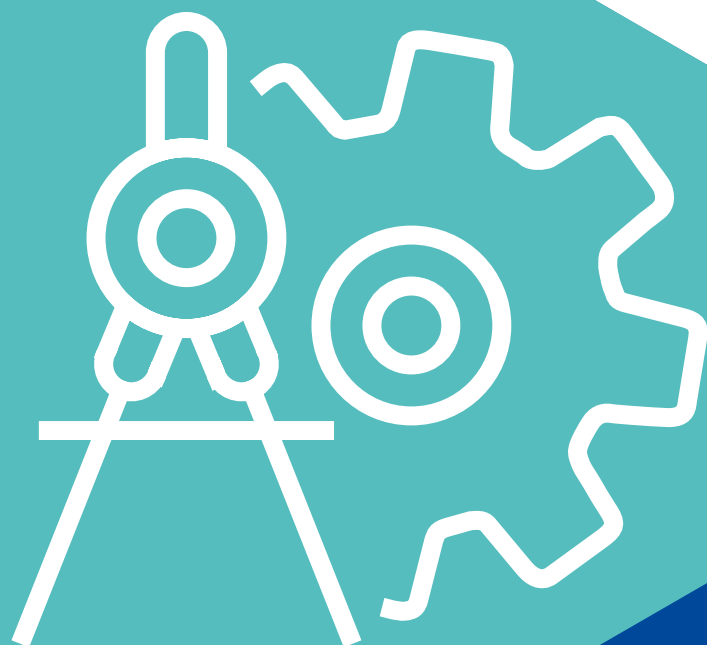
²³ See <https://www.dol.gov/apprenticeship/toolkit/learn.htm> for further details.



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

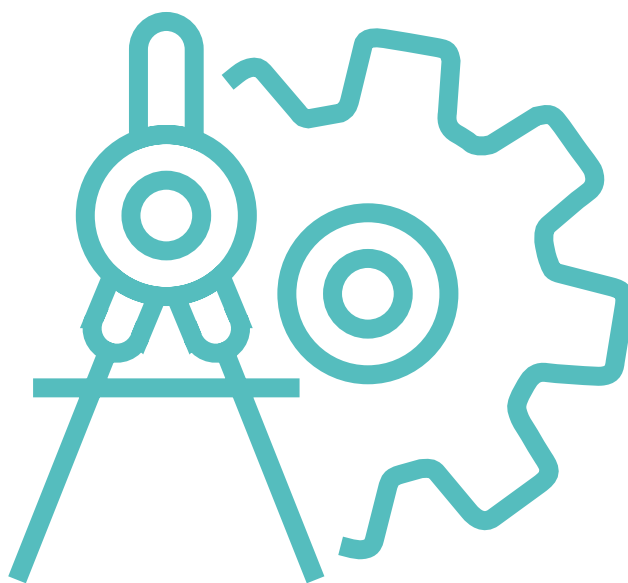
▶ **Developing quality apprenticeship programmes**



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

► Developing quality apprenticeship programmes



Edited by: Ashwani Aggarwal

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ILO Toolkit for Quality Apprenticeships

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▶ **Module 2 Developing quality apprenticeship programmes**

Module 3 Preparing quality training places

Module 4 Organizing apprenticeship training

Module 5 Post-training transitions and evaluation

Module 6 Innovations and strategies in apprenticeships

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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



▶ Developing quality apprenticeship programmes

When you look at apprenticeship systems around the world, the most important success denominator is practically always social dialogue. Apprenticeships work because they link classroom and workplace training and because they tap the knowledge of both employers and workers on what training is needed and how to deliver it.

ILO Director General, Guy Ryder, speaking at the launch of the B20 and L20 “Joint understanding on key elements of quality apprenticeships”, 18 June 2013, in Geneva

Developing an apprenticeship programme is the first stage of the apprenticeship life cycle, which can be divided into four main processes, as shown below. Accordingly, this module includes four sections explaining each of these processes.

Developing quality apprenticeship programmes

▶ Establishing an institutional framework for social dialogue

▶ Identifying skills needs in sectors and occupations

▶ Developing occupational profiles and curricula based on skills needs assessments

▶ Providing instructional and learning materials

▶ 2.1 Establishing an institutional framework for social dialogue



The issue: Why an effective institutional framework for social dialogue is necessary

Meaningful social dialogue is considered to be one of the six building blocks of quality apprenticeship systems. It is crucial for the successful development and implementation of policies as well as programmes. While social dialogue is covered in Toolkit 1, issues specifically relating to social dialogue for practitioners are discussed in this section.

At the national level, social dialogue is typically about developing policies, law and regulations, and qualification and quality assurance systems. At the sectoral level, social

dialogue concerns developing sector skills plans, based on the assessment of skills needs and gaps. At the local level, social dialogue (between enterprises, TVET providers and other institutions) generally involves implementing and monitoring apprenticeship programmes.

An effective institutional framework that allows social partners to engage with each other and with the wider network of stakeholders at national, sectoral and local levels is a cornerstone of successful social dialogue. It enables social partners to become an integral part of the system and to play an active role in the development of quality apprenticeships. Institutional frameworks take various forms in different countries – tripartite, and also bipartite, bodies exist at the national, sectoral and local levels. Some examples are given in box 2.1; for further details, see chapter 5 of Toolkit 1.

Box 2.1 Examples of institutional frameworks



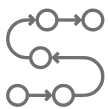
National level: BIBB (Germany), Central Apprenticeship Council (India).

Sectoral level: Sector Education and Training Authority (SETA, South Africa), S-System Councils – National Services for Industrial Training (SENAI, Brazil), sectoral consultative committees in INFOTEP (Dominican Republic).

Local level: Vocational Training Committees of Chambers (Germany).

Enterprise level: Rolls Royce has a Governance Board that sets the policies and the direction of the apprenticeship programme. It consists of the plant manager, the production leaders, the apprentice programme manager and the human resources manager and it sits three or four times a year. The Governance Board determines future needs for apprentices and interns, reviews the progress of each apprentice, resolves any major issues that may arise throughout the programme and considers any proposals for change.

Source: ILO, 2017; Information provided by Linda M. Hogan, learning adviser to Rolls Royce.



The steps needed to establish governance or an institutional framework for social dialogue

To establish governance or an institutional framework for social dialogue, the entity or entities responsible for developing and implementing apprenticeship programmes (e.g. public authority, employers' and workers' organizations) should take the following steps in consultation with other stakeholders:

- ▶ Identify the existing institutional framework for apprenticeship programme development, assess its effectiveness and, if necessary, strengthen it. The assessment of the institutional framework may take place during the process of assessing the apprenticeship policy environment.

- ▶ In the event that no such mechanism exists, establish a multi-stakeholder platform (e.g. a working group or steering committee), preferably at the sectoral level, to guide programme development. Key stakeholders of the platform typically include:
 - » employers' organizations, including sectoral trade associations, chambers and other professional associations
 - » workers' organizations
 - » government representatives from ministries of labour, education and other relevant sector ministries, relevant public authorities and TVET agencies and providers
 - » youth organizations
 - » civil society organizations.
- ▶ Define the roles, responsibilities and funding of the working group(s).
- ▶ Determine the entity that will host the working group(s) and secretariat. Depending on a country's context, this could be an employer-led body or a government TVET agency. However, tripartite constituents may have equal authority in the decision-making processes of the group. For example, on the board of BIBB in Germany (Tool 2.1.2), each of the four main stakeholders – federal government, state governments, employers' and workers' organizations – have an equal voting share (25 per cent).
- ▶ The multi-stakeholder working group can also support other processes, such as guiding assessment techniques and evaluating existing programmes.
- ▶ At the local level, if needed, establish a working group to coordinate and support the implementation of apprenticeship programmes. This may be desirable when the programme is implemented in many geographical regions.





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Tips

- ★ No one-size-fits-all solution – The roles of various stakeholders are not the same in every country. Many factors, including the political environment, social and economic policies, traditions and the capacity of stakeholders, influence the allocation of specific roles and responsibilities between different stakeholders. Nevertheless, it is recommended that policy-makers follow the principle of “employers in the driving seat” when determining the roles of stakeholders. For details, refer to Annex I.
- ★ When a country is starting an apprenticeship programme for the first time, stakeholders can work together through a steering committee or working group. As the programme expands, a more structured institutional framework is needed. For example, a steering committee and a technical working group were set up in Zanzibar, Tanzania to oversee the development and management of apprenticeship programmes (Tool 2.1.3).
- ★ Working groups which have decision-making powers are more effective than those which have purely advisory roles. Social dialogue is sustainable if all stakeholders are aware of the benefits to be gained by their participation.
- ★ To foster effective cooperation through social dialogue, trust-building measures and face-to-face contacts are helpful in overcoming barriers and building a strong connection between the various stakeholders.
- ★ To establish trust among partners, it is essential that the communication processes are transparent.



Tools to engage and register enterprises providing apprenticeships

Tool 2.1.1 Institutional framework for social dialogue in Norway

Norway facilitates social dialogue in the TVET sector by various means and on several different levels. Under the national law, the social partners have representatives, usually constituting the majority, in all important advisory bodies at national and county level for upper secondary TVET (including apprenticeship). The key bodies are listed below:

- the National Council for Vocational Education and Training (*Samarbeidsrådet for yrkesopplæring (SRY)*) gives strategic advice on quality issues
- nine sectoral vocational training councils (*Faglige råd*) advise on individual trades within their spheres of responsibility, curriculum development and quality issues
- the Vocational Training Board (*Yrkesopplæringsnemnda*) for each county advises on regional issues, including career guidance, regional development and the provision of apprenticeship in their county to meet local labour market needs
- trade-specific examination boards (*Prøvenemnder*) in each county are responsible for the trade and journeyman's examinations
- national and regional TVET appeals boards (*Klagenemnder*) deal with appeals in the event of failure in the trade and journeyman's final examination.

Source: Norwegian Directorate for Education and Training (2014) *Apprenticeship-type schemes and structured work-based learning programmes*,
https://cumulus.cedefop.europa.eu/files/vetelib/2015/ReferNet_NO_2014_WBL.pdf

Tool 2.1.2 Social dialogue platform in Germany

In Germany, a social dialogue platform supports the development of collaboration between the key partners in quality apprenticeship. The Board of the Federal Institute for Vocational Education and Training (BIBB) is the German government's statutory advisory body in fundamental matters relating to vocational education and training. Representatives of employers' and workers' organizations, Germany's federal states and the federal government work together on the Board, with each group having an equal share of the votes. One of the key responsibilities of the Board is to approve the draft vocational training regulations. The Board is supported by a standing committee, two subcommittees, working groups and the BIBB.

Other important social dialogue formats in Germany are located at the meso and micro level.

Source: www.bibb.de/en/463.php



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Tool 2.1.3 Apprenticeship Steering and Technical Committees in Zanzibar

In Zanzibar, Tanzania, a Steering Committee and a Technical Committee direct the development and management of apprenticeship programmes. The two committees work closely together, with a clear division of roles and responsibilities between the stakeholders.

The Steering Committee acts as a strategic, advisory body in the development and implementation of apprenticeship programmes, cooperating with high-level government officials to ensure that the programme is properly aligned with the country's priorities, while the Technical Committee's responsibilities include performing technical-level activities and advising the Steering Committee on any issues relating to apprenticeship programme implementation.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254634

Tool 2.1.4 Developing social dialogue skills through role play: A training exercise

The International Training Centre of the ILO (ITC ILO) and the ILO have developed a tool to build the social dialogue skills of government and social partners. This is a role playing exercise in which participants work on a fictitious apprenticeship example, playing the role of either the Government or an employers' or workers' organization (but which cannot be the participants' current role). This role playing exercise can be used during training programmes or in strategy development and planning meetings.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254635

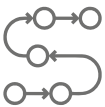
▶ 2.2 Identifying skills needs in sectors and occupations



The issue: Why skills needs in different sectors have to be assessed

Skills assessment and anticipation exercises are undertaken to assess current and future skills needs to enable countries to respond to changes in the labour market (ILO, 2015; OECD, 2016). Identifying skills needs is crucial for ensuring strong labour market relevance of apprenticeship programmes, which is one of the six building blocks of quality apprenticeships, as established in Toolkit 1 (refer to section 9.1 of Toolkit 1 for details on skills needs assessment and anticipation).

Employers who regularly assess their current and future skills needs are better prepared to plan strategies for human resources management and development. Skills needs information also supports career counselling and vocational guidance services to inform students' choices.

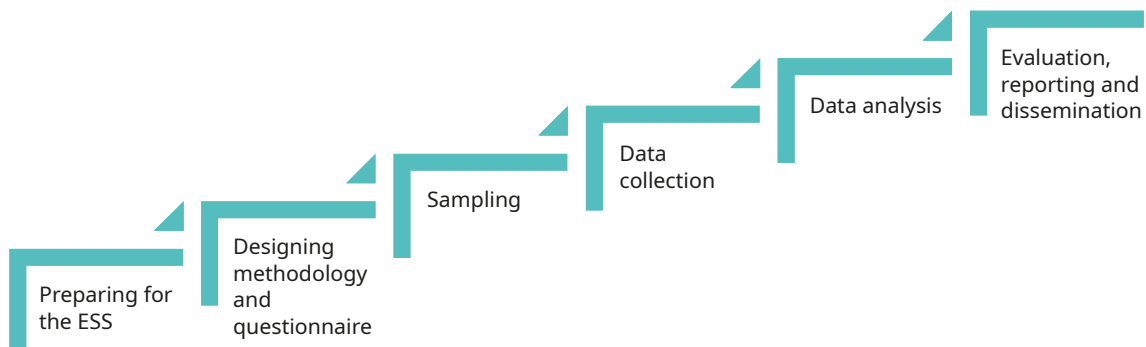


The steps necessary for a skills needs assessment

Good education and training systems should have information about skills needs and gaps that could form the basis for developing occupational profiles and apprenticeship programmes. If such information is not available, an apprenticeship working group, or other responsible entity, can take the following generic steps for a skills needs assessment:

- ▶ Decide the objective(s) of the apprenticeship programmes and their scope of implementation (e.g. national or limited to certain geographic regions and sectors). The selection of sectors is based on many factors, including growth and employment potential, as well as current and anticipated skills gaps in those sectors.
- ▶ Consult with the institutions responsible for labour market information (LMI), education and training, and employers' organizations at the national and sectoral levels to gain access to information on skills demand and supply for occupations in identified sectors.
- ▶ If reliable information is not available, identify the appropriate lead institution and partners for carrying out a skills needs assessment and choose an appropriate methodology. Employer/establishment skills surveys (ESSs) are an effective and efficient method that is widely used to collect information on enterprise skills needs and workforce development strategies (see Tool 2.2.5).

▶ Figure 2.1 Steps in an establishment skills survey



Source: Mane and Corbella, 2017.

In the development and implementation of an establishment skills survey, the lead body (e.g. an entity responsible for LMI, a research institution or an employer organization) should take the following steps:

- ▶ In close cooperation with a relevant employers' organization, develop a methodology for the ESS, including a questionnaire to determine skills needs at the national level or in a specific sector. For more details about the process, including the sample questionnaire, please refer to Tool 2.2.5.
- ▶ Carry out pilot testing of the questionnaire.
- ▶ Send the final questionnaire to enterprises and collect data.
- ▶ Analyse, validate and interpret the results of the survey by discussing them with employers' organizations and enterprises.
- ▶ Present and discuss the results of the survey with stakeholders (e.g. in social dialogue working groups).
- ▶ Disseminate the survey results to those involved in:
 - » career guidance, so that those entering apprenticeships and other programmes are aware of the trends in labour market demand (see section 4.1)
 - » qualification and curricula development, for developing or updating occupational profiles and the associated curricula used in apprenticeships (see section 2.3 below).
- ▶ Repeat the assessment regularly to track trends in labour market demand for skills.



Tips

- ★ A comprehensive LMI system is the backbone of any education and employment strategy. No single methodology can generate sufficient knowledge of labour markets, so the right mix and complementarity of different methods is essential to gain a reliable and comprehensive overview of skills demand.
- ★ As the support of employers' organizations is crucial to the success of data collection, the lead body should encourage relevant enterprises to participate in the exercise through:
 - ▶ trust-building measures, such as inclusion in consultative social dialogue, which would encourage enterprises to share information about current and future skills needs, and
 - ▶ awareness-raising among enterprises about the benefits of skills needs assessment and the importance of their participation.
- ★ In principle, skills needs assessments might best be carried out by representatives from the world of work, such as employers' and workers' organizations, as they are best acquainted with the skills needs. Sectoral skills councils can also facilitate the process of identifying skills needs across each specific sector.
- ★ Data collection is a crucial factor. It should be carefully planned, piloted and supervised. The aim is to achieve a high response rate with the minimum number of missing values. Interviewers need to be carefully trained to elicit the most complete responses possible to questionnaires and to ensure high quality. The handling of the data collected is another crucial step in the process.
- ★ In the event that labour market information is not available and a pilot programme is to be implemented at a limited scale, simpler methodologies, using a combination of literature review, focus group discussions and interviews with key informants, can help in identifying the sector and occupations for the pilot programme.
- ★ Enterprises use a combination of approaches to decide the number of apprentices to be recruited; for example, Rolls Royce determines future needs for apprentices and interns based on factors such as:
 - ▶ availability of trainers for on-the-job training (1:1 trainer to trainee ratio)
 - ▶ production demand
 - ▶ employee turnover.



Tools for identifying skills needs in sectors and occupations

The joint report *Approaches to anticipating skills for the future of work*¹ prepared by the ILO and OECD for the G20 Employment Working Group provides a set of principles for an effective skills assessment system. It summarizes various skills anticipation and forecasting methods, their requirements, advantages and disadvantages. It also includes a list of ILO tools for skills needs analysis and anticipation. For example, six guides produced by the ILO, ETF and Cedefop offer a wide range of methodologies that may complement each other (refer to box 33 of Toolkit 1). They include both qualitative and quantitative approaches and advocate strong social dialogue and institutions that are conducive to a better understanding of future skills needs. They provide professionals, policy-makers, researchers, social partners and experts with an overview of how different skills anticipation and matching methodologies can generate reliable labour market information, and how such information and evidence can be analysed and used for the development of policy interventions or adjustments in education and employment strategies.

In addition, the tools detailed below are used by practitioners at national, sectoral and enterprise levels in various countries.

Tool 2.2.1 Skills shortage research methodology, Australia

In Australia, the National Skills Needs List identifies trades that are experiencing a national skills shortage. The Department of Employment undertakes detailed labour market research and analysis on an ongoing basis to identify skills shortages to underpin policy, planning and resource allocation. A key element of the skills shortage research is the Survey of Employers who have Recently Advertised (SERA), which collects two kinds of information about employers' experiences of recruiting skilled workers:

- The first is qualitative information gleaned from discussions with employers and recruitment professionals, which enables the identification of key labour market issues for each occupation.
- The second is quantifiable data about employers' recruitment experiences, including the proportion of vacancies filled and the number of applicants, qualified applicants and suitable applicants. This provides the basis for historical comparisons and analysis across states/territories and occupations.

The results inform a range of education, training, employment and migration policies and programmes and are publicly available.

Source: https://docs.jobs.gov.au/system/files/doc/other/ss_methodology_0.pdf

¹ See https://www.ilo.org/global/about-the-ilo/how-the-ilo-works/multilateral-system/g20/reports/WCMS_646143/lang-en/index.htm [6 Dec. 2019].

Tool 2.2.2 How to conduct a quick and simplified sector analysis, Asian countries²

This tool provides steps, processes and a template for selecting sectors (refer to annex 1 of the tool).

Source: GIZ (2017) *Down to earth: A practitioner's guideline to work with business and industry in TVET*, https://sea-vet.net/images/seb/e-library/doc_file/311/giz2017down-to-earthguideline-version-2.pdf

Tool 2.2.3 Questionnaire for sector selection and assessment of frame conditions, DC dVET

Ideally, the selection of sectors is based on a comprehensive sector analysis. Once a number of promising sectors have been identified, a “quick-and-simplified sector analysis” could be applied to assess the potential for increasing the engagement of the business sector. This online questionnaire enables the analysis of three selected sectors. Each sector is evaluated against a set of criteria, which are derived from the relevant frame conditions, i.e. societal, political/legal and economic. Respondents to the questionnaire are required to reflect on whether the relevant frame conditions in the local context are conducive to the engagement of the business sector or not.

Source: https://www.dcdualvet.org/wp-content/uploads/DC-dVET_Working-Tool-Business-Sector_Questionnaire_ENGL-1.pdf, pp. 3–6.

Tool 2.2.4 Sector skills plan of merSETA, South Africa

In South Africa, each Sector Education and Training Authority (SETA) develops a Sector Skills Plan (SSP) that serves as a comprehensive document outlining the skills demand and supply and resultant skills gaps in the sector. These skills gaps (scarce or critical skills) inform the development of priority actions aimed at addressing skills needs in the sector. This plan is from Manufacturing, Engineering and Related Services SETA (MerSETA), one of the 21 SETAs, and includes information about the research methodology employed in producing information about skills demand and supply. The methodology uses a combination of both primary and secondary research.

Source: http://merseta.org.za/KnoRep/SECTOR%20SKILLS%20PLANNING/merSETA%20Sector%20Skills%20Plan%202017_18%20-%202021_22.pdf

<http://merseta.org.za/KnoRep/Pages/SECTORSKILLSPLANNING.aspx>

² The source publication was developed by the Community of Practice “Private Sector Cooperation in TVET” within the GIZ Sector Network Assets for Asia. The Community of Practice comprises GIZ staff (international experts, national personnel, integrated experts and development advisers) from the following Asian countries: India, Indonesia, Lao People’s Democratic Republic, Mongolia, Myanmar, Pakistan, Sri Lanka, The Philippines, Thailand and Viet Nam.



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Tool 2.2.5 **Guide on employer skills survey, ILO/ETF/Cedefop**

The guide, which is part of the ILO, ETF and Cedefop series of guides on skills anticipation and matching, covers the development and implementation of an employers skills survey (ESS). Such surveys are designed to generate data on employers' skills needs and their human capital development strategies. If carried out regularly, the surveys help to analyse trends in skills needs and identify potential skills bottlenecks.

The guide provides information to help institutions running an ESS to determine what is necessary at each stage of its development. It provides tips and methodological discussions on the main issues in each phase of survey development, the decisions that have to be made and what the outcome of each phase should be.

Source: www.ilo.org/skills/pubs/WCMS_548324/lang--en/index.htm

Tool 2.2.6 **Workforce planning, including for apprentices at company level, the United States**

Effective workforce planning is the foundation for creating workforce strategies that are closely aligned with business needs. The *Employer's playbook for building an apprenticeship program* explains what workforce planning is, details its various approaches and components and provides key information for its successful implementation. Furthermore, this guide provides sample tools that can facilitate workforce planning at a company level, such as a detailed workforce development project plan and a strategic job gaps worksheet, among others.

Source: www.themanufacturinginstitute.org/~media/53456D700856463091B62D1A3DA262F4/Full_Apprenticeship_Playbook.pdf

In addition to the above tools, chapter 3 of the ILO's guide to apprenticeships for enterprises (ILO, 2018) provides detailed insight into how selected enterprises decide to take on the apprentices.

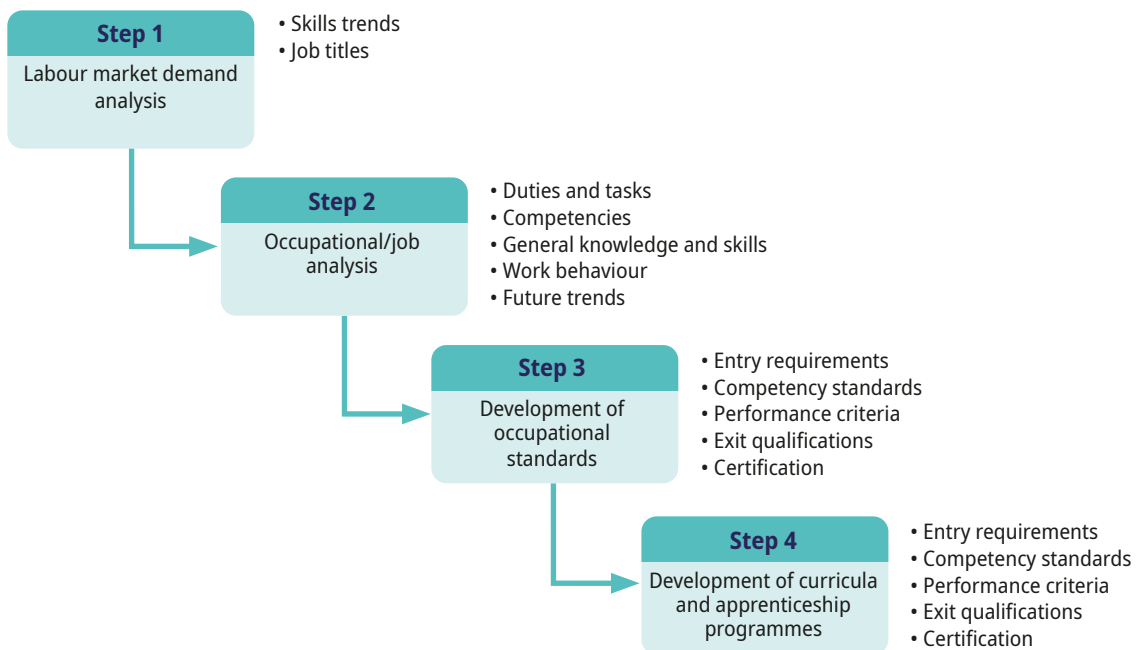
▶ 2.3 Developing occupational profiles and curricula based on skills needs assessments



The issue: Why clearly defined occupational profiles are necessary for curriculum development for apprenticeships

Once skills needs have been identified, the next stage is to develop occupational standards³ (also referred to as occupational profiles in some countries), which are in turn used to develop competency-based curricula (or outcome-based curricula). Figure 2.2 depicts the four steps in the development of curricula from labour market skills demand analysis.

▶ Figure 2.2 Developing curricula based on labour market demand analysis



Source: Adapted from E-TVET Council, 2015.

Since occupational standards (OSs) are linked directly to the competencies needed to perform a job and are defined in collaboration with the employers' representatives, a competency-based curriculum (CBC) developed based on OSs would ensure a close link between apprenticeship programmes and labour market needs.

In Germany, "competence means the ability and willingness of the individual to use knowledge and skills as well as personal, social and methodical capabilities and to behave in a thoughtful

³ The term "occupational standard" provides an official description of the specific competencies needed to carry out a particular occupation and the performance requirement to judge such competencies, as agreed by a representative sample of employers and other key stakeholders. Descriptions of occupational profiles or standards vary between countries.

and individually and socially responsible manner. The qualifications are described on the basis of the competence categories, ‘professional competence’ and ‘personal competence’, each of which is again divided into two subcategories (professional competence: ‘knowledge’ and ‘skills’, personal competence: ‘social competence’ and ‘independence’)” (Tool 2.3.1).

Box 2.2 What does a training regulation stipulate in Germany



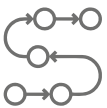
In Germany, a training regulation (akin to the term “national curricula” in some countries) for each occupation determines:

- the designation of the training occupation
- the duration of the training – which shall be not less than two and not more than three years (most programmes are of three years’ duration but some programmes run for two years or three-and-a-half years)
- the description of the training occupation – the typical “skills, knowledge and capabilities” of the profession in summary form
- the framework training curriculum – a guide to how the teaching of skills, knowledge and capabilities is to be structured in terms of content and time
- the examination requirements.

The curricula formulated in the training regulations represent minimum standards. Each enterprise therefore has the option to include other topics in its training and to offer apprentices additional qualifications.

Source: BIBB, 2014.





The steps involved in developing an occupational standard and, on that basis, establishing a curriculum

Developing an occupational standard

- ▶ As discussed in section 2.1 above, apprenticeship stakeholders, including the responsible TVET agency or other competent body, should convene a working group to prepare a proposal for a new or revised OS. Box 2.3 gives an example of the components required in an OS in Jordan.
- ▶ The working group may choose an appropriate methodology for developing OSs, such as Developing a Curriculum (DACUM), job analysis, functional analysis (refer to Tool 2.3.3 for more details) or SFIVET's situation-based approach.

Box 2.3 Content of an occupational standard, Jordan



OS format in Jordan includes the following components:

- Cover page: occupation title, occupational level, ASCO code, ISCO code, names of the OS development team, endorsement and approval authorities, approval and review dates.
- Occupational summary: occupational definition, main knowledge, skills and attitudes required, occupational hazards, work environment, possible jobs, career pathways, future trends and concerns, special legal provisions.
- Employability competencies.
- Occupational/technical competencies.
- Performance criteria.
- Equipment, tools and materials list.

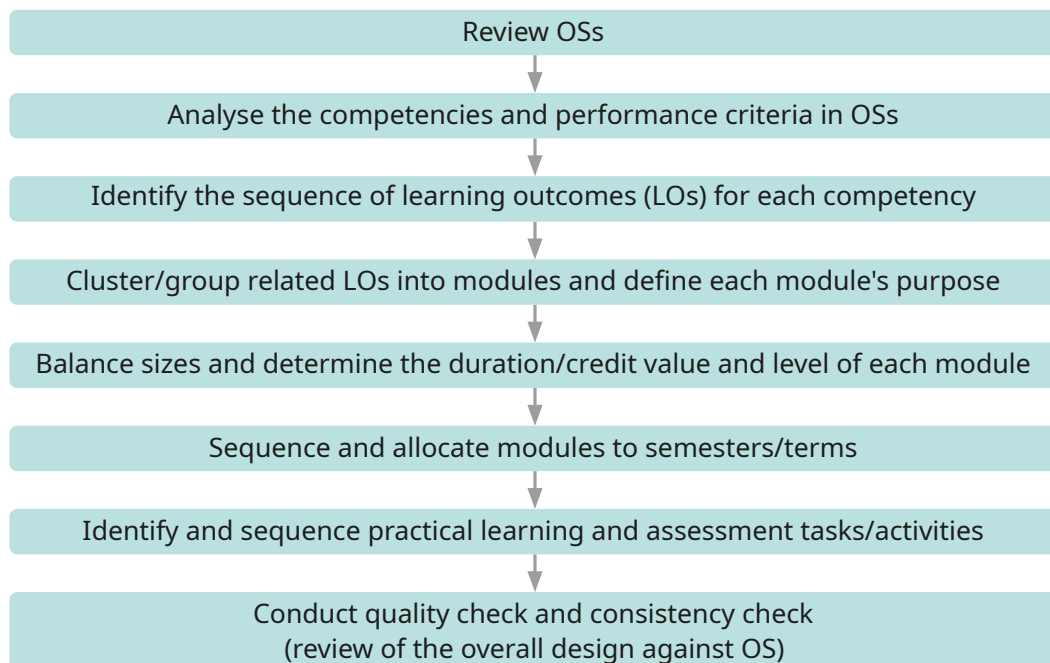
Source: Tool 2.3.3.

- ▶ The main steps involved in developing an OS are:
 - » identification and definition of the occupation
 - » identification and training of key stakeholders and experts
 - » identification of key groups of tasks, functions and skills relevant to the occupation
 - » identification and analysis of learning outcomes (knowledge, skills and attitudes) for each key group of tasks
 - » drafting of the complete OS using the established format
 - » verification of the OS by sector experts and recommendations for further improvement.
- ▶ Once consensus has been reached, the TVET agency, or other competent body, should publish the OS.

Establishing a curriculum

- ▶ Based on the OS, a responsible entity (which may be the working group that has developed the OS or some other body, such as the TVET agency) develops the curriculum. The steps involved are illustrated in figure 2.3.
- ▶ The curriculum should reflect details of on-the-job learning in the workplace and off-the-job learning via the TVET provider. It may require, as in Germany, the development of two separate but coordinated curricula for on- and off-the job learning, respectively (refer to section 9.3 of Toolkit 1 for the processes of developing training regulations in Germany and curricula in Ireland). In some cases, training may also take place at an intermediary organization, which should be specified in the curriculum.

▶ Figure 2.3 Developing curricula based on occupational standards



Source: Adapted from E-TVET Council, 2015.



Tips

- ★ Curricula should offer flexibility to enable enterprises to integrate enterprise-specific content. An appropriate percentage could be set to specify the degree of flexibility allowed.
- ★ The occupational profiles must reflect not only the immediate skills needs of enterprises, but they must also correspond to the long-term needs of the younger generation entering the labour market. Therefore, the occupational profiles must be sufficiently broad and go beyond immediate occupational requirements to support development of the core skills for employability that underpin lifelong learning.



Tools for developing curricula using occupational profiles

Tool 2.3.1 Development of training regulations, including occupational profile, Germany

This tool provides information on a procedure for the development of training regulations which define the standards and minimum requirements for a training course. Experts from training practice develop the outlines of the new training regulations in collaboration with the Federal Institute for Vocational Education and Training (BIBB) and harmonize them with the draft framework curricula for off-the-job training in schools. This procedure is well-established and well-respected and it involves those affected – employers’ organizations for the enterprises and workers’ organizations for employees – in all important decisions concerning the content, objectives, duration and requirements of training.

Source: www.bibb.de/veroeffentlichungen/en/publication/download/7324

Tool 2.3.2 Handbook for developing curricula using occupational profiles, Switzerland

The relevance of curricula to labour market needs is key for apprenticeship systems. In Switzerland, the initiative for developing new qualifications or updating existing ones comes from the relevant professional associations (employers’ bodies). Based on an analysis of the current and future skills needs of companies in the relevant sectors, competence-oriented occupational profiles (“qualification profiles”) are drafted in a collaborative exercise which involves all relevant stakeholders (private sector, national authorities and local authorities responsible for VET schools). “Ordinances” setting out the skills requirements in target occupations and other relevant documents are then drafted based on these profiles and discussed with all relevant stakeholders before being implemented.

This handbook provides a comprehensive overview of the topic, including information on essential aspects and processes of developing or modifying occupational qualifications and reference documents.

Source: Handbook for IVET curriculum development (in French):
www.sbfi.admin.ch/dam/sbfi/fr/dokumente/2017/03/HB_BE.pdf.download.pdf/Handbuch_Prozess_der_Berufsentwicklung-20170328f.pdf

Tool 2.3.3 Guide for developing curricula based on occupational standards, Jordan

This guide focuses on the processes involved in developing OSs based on the DACUM approach and offers guidance on developing curricula based on principles of competency-based training.

It describes the sequence of activities needed to develop competency-based curricula (CBC) (also called learning outcome-based curricula) based on OSs. The guide elaborates on the contents of OSs and how to systematically devise and review them, and it provides guidelines for the process of using the competencies and performance criteria established in an OS to specify the learning outcomes and assessment criteria of the curriculum, and information on arranging these into modules.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254640

Tool 2.3.4 Manual for developing qualification and occupational standards, Bosnia and Herzegovina

The manual is designed to explain and facilitate the development of multiple qualifications standards and OSs in Bosnia and Herzegovina. It clarifies the role of occupational and qualifications standards and how to gain maximum benefit from them at the individual, institutional and country level. Among other things, the manual advises and supports higher education institutions in the development of innovative, high-quality study programmes.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254628

Tool 2.3.5 A guide to developing and implementing qualifications that meet industry needs, VET Toolbox, British Council

This tool is a guide which sets out, in practical and comprehensive terms, how qualifications that meet industry needs can be designed and delivered.

Source: <https://www.vettoolbox.eu/en/resources/guide-developing-and-implementing-qualifications-meet-industry-needs>

Tool 2.3.6 Examples of occupational standards from the United Kingdom, Germany, Canada and Australia

The American Institute for Innovative Apprenticeships has grouped the standards for a range of occupations in the four countries into ten broad categories, detailing the OSs in each category.

Source: <https://innovativeapprenticeship.org/occupational-standards/>

Tool 2.3.7 A sample apprenticeship standard for a boatbuilder programme, England

In England, the apprenticeship standard is developed by an employer group under the auspices of a government agency – the Institute for Apprenticeships. In this example of the new boatbuilder programme, the apprenticeship standard sets out the skills, knowledge and behaviours required of a qualified boatbuilder. A separate linked document then sets out how these are to be assessed at the end of the apprenticeship programme. Curricula are then developed locally, but must be consistent with the standards and the final assessment criteria.

Source: www.instituteforapprenticeships.org/apprenticeship-standards/boatbuilder/

Tool 2.3.8 A sample curriculum for the qualification of electrician (steel plant), India

The example given in this source shows the format used in India for the qualification standards for apprenticeship programmes. The details include the national skills qualification framework level, learning outcomes, assessment standards and methodology, a list of tools and equipment required for basic training, time allocation for practical training, theory, employability skills and other subjects, as well as a job profile description and career progression pathways in the sector. It also provides the names of the experts from industry and the training system who developed the standards and syllabus.

Source: https://nqr.gov.in/sites/default/files/Electrician%20%28Steel%20Plant%29_ATS_NSQF-5_0.pdf

Tool 2.3.9 Transferable skills in vocational education and training, VET Toolbox, GIZ

The objective of this tool is to provide guidance to support the development of transferable skills to improve the employability of young labour market participants in countries where large-scale investment projects are expected to offer jobs and self-employment opportunities.

This manual offers guidance on the specific transferable skills to target, detailing why and when are they especially useful and clarifying the contexts in which these skills are most applicable.

Source: https://www.vettoolbox.eu/drupal_files/public/2019-08/Transferable%20skills.pdf

Tool 2.3.10 Conceptual and programmatic framework for life skills and citizenship education in the Middle East and North Africa, UNICEF

This conceptual and programmatic framework reimagines life skills and citizenship education – while addressing both the conceptual and the programmatic gaps – with a view to achieving scale, sustainability and long-term change in quality learning. It is aimed at policy-makers, practitioners and experts and is meant to serve as a basis for guiding policies, strategies and programmes through a systems approach and in the context of national education reforms.

Source: www.education2030-arab-states.org/PDF/d816129f-5d08-40d1-9984-d587631e1b14_report1.pdf

▶ 2.4 Providing instructional and learning materials

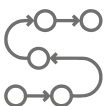


Good instructional and learning media are vital to quality apprenticeships

“[Even a] skilful carpenter cannot build a house without the necessary tools and materials. Much more so, a qualified teacher cannot mould the hearts and minds of the learners or develop their social and professional skills and abilities without the necessary tools and materials” (Education International, n.d.). Teachers and trainers need modern instructional media and tools to improve the effectiveness of learning processes, cater to the special needs of learners and increase outreach to learners in remote areas and those with learning disabilities. Good instructional materials help to minimize the disparity in the quality of teaching provided by different teachers.

With the advancement of new technologies, instructional materials also increasingly offer flexibility to learners, to learn at any point in time, in any place and at their own pace. Instructional and learning materials used in apprenticeships today commonly include both ICT-based media – mobile-based applications, virtual reality, augmented reality, animation, presentations, videos, films and other interactive learning materials – and traditional printed materials, including textbooks. Instructional and learning materials also include social media and massive online courses.

Institutions responsible for apprenticeships should promote the use of modern instructional materials by investing in the development of relevant media, making them accessible, and developing the capacity of teachers, trainers and apprentices in using them.



The steps for ensuring that good instructional and learning materials are accessible to teachers, trainers and apprentices

The national TVET agency, or other entity responsible for the development of instructional material, should:

- ▶ develop a strategy for instructional materials
- ▶ identify existing instructional materials and the institutions that specialize in developing them
- ▶ develop partnerships with specialist institutions to adapt and improve existing materials or develop new ones
- ▶ invest in modern facilities and ICT to make instructional and learning materials available online
- ▶ raise awareness among teachers, trainers and apprentices about the availability and benefits of the instructional materials
- ▶ train teachers, trainers and apprentices in using the available materials
- ▶ enable flexibility for teachers and trainers in developing and adapting materials.



Tools for instruction and learning



Tool 2.4.1

REALTO – Online platform to capture experiences, create learning content and connect different learning venues in Switzerland

While apprenticeship programmes offer a lot of advantages, they also pose certain challenges. One of these challenges is that apprentices often perceive a discrepancy between what they learn at school and the skills they need in the workplace. Addressing this discrepancy requires a systematic integration of theoretical and practical knowledge. REALTO is a next-generation online platform for VET that sets out to strengthen such integration. It creates a shared digital space, offering apprentices the capability to store and share their experiences captured in photos, videos and texts. This online platform provides further support for teachers with the creation of learning activities, which illustrate the relevance of the theoretical concepts to the workplace.

The existence of this shared space enables a connection to be made between the student, teacher and supervisor. All stakeholders are able to access information about the academic and vocation-specific progress of the student, and to offer and coordinate support where needed.

Source: <http://about.realto.ch/language/en/>



Tool 2.4.2

Online learning management system, including mobile app for occupational competence, South Korea

The Human Resources Development Service of Korea (HRD Korea) online training packages offer everyone the opportunity to develop occupational competencies free of charge, from any location via mobile phone, tablet or PC. Workers and apprentices can obtain a certificate for the modules which they successfully complete online. The main components of the online training packages are as follows:

- **Mobile app services:** Any user can download an app called “Human Resources Development Service of Korea” via Google Play and Android App Store. This mobile app facilitates online learning for the acquisition of technical skills for occupations such as automotive technician, electrical technician, electronics engineer, hairdresser and make-up artist.
- **Online training materials:** E-books and PDF files are available for vocational competency development and assessment.
- **Flash video:** Flash videos are available for various fields including applied software engineering, automotive technology and management, and green car management.

Source: <http://hrdbank.net/portal/main.do> (in Korean)



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Tool 2.4.3

Instructional material including 3D animated models, India

India's National Instructional Media Institute (NIMI) has been functioning as a nodal agency for the development of instructional materials, e-content and question banks to train media developers, trainers and trainees, enable translation of books into Hindi and other regional languages, network with other vocational stakeholders, create resource centres for vocational courses, promote research in the field of instructional materials development and offer consultancy services.

NIMI's centralized pool of instructional materials offers apprentices and trainees access to a variety of digital content, such as videos, 3D PowerPoint presentations, question banks and interactive flip e-books. NIMI's interactive e-books incorporate embedded videos, quizzers and 3D models animated with rotation and exploded views, while QR codes in books allow users to watch related embedded videos.

A sample book with QR codes can be found here:

https://bharatskills.gov.in/pdf/E_Books/Electrcian_SEM1_TP.pdf.

Source: <http://nimi.gov.in/index.htm>

Tool 2.4.4 Training and assessment implementation aids, Germany

Through this guidance, the German TVET agency BiBB offers implementation aids for various vocational training occupations. Each aid provides guidance on the training regulation for a specific occupation for in-company trainers, TVET teachers, examiners and apprentices. These aids are always published when the occupation or training regulation changes and, therefore, also explain the reasons for the need for revision and detail the updated components. In general, they provide information on the occupation as well as career and training opportunities. TVET practitioners are guided through the process of implementing apprenticeships for a specific occupation, both in companies and in schools. Finally, information and guidance is offered on the implementation of examinations.

Source: www.bibb.de/de/654.php (in German)

Tool 2.4.5 Learning material for apprentices, Austria

In Austria, comprehensive information and assistance for the implementation of quality apprenticeships is available (only in German). The resources include manuals for in-company training. The occupation-specific training guides also contain tips and best-practice examples from experienced trainers. This information can be used to check what the apprentice has already learned: electronically, directly in the PDF or in the printed version. Apprentices can prepare themselves and get an overall impression of the apprenticeship examination through the examples of the theoretical and practical examinations provided.

Source: www.qualitaet-lehre.at/downloads/ausbildungstools/ausbildungsleitfaeden/
www.qualitaet-lehre.at/
www.lap.at/index.php

Tool 2.4.6 A handbook for instructors on managing a training workshop to maximize learning potential, Viet Nam

This tool provides support for improving workshop management in compliance with standards of health protection and work safety. It presents workshop management tools and criteria for efficient workshop organization, as well as a questionnaire on performance assessment of workshop management. The document can be used as a daily handbook to help teachers/instructors understand the process and the steps that need to be taken, as well as verifying their commitment to fulfilling the requirements of effective workshop management.

Source: www.tvet-vietnam.org/kontext/controllers/document.php/668.d/d/1e8574.pdf

▶ 2.5 Checklist

By completing the following checklist, readers of this Toolkit can revisit the key elements involved in developing apprenticeship programmes and also carry out a rapid assessment of the functioning of related systems. It will assist readers to identify the elements that could be improved and to assess whether additional measures are needed.



Developing quality apprenticeship programmes	Yes	No	Needs improvement	Remarks
Are there specific measures in place for engaging workers' and employers' organizations in apprenticeships?				
Is there a social dialogue mechanism or institutional framework in which workers' and employers' organizations and government institutions work in partnership on apprenticeship delivery?				
Do the recommendations from social dialogue inform the further development of apprenticeship programmes?				
Does social dialogue create opportunities to improve the reputation of apprenticeships?				
Is there a mechanism in place for assessing current and future skills needs in the relevant sectors?				
Are employers actively involved in skills needs assessments?				
Are the results of skills needs assessments used to develop or improve occupational profiles?				
Do the results of skills needs assessments inform career guidance activities?				
Do occupational profiles correspond with the actual requirements of the relevant occupations?				
Does the apprenticeship curriculum allow enough flexibility for TVET teachers to adapt it to various learning situations?				
Does the apprenticeship curriculum allow enough flexibility for employers to adapt content to employers' specific training needs?				

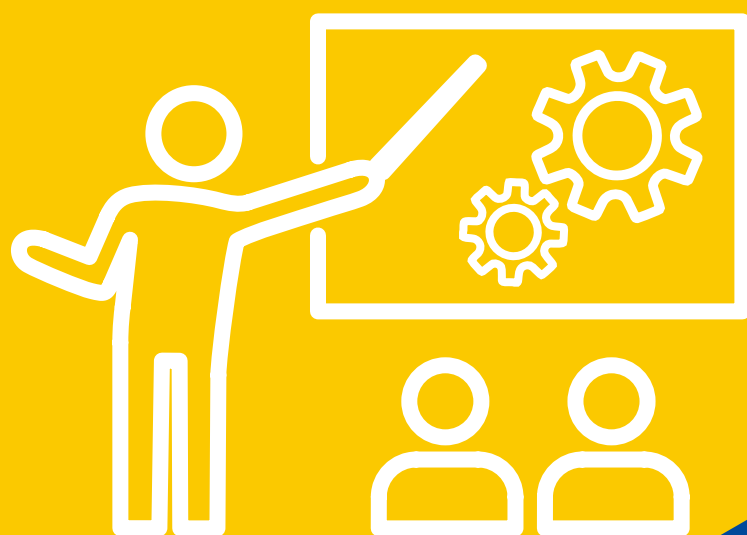
The questions to which readers have answered “No” or “Needs improvement” point to gaps where measures to improve or strengthen the development of apprenticeship programmes in their contexts should be considered. It is important to keep in mind that the involvement of social partners, including workers’ and employers’ organizations, in the design, development and implementation of apprenticeships is a key factor for the success and sustainability of apprenticeship programmes.



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

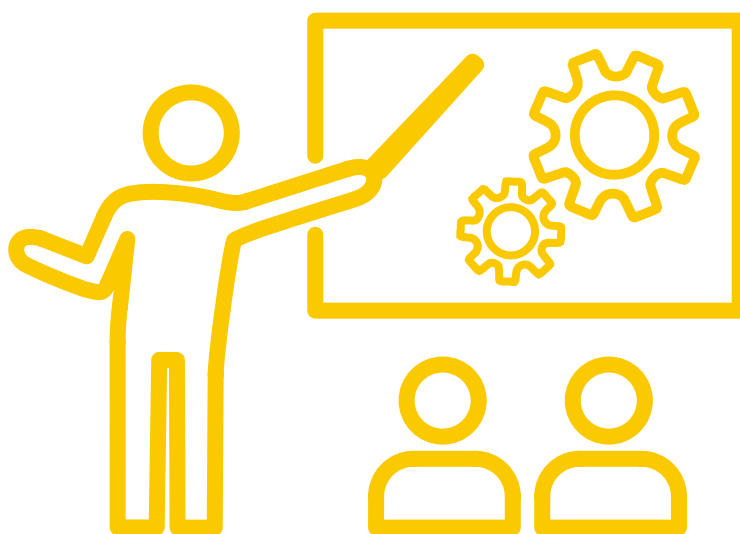
► Preparing quality training places



ILO Toolkit for Quality Apprenticeships

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Edited by: Ashwani Aggarwal

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Module 3: Preparing quality training places*

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Module 1 Introduction - The quality apprenticeship training life cycle

Module 2 Developing quality apprenticeship programmes

▶ **Module 3 Preparing quality training places**

Module 4 Organizing apprenticeship training

Module 5 Post-training transitions and evaluation

Module 6 Innovations and strategies in apprenticeships

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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



▶ Preparing quality training places

In the context of fostering skills acquisition and promoting smooth transitions from school to formal sector employment, apprenticeships have proven to be particularly effective.

G20 Task Force on Employment, 26 September 2012

This module explains the processes required to ensure that the training venues in enterprises, TVET providers and intermediaries have the capabilities to deliver quality apprenticeship training. It has five sections that explain the following processes:

Preparing quality training places

▶ Engaging and registering enterprises to provide apprenticeship training

▶ Formulating apprenticeship agreements

▶ Building partnerships in apprenticeship programmes

▶ Ensuring the capacity of TVET providers to provide the off-the-job component of apprenticeships

▶ Preparing staff to train and mentor apprentices

▶ 3.1 Engaging and registering enterprises to provide apprenticeship training



The issue: Enterprises should envision the benefits of offering quality apprenticeship training and demonstrate their capacity to deliver it

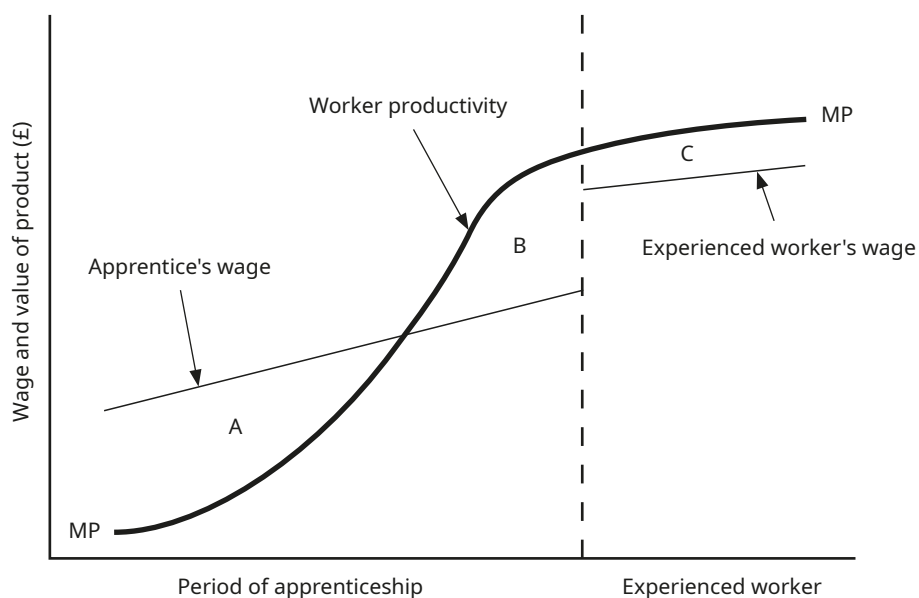
Mr Johann N. Schneider-Ammann, former Swiss President, speaking at the International Congress on Vocational and Professional Education and Training,¹ referred to the role and involvement of businesses as a key element of the success of the Swiss education system. He stated “I used to be the CEO of a construction machine manufacturing company that trained apprentices. And I can assure you that the benefits of employing apprentices can usually be felt even before they complete their training: after a time, their productive work more than compensates for their employment and training costs.”

¹ Source: www.admin.ch/gov/it/start/documentazione/discorsi/discorsi-dei-consiglieri-federali.msg-id-62302.html

The participation of enterprises in the implementation of quality apprenticeships depends primarily on two main factors: first, whether they are willing to offer apprenticeships;² second, whether they have the capacity to offer good quality training and comply with the standards for training and working conditions specified by their applicable national laws and regulations.

For employers to appreciate the value of participating, the perceived financial and non-financial benefits of offering apprenticeships must outweigh the costs. The cost and benefit aspects play a decisive role here, as discussed in Toolkit 1 (see section 8.2.1). Figure 3.1 illustrates the economic principle. In the early stages of an apprenticeship there is a net cost to enterprises (shown as A in figure 3.1), because the initial costs (such as wages, social security contributions, time commitment of in-company trainers (in-CTs) and training materials) outweigh the initial contribution that apprentices make to the production of goods and services. As apprentices acquire skills and become more productive, the costs and benefits start to even out and enterprises recover their initial investment, as can be seen from the stylized cost-benefit analysis relating to the period of the apprenticeship programme (B). In the post-apprenticeship period, when the apprentice has become an experienced worker, there is a clear benefit for the enterprise, even if wage costs are higher (C). The marginal productivity (MP) of a person recruited into an apprenticeship is represented by the curve MP–MP. The figure simply illustrates the principle; the reality will look different in each individual case.

► Figure 3.1 A stylized model of the costs and benefits of apprenticeships for enterprises



Source: Gambin, Hasluck and Hogarth, 2010.

² Employers' knowledge of the costs and benefits of apprenticeships plays an important role in the willingness of enterprises to offer apprenticeships. In addition, in several countries, it is mandatory for enterprises (with a certain minimum number of employees) to offer apprenticeships. However, in spite of this requirement, not all enterprises implement apprenticeships.

Employers incur the costs of training apprentices in the expectation that those apprentices, once partly trained, will contribute to productive output and, once fully trained, may become valued skilled workers. Smaller employers, in particular, may find it difficult to retain qualified apprentices, so need to realize a positive return on their investment by the end of the training period. In some cases, employers, particularly larger employers that may reasonably expect to retain qualified apprentices, may also be prepared to bear a net cost during the apprenticeship period in order to benefit from their skills following completion of the apprenticeship. Employers benefit from apprenticeship in a number ways:

- ▶ gaining highly competent employees who meet the specific needs of the employer (rather than having to resort to external recruitment)
- ▶ improving productivity, as well as the quality of services and products
- ▶ saving on recruitment and retraining costs
- ▶ realizing a high return on investment in the long run
- ▶ participating in defining specific employer-based training content and development of standards
- ▶ supporting corporate social responsibility.³

Which arguments carry most weight with employers depends on the socio-cultural and economic context of the respective country. Table 3.1 summarizes the costs and benefits of providing apprenticeships for enterprises.

▶ Table 3.1 Summary of the costs and benefits of quality apprenticeships for enterprises			
	Costs	Benefits	
Enterprises	<i>During the apprenticeship</i>	<ul style="list-style-type: none"> • Wage/stipend • Social security contributions • Time of in-CTs • Costs of training materials, space, equipment • Recruitment and administration costs 	<ul style="list-style-type: none"> • Apprentices' contributions to the production of goods and services • Government incentives • Payments from training funds • Improvement in reputation
	<i>After the apprenticeship</i>		<ul style="list-style-type: none"> • Savings in recruitment and initial training costs by hiring graduating apprentices • Highly competent employees who meet the specific skills needs of the enterprise (versus hiring externally) • Higher productivity and quality • More loyal workforce • Savings from reduced employee turnover • Innovation • Wage stability • High return on investment in the long run

Source: ILO Toolkit 1.

³ GOVET, Dual Vocational Education and Training in Germany, <https://www.bibb.de/govet/en/71186.php>. A more comprehensive list can be found in a publication of DC dVET, https://www.dcdualvet.org/wp-content/uploads/DC-dVET_Engaging-the-Business-Sector-in-VET_Study_ENGL_FINAL.pdf, p. 33.

Toolkit 1 concludes that “there is some evidence that, all in all, the benefits of funding apprenticeship systems outweigh the costs, both for enterprises and for governments. Indeed, these costs are investments for future social and economic development – and in some countries, governments do provide incentives,⁴ in many different forms, so as to encourage employers and apprentices to participate in apprenticeship systems. ... If all the actors see the long-term benefits, perhaps at some point no incentives will be needed to promote apprenticeships” (ILO, 2017, p. 76) (see box 3.1).

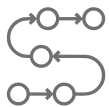
Box 3.1 Financial incentives in Morocco



The measures which are aimed at encouraging companies to take on apprentices are: (a) exemption from tax liability for trainees under the national social security scheme; (b) exemption of grants given to apprentices from the vocational training tax and general income tax ; and (c) the State’s award of a financial contribution, exempt from any tax, duties or fees, to companies in the small trades and crafts sector that take apprentices in the occupations and skills specified by the Vocational Training Department.

Source: European Training Foundation, 2002.

At their 2016 meeting in Beijing, the G20 Labour and Employment Ministers agreed to increase the number, quality and diversity of apprenticeships (G20, 2016) by, inter alia, making apprenticeship more attractive to enterprises, in particular SMEs, addressing legal and regulatory disincentives and promoting an adequate/appropriate sharing of costs among enterprises, providers and public authorities.



The steps required to engage enterprises and ensure that they offer quality apprenticeships

Apprenticeship regulations and guidelines specify general training and working conditions, including the facilities, systems and human resources that an enterprise should have in order to be eligible to offer apprenticeship training. They also designate the competent authority for quality assurance and determine the process for registering or accrediting enterprises (box 3.2).

⁴ For further details, refer to section 8.3 of Toolkit 1 as well as the DC dVET discussion paper [Companies engaging in Dual VET: Do financial incentives matter?](#).

Box 3.2 Competent authorities



In Germany, a competent authority (for example, a chamber) verifies whether a company has the necessary training facilities and employs suitably qualified instructors to deliver quality apprenticeship training (Tool 2.3.1). While, in Switzerland, responsibility for determining eligibility lies at the local government (canton) level.

The competent authority, employers' organization or the entity taking the lead in promoting apprenticeships in a country may develop the following:

- ▶ A plan for attracting and engaging enterprises to participate in apprenticeships. The plan may be based on the cost-benefit analysis of implementing apprenticeships for specific occupations in a sector, as part of a skills needs analysis.
- ▶ An effective communication strategy to raise awareness among enterprises about the above-mentioned requirements, the process for registration and the costs and benefits of apprenticeships. This communication may take place through relevant employers' organizations and should involve the use of multimedia, testimonials and brochures.
- ▶ A manual or guide specifically aimed at enabling enterprises to build their capacity to offer apprenticeships (see Tool 3.1.5).

As per guidelines, enterprises submit the application to the competent body for registration, together with the required evidence for eligibility.

- ▶ The competent body scrutinizes the application and registers the enterprise as eligible to offer apprenticeship training in specific occupations. In the event that an enterprise does not meet the requirements, the competent body should support the enterprise in overcoming shortcomings. For example, if an enterprise lacks the required facilities to undertake part of the training, the competent body or an intermediary may facilitate it through:
 - » an interplant training centre (see box 3.3)

Box 3.3 Professional associations in Switzerland



In Switzerland, professional associations (industry sector associations) operate training centres that provide specialized training for the sector. These act as a third learning venue, in addition to enterprises and schools.

» another enterprise (see box 3.4)

Box 3.4 The ABB in Germany



The ABB has established two regional training centres in Germany that provide training to ABB apprentices as well as to apprentices from other enterprises, mostly SMEs. In 2019, 44 per cent of a total of 1,600 apprentices at the ABB training centres are ABB's own, while 56 per cent are from the approximately 245 cooperating enterprises located in the regions around the two training centres.

The networking approach adopted by the ABB training centres enables smaller enterprises to fulfil the requirements regarding the provision of apprenticeship programmes. Furthermore, the training centres also provide SMEs with administrative and promotional support. They are responsible for the screening and selection of apprenticeship candidates for the SMEs, have cooperation agreements in place with regional schools and regularly organize information events and practice days in order to promote occupational programmes and pathways.

Source: Information collected and provided by GAN Global;
<https://www.eurofound.europa.eu/sites/default/files/wpfomeef18026.pdf>

» an intermediary (see box 3.5)

Box 3.5 GAN in Costa Rica and Group Training Organisations in Australia



Talento para Crecer is a programme designed and hosted by the Global Apprenticeship Network (GAN) Costa Rica, in cooperation with one of its members, Japp.Jobs, to inspire and guide SMEs in the provision of internships and apprenticeships through sharing experiences and good practices. The programme also provides legal support to SMEs, as the legal aspects of apprenticeships and internships were one of the biggest concerns for enterprises. The programme also serves as a platform for young people interested in applying for internships and apprenticeships in SMEs. This is an example of GAN acting as an intermediary.

In Australia, Group Training Organisations (GTOs) employ apprentices and trainees and place them with host employers. GTOs undertake employer duties, which include: selecting and recruiting apprentices and trainees; paying wages, allowances, superannuation, workers' compensation, sick/holiday pay and other employment benefits; managing the quality and continuity of training, both on and off the job; providing any care and support that the apprentices need to complete their training.

Source: Information collected and provided by GAN Global;
<http://www.australianapprenticeships.gov.au/group-training>

» a TVET provider.



Tips

- ★ Depending on the country context, an entity (e.g. a vocational training agency linked to the government, employers' organization, sectoral industry association or a social dialogue platform), could be given the responsibility for ensuring that enterprises are suitable for providing quality apprenticeships.
- ★ It is especially important to support enterprises that are planning to start apprenticeship programmes. Employers' organizations may also be able to help their members to implement apprenticeships, by facilitating cooperation between different enterprises, and TVET providers and enterprises.
- ★ Apprentices can only be effectively trained in a specific occupation by enterprises that have the facilities and equipment for most of the tasks required in that occupation, under the supervision and guidance of skilled workers who are competent in performing those tasks.
- ★ Training content that an SME is unable to offer can be delivered collaboratively, in specific training workshops and through other enterprises or inter-company training centres operated by industry associations or TVET providers. The competent body may also facilitate the engagement of SMEs by providing appropriate financial and non-financial incentives, targeted at overcoming specific challenges.
- ★ The competent body may encourage the establishment of intermediaries. It may also define their roles and responsibilities and lay down norms, incentives and guidelines for intermediaries.
- ★ The objective of the registration procedure should be to make employers aware of the essential requirements for offering apprenticeships and support them in meeting such requirements. SMEs may require additional support to complete the process. Employers' organizations, private sector associations, TVET providers and intermediaries can play an important role in this process.
- ★ Enterprises that offer apprenticeships may be supported by "quality apprenticeship facilitators". For example, in Germany this service is provided by the statutory chambers (industry organizations), but it could also be offered by another competent body. The quality apprenticeship facilitator provides advice on the implementation of in-company training and cooperation between TVET providers and the partnering enterprises. The facilitator also takes on a mediator function in the event of any problems arising with the apprentice during the in-company training. Quality apprenticeship facilitators can be affiliated with the responsible body.



Tools to engage and register enterprises providing apprenticeships

Enterprises often ask themselves whether they are equipped to provide apprenticeship training. An accreditation procedure that focuses less on restrictions and more on support can be helpful in this context.

Engaging and supporting enterprises in apprenticeships

Tool 3.1.1 Compendium of resources for determining the quality of in-company VET, BIBB, Germany

The compendium provides a resource for supporting the introduction and development of quality approaches to training in an enterprise. It is based on results which were developed and tested between 2010 and 2013 in Germany. It is intended primarily for those in charge of training in enterprises and for apprentices. Educational staff in schools, inter-company educational establishments and institutions in the vocational training field can also benefit from the approaches to improving quality provided by the compendium.

Source: <https://www.bibb.de/veroeffentlichungen/en/publication/show/7602>

Tool 3.1.2 How intermediaries (GTOs) support enterprises in apprenticeships, Australia

This tool describes how Group Training Organisations (GTOs) in Australia support small businesses and young people in apprenticeships. GTOs can be the legal employer of the apprentice or trainee during the training period and provide a range of support services for the host employer and apprentice/trainee.

Source: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_725504.pdf

Tool 3.1.3 Engaging the business sector in VET: Working tool for policy dialogue and project design, DC dVET

The working tool reveals how the relevance, quality and attractiveness of VET can be increased by promoting the business sector's involvement. It supports donors, project collaborators and other players in the field of development cooperation in their policy dialogue and in the implementation of VET projects and programmes. Part 1 of the tool (Study) offers a theoretical overview on where, how and under what conditions the private sector can be involved. Part 2 (Questionnaire) enables practitioners to transfer key elements of the study to their work. The questionnaire is included in section 2.2 as Tool 2.2.3.

Source: https://www.dcdualvet.org/wp-content/uploads/DC-dVET_Engaging-the-Business-Sector-in-VET_STUDY_ENGL_FINAL-1.pdf



Tool 3.1.4

A practical guide and e-learning course on quality apprenticeships for enterprises, ILO and IOE

The aim of this joint ILO/IOE publication *Tools for quality apprenticeships: A guide for enterprises* is to assist enterprises in designing and implementing apprenticeship programmes that suit their skills needs. It provides examples and practices from enterprises on how they implement apprenticeship programmes.

Based on the guide, an e-learning course has been developed to enable enterprise managers to learn about the design and implementation of apprenticeship programmes on an interactive platform. Course participants can select individual modules according to their needs and complete them at their own pace.

Source: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_684158.pdf (guide)

<https://www.itcilo.org/courses/tools-quality-apprenticeships-enterprises> (e-learning course)

Tool 3.1.5

Guide for employers seeking to develop and implement apprenticeship programmes, the United States

This *Employer's playbook for building an apprenticeship program* is a step-by-step guide for employers who wish to develop and implement an apprenticeship programme – detailing the elements involved from workplace planning, establishing critical public-private partnerships and marketing the programme, to transitioning apprentices into regular employment and ensuring long-term success. The guide is based on the experiences of three companies – Alcoa, the Dow Chemical Company and Siemens Corporation – that have successfully established apprenticeships and it provides companion tools and references as well as guidance on securing funding.

Source: www.themanufacturinginstitute.org/~media/53456D700856463091B62D1A3DA262F4/Full_Apprenticeship_Playbook.pdf

Tool 3.1.6

Engaging employers in apprenticeship opportunities, OECD and ILO

This joint publication by the OECD Local Economic and Employment Development (LEED) programme and the ILO explores examples of employer engagement in implementing apprenticeship programmes through nine case studies from United Kingdom, Norway, Germany, Western Australia, New Zealand, United States, Turkey, India and Bangladesh.

The publication draws on local experiences, including interviews with local employment offices, training institutions, economic development organizations, chambers of commerce and workers' organizations. It shares specific learnings on removing barriers to engaging employers in apprenticeship programmes and broadening access to training opportunities.

Source: OECD/ILO (2017) *Engaging employers in apprenticeship opportunities: Making it happen locally*, <http://dx.doi.org/10.1787/9789264266681-en>



© ILO

Accreditation of enterprises that provide apprenticeships

Tool 3.1.7 Accreditation of enterprises providing apprenticeships, the Netherlands

In the Netherlands, the Foundation for Cooperation on Vocational Education, Training and Labour Market (SBB) has prescribed a set of rules on accreditation of enterprises that wish to offer apprenticeships. An enterprise is expected to:

- provide a safe learning environment and activities that relate to the occupation for which the apprentice is being trained
- provide an adequate number of expert supervisors or workplace trainers to mentor apprentices
- cooperate with the TVET institution and SBB and provide the required information
- agree to have the enterprise details listed in the public register of enterprises that employ apprentices.

Accreditation is valid for a period of four years and can be renewed. The accreditation may be revoked if it is considered that the conditions on which the decision to grant the accreditation was based are no longer met.

Source: www.s-bb.nl/en/companies/certification/conditions-certification

Tool 3.1.8 Sample checklist to confirm the eligibility of enterprises to implement apprenticeships, Asian countries⁵

This template provides a simple checklist covering the requirements that enterprises must meet to deliver on-the-job training. Practitioners can easily modify the checklist to meet the requirements stipulated in the regulatory framework of their country (refer to annex 9 of the tool).

Source: GIZ (2017), *Down to earth: A practitioner's guideline to work with business and industry in TVET*, https://sea-vet.net/images/seb/e-library/doc_file/3111/giz2017down-to-earthguideline-version-2.pdf

Tool 3.1.9 Suitability of enterprises to provide apprenticeship training, Austria

In Austria, enterprises that want to train apprentices submit an application for determination of their suitability to deliver apprenticeship training to the competent apprenticeship office of the Federal Economic Chamber.

The enterprise must fulfil the following requirements:

- Legal conditions – be entitled to carry out the activities in which the apprentice is to be trained.
- Corporate conditions – be equipped and managed in such a way that it is in a position to impart to the apprentice all the knowledge and skills included in the occupational profile. Those companies that cannot fully impart this knowledge and these skills have the possibility to train apprentices within the framework of a training alliance.

Company size is not a determinant of the ability to offer apprenticeship training. Any company can train apprentices if it can be guaranteed that they will be appropriately assisted. In addition, a sufficient number of professionally and pedagogically qualified trainers must be available in the company.

Source: [https://www.bmdw.gv.at/dam/jcr:8dbc03d8-45b2-4fc8-b087-95725065f27e/Die%20Lehre_Englisch_Barrierefrei%20\(002\).pdf](https://www.bmdw.gv.at/dam/jcr:8dbc03d8-45b2-4fc8-b087-95725065f27e/Die%20Lehre_Englisch_Barrierefrei%20(002).pdf)

⁵ The source publication was developed by the Community of Practice “Private Sector Cooperation in TVET”, part of the GIZ Sector Network Assets for Asia. The Community of Practice comprises GIZ staff (international experts, national personnel, integrated experts and development advisers) from the following Asian countries: India, Indonesia, Lao People’s Democratic Republic, Mongolia, Myanmar, Pakistan, Sri Lanka, The Philippines, Thailand and Viet Nam.

▶ 3.2 Formulating apprenticeship agreements

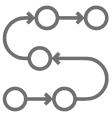


The issue: What elements should an apprenticeship agreement contain?

A written agreement between an apprentice and an employer, and sometimes involving another party (e.g. TVET provider or intermediary organization), that clarifies their rights and obligations as well as the training and working conditions for apprenticeship training is an essential component. It serves to regulate apprenticeship training at the enterprise level and is essential for its effective and smooth implementation.

In most cases, the regulatory framework for apprenticeships specifies the form and content of an apprenticeship agreement and stipulates the essential (minimum) conditions for training. It also offers employers the flexibility to include additional components according to the needs of their enterprise and to provide better working conditions, above the minimum requirements. While national circumstances vary, an apprenticeship agreement typically covers the following:

- ▶ details of parties entering the agreement
- ▶ purposes of the agreement
- ▶ applicable national laws and regulations
- ▶ roles and responsibilities of the employer, the apprentice and any other party
- ▶ target occupation and qualification
- ▶ training conditions, such as the duration of training, on- and off-the-job training arrangements, assessment and certification
- ▶ working conditions, such as wages/stipend and allowances, social security coverage, training and working hours, leave entitlement, compensation for work-related injuries and illnesses, occupational safety and health
- ▶ dispute settlement mechanisms and arrangements for the termination of the agreement
- ▶ conditions of transfer to other enterprises
- ▶ probation period
- ▶ confidentiality and privacy matters.



The steps needed to establish an apprenticeship agreement

- ▶ Enterprises should use the model template for apprenticeship agreements, if any, prescribed by the regulatory body in their country. They may adapt it to their particular circumstances, if this is permitted by law (see box 3.6).

Box 3.6 Form of agreement, South Africa



In countries where apprentices have the status of an employee of the enterprise, different forms of agreement may exist. For example, in South Africa, employer and apprentice sign two agreements – a learnership agreement and an employment contract.

Source: https://www.gov.za/sites/default/files/gcis_document/201409/a97-98.pdf

- ▶ If no model template is available, the partners (e.g. public authority, employers' and workers' organizations, TVET providers) can jointly develop a template for an apprenticeship agreement, which may be promulgated nationally. They should ensure that the template complies with the country's legal requirements.
- ▶ The employer and the apprentice (and, in the case of minors, their legal guardian) complete and sign the agreement. Depending on the context, the TVET provider, intermediary organization or another party may also be required to sign the agreement. Each party to the contract should receive a copy of the agreement.
- ▶ The employer sends a copy of the agreement to a quality assurance body or TVET agency for registration.



Tips

The apprenticeship agreement, registered with a quality assurance body, can act as a frame for quality assurance, since the employer and the apprentice can be held to their commitments.



Tools for formulating an apprenticeship agreement

Tool 3.2.1 Sample apprenticeship agreement, Switzerland

In Switzerland, apprenticeship contracts are based on a standardized template and refer exclusively to recognized national VET qualifications. They are a unique form of employment contract that include special provisions regarding the apprenticeship as a form of training and education.

The contracts are standardized in terms of their form and the elements that must be covered, such as wages, the qualification to be obtained by completing the apprenticeship, insurance issues, etc. Since there is no statutory minimum wage in Switzerland, apprenticeship wage setting is discretionary, although sectoral associations recommend certain wage brackets for apprentices. The duties and rights of both apprentice and company, based on such contracts, are backed by the corresponding provisions in national law (VET law, obligations law, employment law, etc.). In order to ensure the quality of apprenticeship provision (i.e. that only companies with training authorization are allowed to contract apprentices), avoid abusive contracts and plan for parallel enrolment into an appropriate VET school, cantonal (local) authorities validate the contracts, once they have been signed by the company and the apprentice.

Source: Standard template:

http://vpet.ch/dyn/bin/21423-21425-1-lv_engl_2018_interaktiv.pdf

General legal provisions regarding apprenticeship agreements:

www.admin.ch/opc/en/classified-compilation/20001860/index.html#a14

www.admin.ch/opc/en/classified-compilation/20031709/index.html#a8

Tool 3.2.2 Sample apprenticeship agreement, Tanzania

This sample apprenticeship agreement from Tanzania includes information covering the following aspects: name of the parties entering the agreement, applicable law and regulations, duration of training, training content, working conditions, roles and responsibilities of employer, apprentice and education/training institution, general provisions (covering meals, medical scheme, working hours), testing and certification, probation period, dispute settlement and termination of apprenticeship agreement.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254629

Additional examples of an apprenticeship agreement can be found in Toolkit 1, in Boxes 16, 17 and 18 on pages 40–41.

▶ 3.3 Building partnerships in apprenticeship programmes



The issue: Given that apprenticeships depend on the contributions of multiple stakeholders, building partnerships is key to their success

As mentioned earlier, a number of organizations share the responsibilities for designing and managing apprenticeship programmes. They must cooperate and form effective partnerships to ensure the success of apprenticeship programmes. Chapter 7 of Toolkit 1 explains the roles and responsibilities of various stakeholders and provides examples from various countries. Table 3.2 illustrates a few examples of partnerships at national, sectoral and local levels.

▶ Table 3.2 Generic description of partnerships at national, sectoral and local levels

Level	Partners	Nature of cooperation	Forms and means of partnership
National and sectoral	Government, employers' organizations, workers' organizations, youth and women's groups, civil society organizations, associations of TVET providers, etc.	National and sectoral level issues: for example, skills needs assessments, occupational standards, qualifications and apprenticeship programmes, learning aids, quality assurance, registration of employers, promotion of apprenticeships, strategies and goals for promoting apprenticeships, guidelines for various stakeholders, including on financing and social inclusion, monitoring and evaluation	Social dialogue format, such as tripartite national steering committees, boards of regulatory bodies, sector skills councils, trade committees
Local	Enterprise and training provider	On-the-job training by enterprise and off-the-job training by TVET provider	Memorandum of Understanding (MoU) or agreement; apprentice logbooks can facilitate cooperation between teachers and trainers
	Enterprise and intermediary organization	Intermediary organizations can provide administrative support to enterprises for managing apprenticeship programmes, as well as offering training and assessment services	Agreement
	Enterprise and employers' organization	Employers' organizations can provide mentorship and technical guidance to enterprises, monitor the quality of training and carry out the assessment and certification of skills acquired by apprentices	MoU or agreement; committee of local chambers
	Among enterprises	Apprentices could be rotated between two or more enterprises so that they receive training covering all aspects of the curriculum	Agreement
	Employer and workers' organization	Strategy and target for number of apprentices, working conditions, training of trainers, training and mentorship for apprentices, monitoring the quality of apprenticeship training	Collective bargaining, committees

Partnerships are also formed at the global level (see box 3.7).

Box 3.7 Global Apprenticeship Network (GAN)



GAN is a global, business-driven alliance of private sector companies, business federations, international organizations and committed groups determined to create an equitable future for all segments of the workforce and a sustainable talent pipeline for business by advocating for a new paradigm in the relationship between education and employment and promoting work-based learning.

GAN was founded by multinational companies and international organizations, including the IOE, ILO, OECD and Business at OECD (BIAC) and has networks in Africa, Asia, Europe, Latin America and Oceania.

GAN builds knowledge and inspires action by sharing real-world examples of effective work-based learning approaches that are being implemented by large and small companies across diverse sectors around the globe. In cooperation with its members and partners, GAN has fostered the establishment of multi-sector networks in countries throughout the world to implement initiatives that help remove barriers and create opportunities for work-based learning.

Source: <http://www.gan-global.org>

The European Alliance for Apprenticeships, established by the European Commission, is an example of partnership at the regional level (see box 3.8).

Box 3.8 European Alliance for Apprenticeships (EAfA)



EAfA unites governments and key stakeholders with the aim of strengthening the quality, supply and overall image of apprenticeships across Europe, while also promoting the mobility of apprentices.

EAfA is a platform for sharing experiences and learning from best practices. It allows members to find partners, promote events, develop new ideas and activities and provide access to the latest news and tools on apprenticeships.

In addition to national governments, members of EAfA include companies and business organizations, chambers of industry, commerce and crafts, education and training providers, youth and non-profit organizations, regional and local authorities, social partners, professional bodies and networks, as well as research institutes and think tanks.

Source: <https://ec.europa.eu/social/main.jsp?catId=1147>



© ILO / Meeting of the Inter-Agency Working Group on work-based learning.

Development partners and agencies have also formed partnerships, pooling their expertise and resources to achieve a higher level of development cooperation and support in reforming VET systems in partner countries. Some of the major initiatives include: Inter Agency Group's working group on work-based learning, Donor Committee for Dual Vocational Education and Training, Apprenticeship Toolbox, VET Toolbox and Decent Jobs for Youth, the Global Initiative for Action, details of which are given in box 3.9.

Box 3.9 Development partnerships**Donor Committee for Dual Vocational Education and Training (DC dVET)**

Vocational training has always been an important pillar of development cooperation for Austria, Germany, Liechtenstein and Switzerland. For many years they have been implementing vocational training projects, including some with dual approaches. To further their expertise in this area, the four countries have established the Donor Committee for Dual Vocational Education and Training (DC dVET), which aims to:

- strengthen the exchange between institutions and improve their commitment and their vocational training offering in partner countries through developing a common understanding of relevant topics
- demonstrate ways in which dual VET can be used in different contexts in a goal-oriented and situational manner
- support the integration of dual vocational training approaches in development cooperation and further sensitize the public to its potential, without attempting to transfer the dual system to a one-to-one basis.

Source: <https://www.dcdualvet.org>

Apprenticeship Toolbox

The Apprenticeship Toolbox was developed by a partnership between Austria, Denmark, Germany, Luxembourg and Switzerland, all of whom have vast expertise in dual-track apprenticeships systems. The project was led by Denmark and includes national ministries and agencies responsible for VET from each of the five countries. The toolbox is a website which details the key features of apprenticeship systems in the five partner countries.

Source: www.apprenticeship-toolbox.eu

VET Toolbox

The European Union launched the VET Toolbox, which supports partner countries in enhancing or monitoring planned or existent VET reform programmes. Five European development agencies participate in the VET Toolbox partnership: British Council, Enabel – Bel, GIZ, LuxDev and Agence Française de Développement (AFD). The delivery of VET Toolbox services is realized by the first four of the listed agencies.

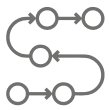
Source: <https://www.vettoolbox.eu/en>

Decent Jobs for Youth, the Global Initiative for Action

Decent Jobs for Youth is the global initiative to scale up action and impact on youth employment under the 2030 Agenda for Sustainable Development. It is a hub for catalyzing partnership, collaboration and coordinated action at country and regional level, grounded in evidence-based solutions. Launched in 2016, Decent Jobs for Youth brings together governments, social partners, youth and civil society, the private sector, and many more partners who share the same vision: a world in which young women and men everywhere have greater access to decent jobs.

Through their commitment platform and the Decent Jobs for Youth Knowledge Facility, partners identify what works, share innovations, and mobilize concrete actions – from green and digital jobs to quality apprenticeships, youth entrepreneurship, and the transition to the formal economy. With new spin-off initiatives in Namibia, Nigeria, Burkina Faso, and Kenya, and a regional and global convening agenda, Decent Jobs for Youth works with like-minded partnerships to translate fragmentation into synergy.

Source: www.decentjobsforyouth.org



The steps required to build partnerships in apprenticeship programmes

The Tips box below highlights the key success factors for effective partnerships; it also indicates the processes necessary for the formation of a partnership.



Tips

Success factors for an effective partnership:

- ★ Define the purpose.
- ★ Choose partners with complementary skills.
- ★ Focus on win-win benefits.
- ★ Sign a partnership agreement that includes an action plan, with the roles and responsibilities and funding provisions clearly defined.
- ★ Promote effective communication and transparency.
- ★ Foster trust and establish common working norms.
- ★ Analyse and manage risk and stipulate the conflict resolution process.
- ★ Prescribe the duration of the partnership and the method for its renewal and exit strategy.
- ★ Establish an empowered task team with members from all the partners to implement the partnership agreement.
- ★ Senior management should review the progress of the partnership implementation and take steps to remove any obstacles.

At the national and sectoral levels

The national regulatory body or the ministry responsible for apprenticeships can facilitate the formation of partnerships between all stakeholders at the national and sectoral levels. These are based on the guidelines provided in each country's regulatory framework. The purposes, as well as the forms, of the partnerships therefore vary between countries. General provisions observed in the countries with well-established systems are presented in table 3.2.

At the local level

At the local level, enterprises have the main responsibility for implementing apprenticeship training, the TVET providers offer complementary off-the-job training, while other entities, including intermediaries, provide support services to enterprises. Therefore, in an ideal situation, enterprises may take the lead in establishing partnerships with other organizations (see box 3.10). However, where apprenticeship programmes are being introduced for the first time in a region, enterprises may not have sufficient knowledge or capacity to lead the programme. In such cases, the lead entity, intermediary or the project team responsible for introducing apprenticeship training may facilitate the formation of partnerships. In those countries where apprenticeship is managed by TVET providers, the TVET providers may take the lead in forming partnerships. Table 3.2 indicates the common forms and nature of partnerships that enterprises can establish with other organizations.

Box 3.10 Training partnership in Switzerland

Nestlé has created a partnership with La Poste, the national postal service of Switzerland, to exchange apprentices each year. For example, commercial apprentices of one company undertake two months of training in the other company, usually in a department with which the apprentices are unfamiliar. The objective is to enrich apprentices' learning experience and to improve their competencies through having to adapt to a new professional environment. The exchange programme is highly appreciated by apprentices, as it helps to improve their future employability.

Source: Information collected and provided by GAN Global.

Enterprises may consider the following process to establish partnerships:

- ▶ clearly understand the apprenticeship training life cycle, as well as its role and that of other organizations in implementing the training
- ▶ evaluate its capacity to deliver apprenticeship training according to the standards and estimate the support services it would require in this process
- ▶ for the off-the-job training, identify the potential TVET providers and form a partnership
- ▶ for other support services, identify intermediary organizations or local chambers and form a partnership
- ▶ together with local chambers or associations of employers, identify other enterprises that can provide complementary training to the apprentices covering aspects for which the enterprise does not have adequate facilities and establish partnerships.



Tips

- ★ The creation of a conducive environment at the local level allows TVET providers and training employers to work together effectively to ensure that the best possible training is offered to apprentices. Working groups can bring all actors involved in quality apprenticeship together in a constructive way.
- ★ TVET providers and employers have distinct but complementary roles in delivering apprenticeship training. Therefore, close cooperation between these two key stakeholders is necessary to reinforce that complementarity.
- ★ TVET teachers and in-CTs should be able to exchange information on the practical aspects of quality apprenticeship programmes, ideally within the framework of cooperation agreements between TVET providers and employers or employers' organizations. Formal and regular exchanges between TVET providers and training employers can be very helpful.
- ★ When an enterprise is offering apprenticeship training for the first time, an apprenticeship-facilitator from a partner organizations can provide mentorship to newly qualified in-CTs, supporting them as they develop their skills in teaching apprentices.
- ★ The goodwill and support of employers are the cornerstone of quality apprenticeships. It is equally important for employers and TVET providers to form effective partnerships in implementing apprenticeships.



Tools to build partnerships in apprenticeship programmes

Tool 3.3.1 How to establish partnership at the local level, Asian countries⁶

This tool provides guidelines on how to set up partnerships and deliver cooperative training at the local level and recommends five steps (refer to annex 5 of the tool):

1. establish a regular exchange between enterprises and TVET providers
2. develop and sign an MoU
3. jointly identify training contents and venues
4. agree on the final number and selection of apprentices
5. sign agreements with apprentices.

Source: GIZ (2017), *Down to earth: A practitioner's guideline to work with business and industry in TVET*, https://sea-vet.net/images/seb/e-library/doc_file/311/giz2017down-to-earthguideline-version-2.pdf

Tool 3.3.2 Memorandum of understanding between employer and TVET provider, Tanzania

This tool provides an example of an MoU from Tanzania, establishing a partnership between the Hotel Association of Tanzania and the National College of Tourism. The two institutions signed an MoU to support and facilitate the piloting of formal apprenticeship in the hospitality industry and to explore the introduction of the apprenticeship model into the TVET system.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254636

Tool 3.3.3 Cooperation between stakeholders from business, government and society, Germany

This tool explains how the cooperative partnerships between stakeholders in dual VET in Germany function. The first section addresses the interests of those involved in vocational education and training in general, while the second section focuses on the dual VET system and examines how interests are integrated there.

Source: <https://www.bibb.de/govet/de/54881.php>

⁶ The source publication was developed by the Community of Practice “Private Sector Cooperation in TVET” within the GIZ Sector Network Assets for Asia. The Community of Practice comprises GIZ staff (international experts, national personnel, integrated experts and development advisers) from the following Asian countries: India, Indonesia, Lao People’s Democratic Republic, Mongolia, Myanmar, Pakistan, Sri Lanka, The Philippines, Thailand and Viet Nam.

▶ 3.4 Ensuring the capacity of TVET providers to provide the off-the-job component of apprenticeships



The issue: The key role of TVET providers

TVET providers can be secondary schools, vocational training institutes or post-secondary educational institutes managed by public, private or civil society organizations. TVET providers organize off-the-job training for apprentices, which provides relevant theoretical knowledge to complement on-the-job training at the workplace. However, the scope of off-the-job training may include some general education subjects, the development of soft skills, as well as digital and entrepreneurial skills. In some cases, TVET providers also offer basic practical training, or even specialized practical training, for which enterprises, in particular SMEs, may not have the necessary facilities in house. In some countries, the functions of TVET providers also include managing apprenticeship training (see box 3.11).

TVET providers should work in close collaboration with employers to ensure synergy between off-the-job and on-the-job training components. The various ways in this training can be scheduled are detailed in section 4.3).

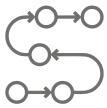
Box 3.11 Dual training, South Korea



In South Korea, dual training centres may play the following roles, in addition to providing off-the-job training:

- recruiting partner companies in joint training agreements
- recruiting apprentices for training centre managed apprenticeships
- developing training programmes
- supporting the development of training tools
- offering consultation services and general assistance for partner companies
- assessing competencies acquired by apprentices.

Source: Kang, Jeon and Lee, 2017.



The steps required to ensure that TVET providers offer good-quality off-the-job training

The competent quality assurance body should ensure that TVET providers offering off-the-job training to apprentices comply with the following conditions:

- ▶ meet the standards for teaching staff, facilities and materials, and have an adequate system for institutional governance and financial management
- ▶ conduct regular internal quality assurance exercises to identify weaknesses and gaps, and to improve their performance
- ▶ demonstrate the capacity to cooperate effectively with local employers at the corporate level, and through regular liaison between teaching staff in TVET providers and in-CTs
- ▶ demonstrate the capacity to identify and support apprentices who are at risk of dropping out, and to work with employers to ensure that they complete their training successfully
- ▶ in cooperation with in-CTs, support apprentices during on-the-job training – for example by making online resources available to the apprentices to assist them in their work-based tasks
- ▶ have an effective monitoring and evaluation system for off-the-job training in place.



Tips

- ★ Quality apprenticeships require active cooperation between TVET providers and enterprises. To encourage enterprises to offer apprenticeships, TVET providers should consider themselves as service providers to enterprises that offer demand-driven training and services.
- ★ TVET providers in the public sector in some countries are under-resourced, which hampers the provision of quality off-the-job training. It can be helpful in such circumstances if they are allowed to generate their own income, which can then be reinvested or used to provide incentives to the teacher
- ★ The use of online learning and modern technologies can help to increase the efficiency and effectiveness of the delivery of apprenticeship training.



Tools to ensure the capacity of TVET providers

Tool 3.4.1 Standards for TVET providers, Australia

In Australia, off-the-job training can only be provided to apprentices by a Registered Training Organisation (RTO), which must meet the following eight standards, set out in legislation:

- The RTO's training and assessment strategies and practices are responsive to industry and learner needs and meet the requirements of training packages and VET accredited courses.
- The operations of the RTO are quality assured.
- The RTO issues, maintains and accepts Australian Qualifications Framework certification documentation and provides access to learner records.
- Accurate and accessible information about an RTO, its services and performance is available to inform prospective and current learners and clients.
- The RTO provides learners with information prior to commencement of the service provision, which outlines the services that the RTO will provide to the learner, along with the rights and obligations of both parties.
- The RTO has a transparent complaints policy, in which complaints and appeals are recorded, acknowledged and dealt with fairly, efficiently and effectively.
- The RTO has effective governance and administration arrangements in place.
- The RTO cooperates with the VET Regulator and is legally compliant at all times.

The purpose of these standards is to confer the requisite competencies for employment or further study and ensure that RTOs operate ethically with due consideration for both learners' and enterprises' needs.

Source: www.legislation.gov.au/Details/F2014L01377

Tool 3.4.2 Handbook for quality management in TVET providers, Cedefop

The *Handbook for VET providers*, prepared by Cedefop, offers guidance to providers of vocational training, including those who provide the off-the-job component of training to apprentices. It draws on a number of case studies undertaken in Europe and offers multiple tools to help TVET providers reflect on their own performance, identify strengths and weaknesses and take action to improve quality. Some challenges which may arise in collaborating with the world of work to deliver apprenticeships (and other forms of work-based learning) are also identified and addressed.

Source: Cedefop (2015) *Handbook for VET providers. Supporting internal quality management and quality culture*, www.cedefop.europa.eu/files/3068_en.pdf

Tool 3.4.3 **Quality assurance of TVET providers by sector skills council, South Africa**

All training providers in South Africa are expected to meet the requirements for accreditation as well as those of the appropriate quality management function. These requirements provide an assurance of the provider's capacity to plan, deliver and manage the standards and qualifications for the programmes concerned.

This tool, from BANKSETA, provides an example of how quality management in South Africa is organized. Training providers must submit a quality management plan to BANKSETA for all programmes before any learner agreements can be registered.

Source: www.bankseta.org.za/quality-assurance/
https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254637

Tool 3.4.4 **Training manual on the management of education and vocational training institutions, VET Toolbox/LUXDEV**

The manual is intended primarily for managers of public and private vocational training institutions but is also useful to representatives of the government and ministries responsible for the professional training of individuals, as well as representatives of workers' organizations.

The contents are organized in such a way that managers can:

- obtain a systemic vision of organizational management
- adapt their management practices to the concepts of a "management excellence model", while respecting the existing culture within the institution
- learn about the management performance indicators of vocational training institutions.

Source: <https://www.vettoolbox.eu/en/resources/management-education-and-vocational-training-institutions>



▶ 3.5 Preparing staff to train and mentor apprentices



The issue: The challenge of having competent trainers, teachers and other staff

Practitioners from a number of entities (enterprises, TVET providers, ministries and other public authorities responsible for apprenticeships, employers' and workers' organizations, employment services providers and general schools) are involved in the design and management of apprenticeship programmes. Chapter 7 of Toolkit 1 provides details of their roles and responsibilities. The following paragraphs will provide specific information on two main types of practitioners who train apprentices – trainers in enterprises and teachers in TVET providers.

In-company mentors/trainers/supervisors are directly responsible for interacting with apprentices, imparting practical training and introducing them to the work during on-the-job training. They should serve as role models for apprentices, who are often at a critical adolescent stage of development and may be entering the workplace for the first time. Their main roles and responsibilities are detailed below:

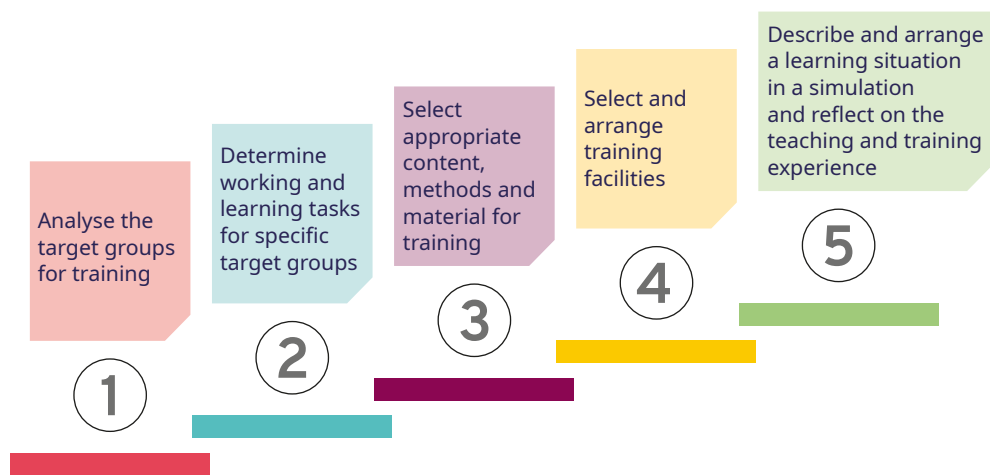
- ▶ Plan, organize and implement apprenticeship training in the enterprise.
- ▶ Ensure that apprentices work and learn in the occupation as specified in the agreement.
- ▶ Monitor, assess and record the progress of the apprentices' skills acquisition.
- ▶ Provide special care for apprentices with learning difficulties, disabilities and other limitations.
- ▶ Act as the focal point for the apprenticeship programme, coordinate with other sections and workers in the enterprise, as well as with external partners involved in the training process (e.g. TVET institutions, public authorities for education and employment in intermediaries).
- ▶ Prevent and resolve conflicts by mutual agreement or, if this is not possible, follow the predetermined conflict settlement procedures (e.g. in-company staff regulations, collective agreements, relevant labour code).
- ▶ Ensure safety and security at work for apprentices at all times.

Training apprentices in the workplace is a specialized, demanding task. While skilled workers are competent in performing the relevant tasks at the workplace, they may not necessarily be equipped to train young people. Therefore, pedagogic training should be mandatory for those delivering training to apprentices in the workplace, and as a pre-condition for employers' participation in apprenticeships (see box 3.12). A study by Jablonka and Ulmer (2007) has shown that there is a correlation between the provision of training by in-CTs and the quality of apprenticeships. When the apprenticeship programme is being introduced or expanded, a grace period may be necessary to give employers time to provide the necessary training to their staff.

Box 3.12 In-company trainer qualification, Germany

In Germany, qualification as an in-CT is an integral part of the master craftsperson training. However, the in-CT certificate can also be acquired outside the master craftsperson qualification. It is obligatory for a training employer in Germany to employ at least one person with an in-CT qualification.

► **Figure 3.2 The training skills needed by an in-CT**



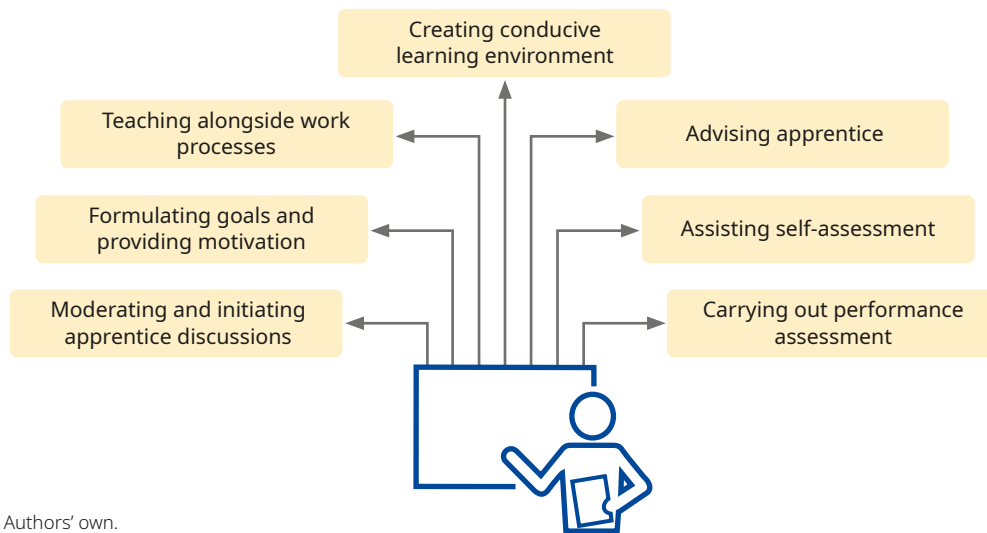
Source: Authors' own.

Teachers in TVET providers take on the following roles and responsibilities:

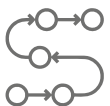
- Planning, organizing and delivering off-the-job training in TVET providers within the framework of the overall apprenticeship programme (refer to section 7.7 of Toolkit 1 for details).
- Interacting with their counterparts in partner enterprises to ensure optimal coordination between the off-the-job and on-the-job elements of the training programme.
- Monitoring the learning progress and skills development of apprentices on a regular basis.
- Providing additional support for apprentices with learning difficulties, disabilities and other challenges.
- During the introduction of apprenticeships, TVET teachers may be able to support in-CTs in developing employer training plans.

To carry out these roles and responsibilities, TVET teachers and trainers will need to be well-qualified and, in the case of licensed occupations linked to apprenticeships, hold the necessary professional certifications. In Toolkit 1, box 25 provides information on the qualifications for teachers and trainers in TVET providers in Austria.

▶ Figure 3.3 The pedagogical interventions of a TVET teacher



Source: Authors' own.



The steps required to develop the capacity of practitioners involved in the design and management of apprenticeship programmes

The competent authority or the entity responsible for apprenticeships may undertake the following:

- ▶ Establish a staff development strategy, in collaboration with all stakeholders, for practitioners associated with apprenticeships. The strategy may focus on both initial training and continuing training and may use a combination of approaches, such as training programmes, online learning tools, a community of practice, social media groups and self-learning multimedia packages. This strategy should also clarify the funding mechanism for staff development.
- ▶ Develop apprenticeship guidelines for key staff, in particular for the staff of enterprises (trainers and human resources officers), staff of TVET providers (teachers and managers) and staff of intermediaries.
- ▶ Coordinate and design training programmes and learning materials together with specialized teacher training institutions.
- ▶ Document successful case studies on staff development. Promote role models to motivate staff, particularly those who are working in enterprises.
- ▶ Organize training programmes for staff.
- ▶ Facilitate the development of a community of practice and other social media groups, promoting the use of webinars, blogs and e-forums.
- ▶ Assign teachers from TVET providers to enterprises to update their understanding of the skills requirements of the different occupations and to gain first-hand experience of the apprentices' learning environment.
- ▶ Allocate trainers from enterprises to TVET providers to collaborate with teachers and to train apprentices.
- ▶ Collect and use feedback from staff to improve the strategy and capacity of training programmes.



Tips

- ★ Employers must be convinced that having in-CTs in their workforce will yield a number of benefits, including the ability to use them for the professional development of all incumbent staff, in addition to apprentices.
- ★ Skilled workers and supervisors may already be overwhelmed with work responsibilities, and consider the task of providing training to apprentices as an additional burden. Therefore, enterprises should offer incentives to become trainers, which could take the form of an advantage in career progression, recognition and reward for their services, and/or financial incentives and support for obtaining certified trainer qualifications.
- ★ To attract and retain competent teachers who also have experience of working in the industry, it is vital that their salary and career progression should be commensurate with those with similar qualifications and experience working in the industry. TVET providers should also offer attractive opportunities for industry professionals to work as teachers on a part-time basis.





Tools for preparing staff to train and mentor apprentices

Tools for in-CTs

Tool 3.5.1 In-company trainer standards, ASEAN countries

This tool defines the competencies that a qualified in-CT should have and provides an example of a training programme with a set of four modules corresponding to the four main fields of activity of an in-CT. The modules cover topics related to:

- analysing work tasks and defining learning requirements
- planning and preparing training
- conducting training
- evaluation and further development of training.

Source: www.bibb.de/dokumente/pdf/ab1.2_standard_in-companytrainers_ASEAN_regions.pdf

Tool 3.5.2 Guide for in-company trainers – examples from Brazil, Egypt, Ghana, Kosovo, Mexico, Pakistan, Saudi Arabia and Thailand

This guide is directed towards practitioners and decision-makers who are concerned with training of teaching and training staff in the field of development cooperation. It presents the key requirements for the skills development of in-CTs and lists success factors. The eight country examples serve as a guide to the requirements for training in-company training staff.

Source: https://sea-vet.net/images/seb/e-library/doc_file/320/the-role-and-skills-development-of-in-company-trainers-in-development-cooperation-2017.pdf

Tool 3.5.3 Guidance on how to train trainers, Austria

This guideline for the training of trainers in initial vocational education and training (IVET) is structured in three parts, which relate to legal issues and recruitment, company practice on “How to train successfully” and tips for master trainers.

Source: www.ac4sme.eu/wp-content/uploads/2018/01/Script-for-trainers-of-IVET-trainers_ibw-WK%C3%96_Jan-2017.doc

Tool 3.5.4 Training course for in-company trainers, United States

This tool provides an example of training for in-CTs from the United States. It describes the roles and qualities of a mentor and provides a detailed description of the steps involved in apprentice training and mentoring processes.

Source: www.expandapprenticeship.org/system/files/mentoring_for_apprenticeship.pdf

Tools for teachers of TVET providers**Tool 3.5.5 Qualification and training of TVET teachers and trainers, Switzerland**

TVET school teachers are largely recruited from the pool of professionals active within a certain sector and, in most cases, they work as teachers on a part-time basis. They remain active in their sector of origin and therefore keep up to date with current professional practices. They can obtain the mandatory teaching qualifications gradually, while working as a teacher in a TVET school. Similarly, trainers/instructors in companies are required to complete a short course to prepare them for their new role as coaches of apprentices. Teachers and trainers, as well as examiners, acquire their additional qualifications either directly at the Swiss Federal Institute for TVET (www.sfvivet.swiss/) or at the regional level in equivalent, recognized courses.

Source: General information for teachers and trainers (in French):
www.sbf.admin.ch/sbf/fr/home/formation/pilotage-et-politique-de-la-formation-professionnelle/responsables-de-la-formation-professionnelle.html

Legal provisions for teachers and trainers:
www.admin.ch/opc/en/classified-compilation/20001860/index.html#id-ni6
www.admin.ch/opc/en/classified-compilation/20031709/index.html#id-ni6

Example of module descriptions of VET teachers' qualification for professional theory (in French):
www.iffp.swiss/file/419/download?token=8q7mc3cj

SFIVET's Guide for teachers in vocational training – Situation-based didactics:
www.sfvivet.swiss/sites/default/files/situationsdidaktik_en.pdf

Training curriculum for in-company trainers:
www.formationprof.ch/download/mfe/mfe_cffe1.pdf (in French, German and Italian)

Tool 3.5.6 Publication on vocational teachers and trainers in a changing world, ILO

This publication presents an analytical framework for assessing TVET teacher training systems. It takes a holistic approach, providing a conceptual framework that government agencies and TVET providers can use to examine the internal efficiency and coherence of their teacher preparation programmes, as well as to assess the dynamic capability of the system to anticipate and respond to the needs of both employers and apprentices. The framework responds to the current imperative for high-quality TVET teacher training systems that are effective, efficient, equitable and innovative.

Source:
www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS_383787/lang-en/index.htm

Tools for knowledge-sharing and support services



Tool 3.5.7

Networking portal for practitioners, South Africa

The Skills Universe website is a social networking site, primarily aimed at skills development professionals and thought leaders in the training sector. It creates a space for information sharing, debate and partnership building.

Source: <https://www.skills-universe.com/>



Tool 3.5.8

Apprenticeship Support Services, EAfA

The EAfA's Apprenticeship Support Services contribute to strengthening the European apprenticeship community and support EU Member States in improving their apprenticeship schemes. They provide support in three areas: knowledge-sharing, networking and benchlearning.

Source: <https://ec.europa.eu/social/main.jsp?catId=1147&intPageId=5235&langId=en>

Tool 3.5.9

Guidance on how to support apprentices in the workplace, United Kingdom

This guide aims to help employers to provide effective support for apprentices aged 16 to 24 years old. It outlines steps that employers can take to make their recruitment practices accessible for young people and provides a range of examples of on-the-job assistance for young apprentices, including support in developing work-appropriate behaviour and life skills and social enrichment activities. It also provides information on sources of additional funding that employers can access to support young apprentices.

Source: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/755071/L_W_Supporting_young_apprentice_guide_V7_HR.pdf



▶ 3.6 Checklist

By completing the following checklist, readers of this Toolkit can revisit the key elements involved in preparing quality training places and also carry out a rapid assessment of the functioning of related systems. It will help readers to identify those elements that could be improved and to assess whether additional measures are needed.



Preparing quality training places	Yes	No	Needs improvement	Remarks
Are companies aware of the financial and non-financial benefits of providing apprenticeship programmes?				
Has a cost-benefit analysis of apprenticeship programmes for enterprises been carried out?				
Are there support services in place for those employers who are implementing apprenticeships?				
Is there a written apprenticeship agreement that clearly specifies the roles and responsibilities of the various stakeholders, as well as the terms and conditions of apprenticeships?				
Is there a competent body that is responsible for the registration of apprenticeship agreements?				
Are workers' and employers' organizations involved in the preparation of apprenticeship training places?				
Is an employers' organization (or several employers' organizations) involved in supporting individual employers in preparing apprenticeship training?				
Is there a regular exchange between TVET providers and training employers when preparing apprenticeship training places?				
Do TVET providers collaborate closely with their partner employers in preparing apprenticeship training?				
Are TVET providers capable of providing good quality off-the-job learning opportunities?				
Are TVET providers equipped with sufficient resources to continuously improve their teaching and adapt it to the needs of the labour market?				
Is there a mechanism that allows teachers and trainers at TVET providers to gain knowledge concerning the on-the-job training component?				

Preparing quality training places	Yes	No	Needs improvement	Remarks
Is there any in-service training programme for teachers and trainers at TVET providers to familiarize them with new and effective teaching methods?				
Are there enough motivated and well-qualified teachers and trainers at the TVET providers to deliver the off-the-job learning component?				
Are training enterprises equipped with training facilities that enable them to provide work process-oriented training?				
Do training enterprises have sufficient numbers of qualified and motivated in-CTs to ensure adequate supervision and effective training for apprentices?				
Is there a training programme for in-CTs in place that ensures they are capable of delivering quality on-the-job training?				
Are there enough well-qualified staff or specialists at the training enterprises who are interested in obtaining an in-CT qualification for delivering on-the-job training?				

The questions to which readers have answered “No” or “Needs improvement” point to gaps where measures to improve or strengthen the preparation for apprenticeship training places in their contexts should be considered. It is important to keep in mind that the involvement of social partners, including workers’ and employers’ organizations, in the design, development and implementation of apprenticeships is a key factor for the success and sustainability of apprenticeship programmes.



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

► Organizing apprenticeship training



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Module 2 Developing quality apprenticeship programmes

Module 3 Preparing quality training places

▶ **Module 4 Organizing apprenticeship training**

Module 5 Post-training transitions and evaluation

Module 6 Innovations and strategies in apprenticeships

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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



▶ Organizing apprenticeship training

The apprenticeship model provides young people with opportunities to develop the skills required to thrive in the 21st century.

Morten Wierod (ABB President), June 2019

This module examines the processes necessary to organize and deliver apprenticeship training. The six main processes are as follows:



▶ 4.1 Attracting candidates to join apprenticeship training

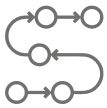


The issue: How to make apprenticeships an attractive career option

The benefits of apprenticeships are not always obvious to potential apprentices. In many countries, apprenticeships are perceived to be linked to blue-collar jobs, offering low wages and mainly related to male-dominated sectors. A commonly held view is that work-based learning (WBL) schemes, such as apprenticeships, impose a glass ceiling on career progression. What is more, the association of any WBL programme with apprenticeships and the prevalence of informal apprenticeships with exploitative conditions in many developing countries has contributed to the persistence of these negative perceptions. Other education pathways, especially the academic path, are often seen as superior in terms of employability, income and status. Apprenticeship, in many countries, is perceived to be for poorly performing students and school drop-outs. Considering the important role played by apprenticeship schemes in enhancing a better match between the skills demanded in

the labour market and those acquired through training, and in facilitating the transition of young people from school to work and preparing adults to meet the changing needs of the world of work, a strategy to overcome the pervasive negative public perception associated with apprenticeship is urgently needed. To reverse this entrenched perception, adequate promotion and advocacy of quality apprenticeships is therefore necessary.

Career guidance and counselling services can also assist in promoting apprenticeships as an attractive career option. Such services provide people with information about the world of work and help them to make informed decisions about which education and training opportunity they might take, based on their skills and aptitude and the particular requirements of various occupations. An important purpose of career guidance is also to provide young people from all backgrounds with relevant information about the labour market and specific careers. Given that young people's choices are shaped by their social and personal circumstances, enabling them to make well-informed choices could help to break intergenerational cycles of disadvantage, while simultaneously providing employers with a broader range of potential future employees (Musset and Kurekova, 2018). Furthermore, to address issues of gender segregation in apprenticeships, it is important that all occupations, including skilled manual labour, are presented in a positive light in schools, while actively challenging gender stereotypes in all occupations.



The steps needed to promote quality apprenticeship

Depending on the country context, a technical working group, public employment services or the entity promoting apprenticeships may fulfil the following functions:

- ▶ Bring together stakeholders to agree on a communication strategy adapted to specific country circumstances, including a social media strategy and a range of awareness-raising and marketing activities to promote quality apprenticeships. If a country is just starting a pilot programme or implementing apprenticeships at a limited level, the communication strategy might not be very detailed.
- ▶ Based on the communication strategy, create information materials explaining quality apprenticeships, using a mix of media tools tailored to the needs of the different target groups (students, teachers, parents, enterprises, and education and career counsellors). Different modes of communication could include seminars and media events, press conferences, radio and TV interviews, articles placed in newspapers, social media and internet chat rooms, among others.
- ▶ Make targeted career guidance and comprehensive advice available to young people to inform their further learning and career decisions and when they may be considering pursuing an apprenticeship. Such guidance may form part of a wider sphere of guidance activities, preparing all young people, in all types of schools, for the world of work.

- ▶ This guidance should start at an early stage in the school education system and be provided by qualified/trained teachers or specialist organizations (e.g. employment services, TVET providers, employers' and workers' organizations).
- ▶ Encourage cooperation between enterprises and local schools and training providers to engage stakeholders in career guidance and apprenticeship promotion, with events such as careers fairs, open days and trial apprenticeships (see box 4.1). Digital technology can provide new and more attractive ways of facilitating interactions between schools and enterprises, as shown in Tool 4.1.8.

Box 4.1 Work experience programmes



The Adecco Group offers an Experience Work Day programme to introduce young people to the world of work. On designated days, Adecco opens its 700 offices and branches in 46 countries to young people, allowing them to shadow Adecco Group employees in the departments and roles of their choice, learn more about their preferred jobs by stepping into their mentors' shoes, and improve their skills through workshops and coaching. In 2017, more than 9,000 young people benefited from the Experience Work Day programme.

Source: Information collected and provided by GAN Global;

<https://www.adecgroup.com/wp-content/themes/ado-group/downloads/sustainability-review-2017.pdf>





Tips

- ★ A user-friendly online platform containing comprehensive information about apprenticeships, including potential benefits for apprentices, enterprises and TVET providers, has been proven to improve enrolment and retention rates. It should also include rosters of apprenticeship positions, both open and filled. While such a platform may be developed initially by a government agency, subsequently social partners can take over this responsibility.
- ★ Actively involve the target groups when preparing the communication strategy and take their communication habits into account. To engage the younger generation, foster cooperation with and outreach to youth groups.
- ★ The engagement of people with first-hand knowledge of workplaces can provide young people with useful and reliable information about the world of work.



Tools for promoting quality apprenticeships



Tool 4.1.1

Digital video platform “Film your job”, France

The platform “Film your job” aims to promote apprenticeships by introducing young people to apprenticeship and trades through short videos shared on a dedicated platform as well as on social media.

The project is implemented in partnership with schools, regional council, companies and non-governmental organizations, and involves a video contest organized every year in which apprentices film themselves at their workplace. The tool aims to emphasize the value of apprentices, apprenticeships and trades (on all levels) and make these trades better known among young people. It also aims to tackle prejudices about apprenticeship training.

Source: <http://filmetonjob.com/> (in French)



Tool 4.1.2

Digital vocational orientation at school, Germany

“Your first day” shoots 360-degree films about various professions and makes them available throughout Germany to all interested schools, free of charge and with all the necessary technology. This resource allows young people get to know career paths and companies that they would not otherwise have access to. It offer companies the opportunity to digitally open the doors of their production, office or business premises and introduce themselves to future professionals.

Source: <https://www.deinerstertag.de/ueber-uns/> (in German)
<https://www.deinerstertag.de/en/> (some films in English, and also in Arabic)



Tool 4.1.3

Vocational guidance and counselling services, Switzerland

In Switzerland, career orientation is an integral part of compulsory schooling with special lessons dedicated to it. Through “pre-vocational traineeships”, students spend a few days with an employer to gain an insight into a profession that interests them. Schools cooperate closely with specialized career guidance and counselling services at the local level, staffed by professional counsellors. Their services are free for compulsory school-aged pupils and for young people who have left compulsory school. National online platforms provide additional information on various IVET and CVET professions and career paths.

The search for open apprenticeship positions usually takes place in the open market but it is facilitated by various online platforms and services where employers can advertise their openings. In the event of difficulties, vocational guidance and counselling services help young people to find an apprenticeship position.

Source: National portal for vocational and career guidance (in French):
www.orientation.ch/dyn/show/1418?lang=fr

List of local/regional guidance and counselling services: www.orientation.ch/dyn/show/8242

Centralized portal for open apprenticeship positions: www.orientation.ch/dyn/show/2930?lang=fr



Tool 4.1.4

Careers portal, South Africa

The Careers Portal website focuses on providing information to young people seeking post-school opportunities. It publishes the latest information on apprenticeships, learnerships, internships, college courses, bursaries and other related content.

Source: www.careersportal.co.za

Tool 4.1.5

Promotional materials for apprenticeship, Canada

The *Apprenticeship handbook* provides a wide range of useful material for would-be apprentices in Newfoundland and Labrador, Canada. It details the potential benefits of apprenticeship, the length and content of programmes and the practical steps which an individual needs to take to become an apprentice. It describes the different trades in which apprenticeship is possible and the arrangements for certification, and sets out the options for financial assistance.

Source: www.aesl.gov.nl.ca/app/pdf/apprenticeship_handbook.pdf

Tool 4.1.6 Best practice guide to youth career programmes, Australia

The *Best practice guide: Youth career programs* has been compiled by the apprenticeship employment network, with input from GTOs, youth, schools and employers, who have been involved in over 170 pre-apprenticeship programmes during the period 2016–18.

The aim of the guide is to assist young people in making better informed career choices; provide work-ready candidates and recruitment support for SMEs and improve non-completion rates in apprenticeships and traineeships.

GTOs have been encouraged to design unique pilot programmes to deliver a blend of career guidance, work experience, job-search and industry information to young people seeking a career in industries making use of vocational skills. The many successful programmes designed and delivered to date have been evaluated to determine common themes and best practices to assist with the development of the guide.

Source: <https://aen.org.au/wp-content/uploads/Best-Practice-Guide-Youth-Career-Programmes-Feb-19.pdf>



Tool 4.1.7 Promotional materials for apprenticeship, Germany

In Germany, the craft sector has been running a campaign in which a mix of different media is used to attract young people to become qualified craftspersons. The video clip for the 2018 campaign can be found here:

<https://handwerk.de/erfuellung>

The website also provides information for young people about apprenticeships and helps them to identify their specific career preferences:

<https://handwerk.de/berufechecker>

Source: www.zdh.de/en/





Tool 4.1.8

Online match-making platform connecting schools with workplace volunteers, United Kingdom

“Inspiring the Future” is a national online match-making platform that connects schools and colleges with volunteers from a range of sectors and professions that match their particular requirements. This tool gives students the opportunity to hear at first-hand the experiences of working people who can inspire and motivate young people regarding their future education and training choices and make them aware of different routes into a career.

The platform is free and easy to use. Teachers register their school or college and select and invite people who best meet the needs of their students, while volunteers register and select a number of areas of expertise that might be of interest to students.

The platform has over 40,000 volunteers registered throughout the United Kingdom, representing a broad range of roles, from apprentices to CEOs, and from all different age groups. Volunteers can support schools and colleges through a variety of activities, including talks on apprenticeship and careers, careers fairs, CV workshops, mock interviews, mentoring and workplace visits.

Source: www.inspiringthefuture.org



Tool 4.1.9

Using technology to connect employers and students, United Kingdom

Through the “Bridge to Work” initiative, Loughborough College helps young people aged 14 to 18 years old to gain an insight into employers’ expectations before they apply for jobs or apprenticeships. In part, this is achieved through collaborative conferencing and social software.

The Bridge to Work team sets up a series of webinars using conferencing software to bring together students and employers in local and national firms. Through the webinars, students gain first-hand knowledge of what employability entails, as well as developing confidence and skills in talking to employers. Furthermore, apprentices currently on placement provide their personal insights, bringing the culture of the workplace to life for students who are still at college.

Source: Chatterton, P. and Rebbeck, G. (2015) *Technology for employability: Study into the role of technology in developing student employability* (Bristol, Jisc):
http://repository.jisc.ac.uk/6249/3/Technology_for_employability_-_full_report.PDF



Tool 4.1.10

Online vocational guidance, Austria

In Austria, the online portal for career planning “BIC.at” provides descriptions for more than 2 000 occupations and details the requisite qualifications. The occupations can be explored in various ways through the career information menu, including alphabetical search, occupational group search and an education and training pathway search for those occupations that require similar qualifications. The website also offers tips about what should be considered when choosing a qualification or an occupation, and contains several practical worksheets.

Source: www.bic.at/index.php?lg=en

► 4.2 Recruiting apprentices



The issue: Why is it important to recruit the right apprentices?

The selection of the right candidates as apprentices is an important factor in determining the success of apprenticeship. The major proportion of apprenticeship training takes place at the workplace, where the apprentices are actively involved with workers carrying out work processes. An employer will, therefore, be keen to recruit candidates who are motivated to work in the chosen occupation and complete the apprenticeship, and who have the right attributes to work in teams and follow established rules (see box 4.2). While the selection of apprentices should mainly be the enterprises’ responsibility, they may collaborate with TVET providers in the recruitment process, since part of the training will take place in the TVET provider’s premises.

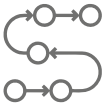
Given that dropping out of the apprenticeship training has a significant cost for both the apprentice and the enterprise, it is important that an apprentice fully understands the requirements of an occupation, such as the necessary competencies, working conditions and career prospects, as well as the requirement to complete the apprenticeship training. The apprentice should then make an informed decision, in view of his or her aptitude and level of interest, about whether to apply for an apprenticeship in a particular occupation and enterprise.

Box 4.2 Apprentice selection, Brazil



In Brazil, employers have total freedom to select apprentices, subject to compliance with the constitutional principle of equality.

Source: https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/---sro-port_of_spain/documents/genericdocument/wcms_545812.pdf



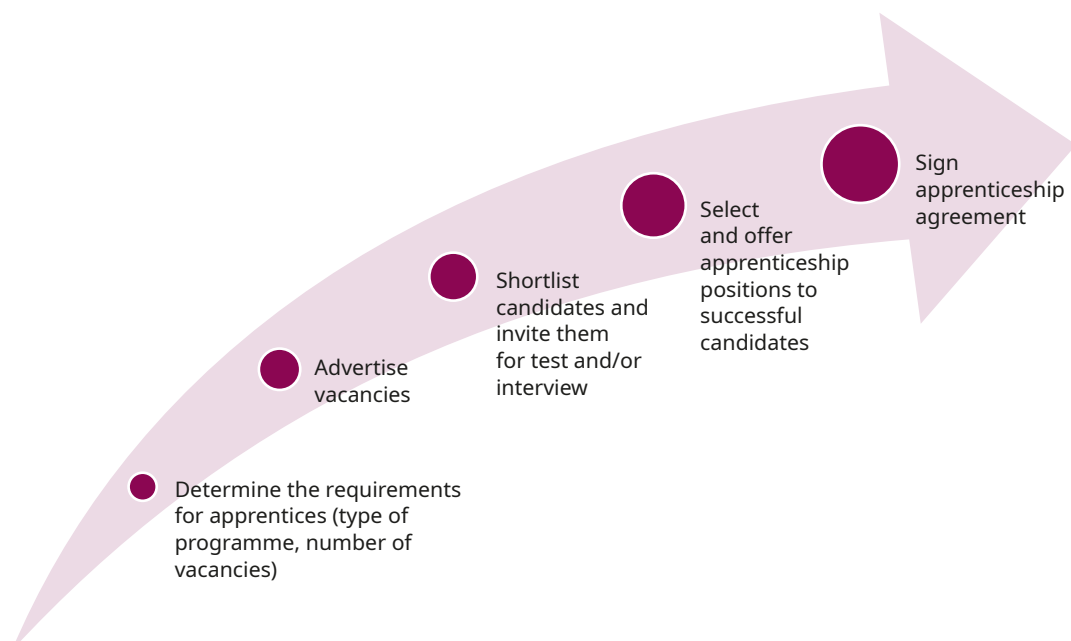
The steps needed to recruit apprentices

The procedure for recruiting apprentices may vary depending on the country context. The regulatory framework of a country prescribes the roles and responsibilities of stakeholders in the recruitment process.

Enterprises may take the following generic steps for recruiting apprentices, as appropriate:

- ▶ Decide on the number of apprenticeships to be offered in various occupations, based on the company's human resource needs and capacity to train apprentices in line with the applicable standards.
- ▶ Determine the remuneration and the training and working conditions for apprenticeships, based on the applicable standards.
- ▶ Openly advertise apprenticeship vacancies by different means, including through the enterprise's website, social media, official websites of chambers, employers' and workers' organizations, as well as through schools and employment offices, to attract young people and reach the target recruitment pool.
- ▶ Prepare guidelines, including criteria for assessing the skills, knowledge and attitudes of candidates as well as their motivation for participating in apprenticeships.
- ▶ Conduct initial screening and shortlisting exercises, and invite candidates for tests and/or interviews.
- ▶ Following an interview, select and offer appointments to the successful candidate(s) and provide feedback to the unsuccessful candidates.
- ▶ Sign the apprenticeship agreement with the selected apprentice and register it with the competent body (refer to section 3.2).

▶ Figure 4.1 Steps for recruiting apprentices for an enterprise



Source: Authors' own figure.



Tips

- ★ Candidates for apprenticeships should be fully aware of the requirements of the chosen occupation so that they can make an informed decision when choosing a specific apprenticeship programme.
- ★ Enterprises may invite students for a guided visit or offer a short work trial to potential candidates. In this way, students can become familiar with the programme and determine whether it meets their expectations, while employers have the chance to assess the suitability of potential candidates for apprenticeships.
- ★ Enterprises may use different selection methods, such as aptitude tests, group discussions, role playing and work trials, to assess candidates' suitability for apprenticeships.
- ★ SMEs may seek support from intermediaries, TVET providers or public and private employment services in the selection process, as they may not have the necessary expertise for recruiting apprentices.
- ★ TVET providers may cooperate with and support employers, while recognizing that employers should be entitled to select their own candidates.
- ★ Enterprises may consider offering more favourable working conditions than those prescribed in order to attract better candidates.





Tools for recruiting apprentices



Tool 4.2.1

Online portal for apprenticeship, India

India has a comprehensive online portal that facilitates the registration of apprentices, enterprises, intermediaries, basic training providers and third-party aggregators. Enterprises can select apprentices and register apprenticeship agreements through the portal. The apprenticeship candidates and enterprises can access information about available apprenticeship opportunities and applications by parameters such as state, district, sector and trade, organization, qualification, etc. The portal also provides information about the Apprentices Act 1961. Furthermore, enterprises can submit their claim for subsidies under national apprenticeship promotion scheme online. Apprentices can also check the results of their final assessment. Currently there are two portals for different categories of programmes that are intended to be merged into one (<https://apprenticeshipindia.org>) in the future.

Source: <https://apprenticeship.gov.in/pages/Apprenticeship/home.aspx>
<https://apprenticeshipindia.org>
<http://apprenticeship.gov.in/pages/apprenticeship/apprenticeregistration.aspx> (registration form).



Tool 4.2.2

The European job mobility portal

Drop'pin@EURES is an online platform where companies and organizations can promote and showcase their youth opportunities and is designed to help young Europeans take their first steps into the labour market. Opportunities available on the platform include apprenticeships, traineeships, training programmes, e-learning courses, language training, mobility support, coaching and mentoring, etc.

Drop'pin@EURES also facilitates matching of youth opportunities with the right young person's profile by granting access to a large number of skilled jobseekers across Europe. On the platform, employers are able to find the perfect match by browsing the CVs of potential candidate online. The tool also allows organizations to directly and easily post youth opportunities on the portal, which can be seen by young EURES members from all over Europe.

Source: <https://ec.europa.eu/eures/public/en/opportunities>



© ILO

Tool 4.2.3 Guide to apprentice recruitment for employers, United Kingdom

This tool has been designed to guide enterprises, particularly SMEs, through the apprenticeship recruitment process. It outlines ten steps involved in the recruitment of apprentices, from developing the job specification and advertising the vacancy, to preparing and carrying out the interview and selecting the successful candidate. It also includes an apprenticeship vacancy template and interview question bank. The publication encourages good practice in all aspects of the recruitment of apprentices and promotes equality and diversity.

Source: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/609449/Employer_Guide_February_2017.pdf



Tool 4.2.4 An online apprentice test designed to match training employers and apprentices, Austria

This modular online test system supports the selection of apprentices and future skilled workers. The apprentice selection process aims at an optimal match between training employers and apprentices. Some features of the test are detailed below:

- An individual aptitude test that includes 15 modules, allowing an assessment that is independent of school grades.
- Open questions provide insights into the applicant's motivation for applying to the specific apprenticeship occupation and employer.
- The test is user-friendly and easy to use. Evaluation takes place automatically. The results and applicant data are clearly presented.
- The integration of employer-specific tasks and ability to adapt the test design to an individual employer makes the test easily customizable.

Source: <https://auswahlhilfe.at/> (in German)

Tool 4.2.5 Procedure for recruiting apprentices, Switzerland

The selection records document is intended as a guide for employers, trainers and human resources personnel involved in the recruitment of apprentices, to help determine a person's suitability for apprenticeship.

The document includes sections on general information on the candidate, the recruitment interview and suggestions for questions to ask regarding personal motivations and the steps following the interview.

The questionnaire gives structure to the interview, showing how the interview should unfold. It facilitates objective comparison while at the same time providing sound reasons for accepting or refusing an application.

Source: http://vpct.ch/dyn/bin/21423-23924-1-selektionsmappe_de_2016i.pdf

Guide to using the selection records document:

http://vpct.ch/dyn/bin/21423-23925-1-infoblattsm_eg_2016_web.pdf

Tool 4.2.6 A mechanism for transferring an apprentice, South Africa

For various reasons, it may become necessary for an apprentice to move to another employer during an apprenticeship. The transfer of an apprentice from one employer to another often has the potential to involve costs for all concerned. This tool provides an example of how such a transfer may be conducted.

Source: <http://merseta.org.za/sd/LearningProgrammes/Appenticeships/Pages/Transfers.aspx>

▶ 4.3 Developing a training plan

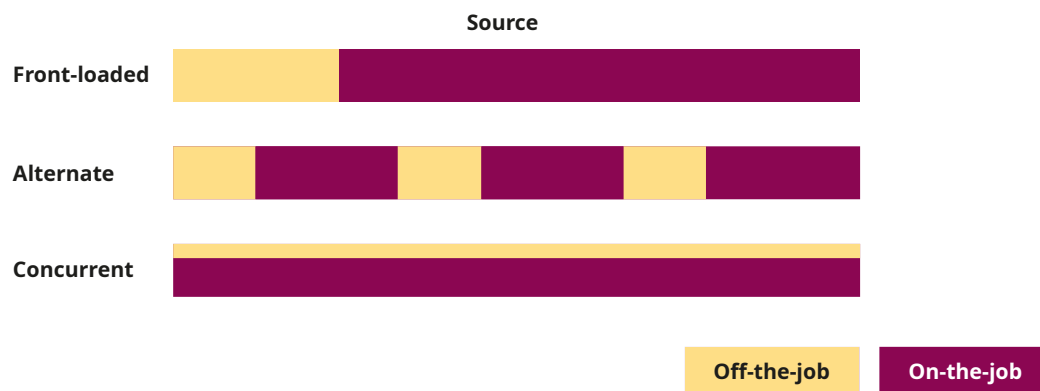


The issue: Why a good training plan is important for quality apprenticeship

The training plan developed by an enterprise sets out how the enterprise implements the apprenticeship curriculum in the workplace, and how the general requirements of the curriculum would be combined with the specific requirements of the enterprise. To ensure that apprentices fulfil all the requirements defined in the occupational standards, the enterprise training plan should provide a complete description of the training to be delivered and the competencies to be developed. More specifically, the training plan should set out when and where different training sequences will be carried out, and identify the individuals responsible for delivering different parts of the training. It should also specify how and when the assessment will take place.

Corresponding to the enterprise training plan, TVET providers should also prepare a plan for off-the-job training that complements on-the-job training at the enterprise. The combination of on- and off-the-job training guarantees that apprentices are work-ready on completion of the programme.

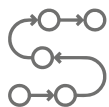
▶ Figure 4.2 Scheduling on- and off-the-job training



Source: Authors' own.

Scheduling of on-the-job and off-the-job training

There are several ways in which on-the-job and off-the-job training can be scheduled (figure 4.2). For example, in Luxembourg, the dual VET programmes (apprenticeships) usually include one to four days per week of training at school with the apprentice trained in an enterprise on the other weekdays. The proportion of off-the-job training is usually greater in the first year and decreases in the following years. Some VET programmes in Luxembourg are also organized with blocks of several weeks of full-time training at a technical secondary school (usually between three and nine weeks) that alternate with blocks of several weeks of full-time training in an enterprise (European Alliance for Apprenticeship, 2016).



The steps needed to recruit apprentices

- ▶ To ensure coherence between on- and off-the-job training, in-CTs should develop the enterprise training plan for on-the-job training in cooperation with teachers from TVET providers, who develop the teaching plan for off-the-job training.
- ▶ Both the enterprise training plan and the TVET provider teaching plan should fully cover the occupational standards and curriculum of the specific apprenticeship programme.
- ▶ The in-CT should draw up a rotation plan for apprentices in various departments of an enterprise, and coordinate apprentices' training with the relevant departments, supervisors and mentors.
- ▶ The plan should specify:
 - » the arrangement and sequencing of on-the-job and off-the-job training – if part of the training takes place in other enterprises or intermediaries, the plan should state the specific duration and parts of the curriculum to be covered outside of the enterprise
 - » details on the use of various training methods, tools and materials – it should also identify any additional support available to apprentices to help them to successfully complete the training
 - » competencies acquired by apprentices at various stages of the training plan, and how the assessments will be carried out.



Tips

- ★ During the planning process, the capacity of an enterprise to develop a training plan should be assessed. TVET providers or intermediaries should support enterprises in the preparation of the training plan, especially those that are providing an apprenticeship for the first time.
- ★ As in-CTs, supervisors and mentors gain experience, the training design can be adjusted and become more detailed. An improved training plan enhances both training efficiency and the productivity of apprentices, which is likely to lead to a faster return on investment for the enterprise.
- ★ The training content may cover a broader scope that goes beyond the requirements of the specific occupational profile.
- ★ In-CTs should ensure that the individuals involved in delivering training to apprentices have the necessary competencies.
- ★ Coordination between teachers and in-CTs can be achieved through the use of a logbook, in which the apprentices record their experience in both learning contexts. The logbook should be available to both the TVET teacher and in CT-trainer.
- ★ Good planning is essential to promote effective cooperation between the two training locations in apprenticeships. Before the start of each training year, training enterprises and TVET providers must determine when the trainee will be at which location.
- ★ TVET providers should maintain contact with the apprentices, particularly during block placements with employers. This could be achieved, for example, via a mobile learning application, whereby at least half a day of online training could be scheduled weekly.





Tools for developing a training plan

Tool 4.3.1 Sample rotation plan, Asian countries¹

This tool provides a template for a rotation plan for apprenticeships (refer to annex 11 of the tool). The rotation plan specifies the time period that an apprentice will spend in each of the relevant units of the enterprise, thereby ensuring that the apprentice gains experience in all trade-relevant tasks in the company.

The tool also provides an example from The Philippines on how to support companies in the development of rotation plans (see box 14 in the source publication).

Source: GIZ (2017) *Down to earth: A practitioner's guideline to work with business and industry in TVET*: https://sea-vet.net/images/seb/e-library/doc_file/311/giz2017down-to-earthguideline-version-2.pdf

Tool 4.3.2 Scheduling apprentices' training time between different venues, Germany

The resource consists of a block plan that indicates how training is scheduled between different learning venues (i.e. when the apprentices are in the TVET school and when they are at the workplace). This example from the construction industry in Hamburg includes the inter-company training centre in this sector, in addition to the learning locations of the employer and TVET provider.

Source: www.azb-hamburg.de/ausbildung/blockplaene/ (in German)

Tool 4.3.3 An enterprise training plan, Germany

This tool provides an example of a training plan for an apprenticeship for a “roller shutter and sun protection mechatronics technician”.

This in-company training plan guides the trainer and apprentice through the apprenticeship by outlining the parts of the apprenticeship, the competencies and knowledge that the apprentice needs to acquire, and company-specific elements that define the training and work content necessary to meet the needs and requirements of the company. Time indicators point out how much time should be spent on specific parts of the apprenticeship, including, for instance, work preparation and quality assurance measures, learning about the components and tasks involved in the occupation, and occupational safety and health aspects. A column reserved for completion notes allows the apprentice's progress to be monitored.

Source: www.bibb.de/tools/berufesuche/index.php/practice_examples/checklisten_und_muster/ag_RS_Kap2_Muster-betr-AP.pdf (in German)

¹ The source publication was developed by the Community of Practice “Private Sector Cooperation in TVET” within the GIZ Sector Network Assets for Asia. The Community of Practice comprises GIZ staff (international experts, national personnel, integrated experts and development advisers) from the following Asian countries: India, Indonesia, Lao People's Democratic Republic, Mongolia, Myanmar, Pakistan, Sri Lanka, The Philippines, Thailand and Viet Nam.



Tool 4.3.4 A TVET provider training plan template, Australia

The tool provides a template for preparing a training plan for apprentices in Australia. The training plan is developed and maintained by the registered training organization (RTO) in conjunction with the apprentice/trainee and enterprise, and is a live document that is intended to reflect the current status of the apprentice's training.

This training plan fulfils the following purposes:

- describes the responsibilities of the apprentice, enterprise and RTO
- describes what training is to be undertaken and outlines who will provide the training
- specifies how, when and where training will be delivered
- details how the assessments will be carried out and when the apprentice/trainee is deemed competent
- identifies any additional support required for the apprentice to successfully undertake and complete the training.

Source: https://desbt.qld.gov.au/_data/assets/word_doc/0029/7949/srto-training-plan-example.doc

▶ 4.4 Effective training delivery methods



The issue: Why effective training methods are essential for quality apprenticeships

Effective, impactful apprenticeship training often requires a personalized approach, in which each apprentice is seen as an individual with unique training needs. There is no single standardized training method that guarantees the success of apprenticeship programmes. Therefore, both teachers in TVET providers and in-CTs in enterprises should be trained in using a variety of training and teaching methods (see section 3.5). They should choose the training methods that are most appropriate to the specific context and adapt them to the individual needs of the apprentice. The following paragraph lists several effective training methods.

Effective learning methods

The City & Guilds Alliance for Vocational Education recommends the following nine learning methods that work for vocational education (Tool 4.4.4, pp. 12–13).

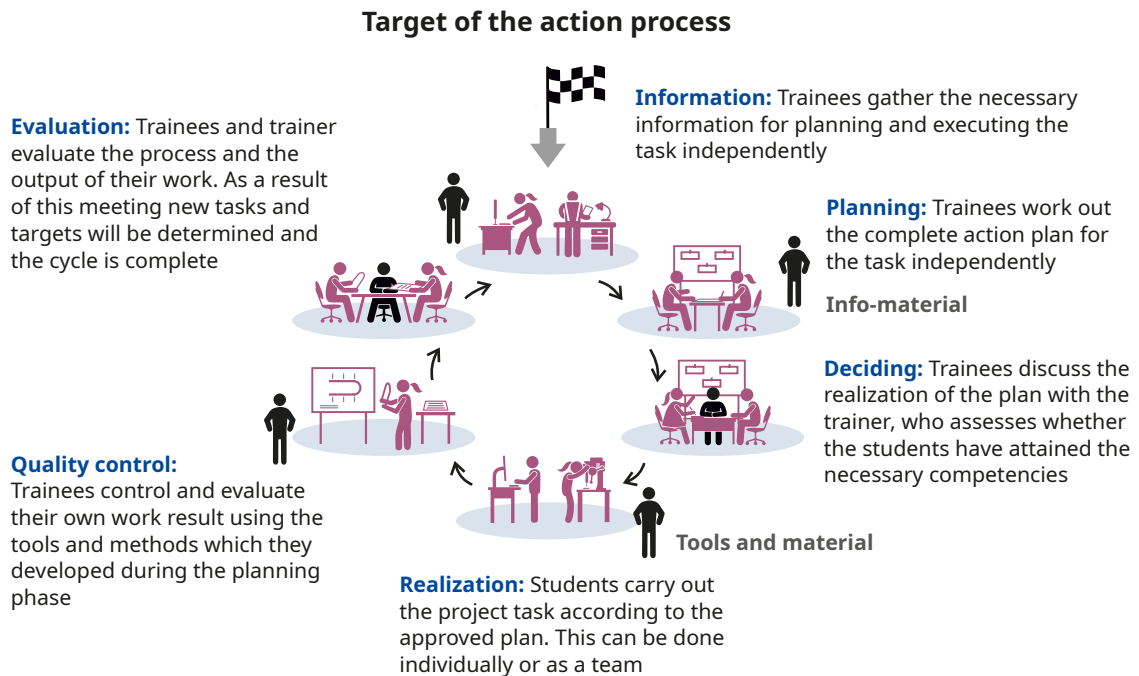
- ▶ *Learning from experts* – by watching and imitating and by listening, transcribing and remembering.
- ▶ *Practising* – through trial and error, experimentation or discovery and deliberate practice.
- ▶ *Hands-on* – by making, by drafting and by sketching.
- ▶ *Applying feedback to learning* – using assessment to inform learning approaches, through conversation, by reflecting and by teaching and helping others.
- ▶ *One-to-one* – by being coached and mentored.
- ▶ *Real-world learning* – by real-world problem solving, through personal or collaborative enquiry and by thinking critically and producing knowledge.
- ▶ *Against the clock* – by competing, through simulation and role play and through games.
- ▶ *Online* – through virtual environments and seamlessly blending virtual with face-to-face learning environments.
- ▶ *Any time* – on the fly. This last category is a simple reminder that much of what apprentices learn is not planned, stressing instead the need for them to be ready to learn. “On the fly” learning is unplanned and informal, the result of an unexpected occurrence from which a lesson can be learned.

Methodologies like the project-based training method, illustrated in figure 4.3, enable more flexible learning, which is especially helpful for allowing apprentices to master complex tasks independently (see also the video link).



Video: *Action-oriented vocational training steps*,
<https://www.bibb.de/govet/en/98265.php>

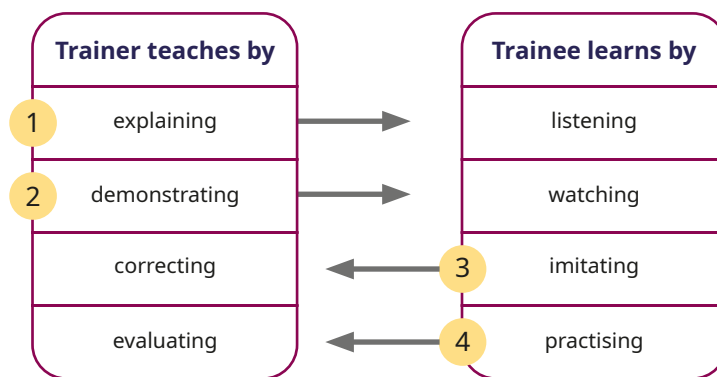
▶ Figure 4.3 The project-based method: learning the complete work process



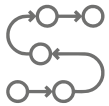
Source: Based on BIBB, n.d.

Another training method used in apprenticeship is the four-step method of training and learning. With the four-step method, a training programme can be developed for a workplace to provide a conducive learning environment for the trainee. As illustrated in figure 4.4, the trainer first explains and demonstrates the training content, as trainees and apprentices learn passively by listening and watching. Apprentices' learning is then strengthened through imitating their trainers. The method requires trainers to provide direct guidance and continuous feedback to apprentices.

► Figure 4.4 The four-step method of training and learning



Source: Authors' own figure, based on information provided by Dr Frank Wenghöfer, Dresden Technical University.



The steps necessary to ensure the relevance and suitability of training and teaching methods

- As discussed in section 2.4 on instructional and learning media, the entity responsible for managing apprenticeship programmes should facilitate the development of instructional media and training methodologies for various apprenticeship programmes.
- The entity should ensure the availability of training programmes for developing the capacity of TVET teachers and in-CTs in using diverse training and teaching methods and instructional media (refer to section 3.4).
- TVET teachers and in-CTs should identify and select a range of training methods for potential use in their apprenticeship programmes. They should adapt the training methods according to apprentices' individual needs and in the context of the particular occupation.
- During the implementation of the enterprise training plan, teachers and in-CTs should evaluate the effectiveness and suitability of the selected training methods and modify them accordingly. They should also provide feedback to the developers of instructional media to ensure the relevance of training and teaching materials.



Tips

- ★ Use the feedback from apprentices to evaluate and improve training and teaching methods.
- ★ The use of modern technology can facilitate the development and implementation of innovative methodologies.



Tools for providing various, effective training and teaching methods

Tool 4.4.1 12 training methods for use by in-company trainers, Germany

This tool presents and explains different teaching methods that can be used by in-CTs so that apprentices can learn in an autonomous, motivated and goal-oriented way. Development of comprehensive competencies (as mentioned in section 3.3) is at the heart of these modules, and these methods aim to teach apprentices problem-solving, communication, teamwork and learning-to-learn skills. The tool supports in-CTs with information on how to create a good learning and working environment to ensure that the apprenticeship is a success for both apprentice and company.

The tool has 12 different learning modules that help in-CTs to master a range of training methods to support them in guiding apprentices.

Source: https://www.foraus.de/de/foraus_111699.php (in German)

Tool 4.4.2 Manual for the instruction of vocational trainers in industrial and technical trades, Afghanistan

The *Reader for Instruction of Vocational Trainers of Industrial and Technical Trades* offers action-oriented information on the planning, implementation and assessment of practical lessons in various industrial-technical vocations.

This tool delivers the latest scientific knowledge for the organization of teaching and learning methods for practical apprenticeship training and the control of the learning process in practice as well as in the complex interaction of didactics and teaching and learning methods. The tasks and questions repeated at the end of each of the five chapters reinforce the lessons learned.

Source: www.giz.de/en/mediacenter/publications.html (enter the title into the search bar)



© ILO



Using and analysing work processes

From the work process to the professional field of action

Creating learning and work tasks

It's in the mix: training and teaching methods

Defining and evaluating skills

Video: *Using and analysing work processes; From the work process to the professional field of action; Creating learning and work tasks; It's in the mix: Training and teaching methods; Defining and evaluating skills,*

https://www.youtube.com/watch?v=jBkPYLGaDsE&list=PLKk3TOS83jk_V34dKa4JtiAY9r14J9zZP&index=2

https://www.youtube.com/watch?v=IJ9_UpNZVYg&list=PLKk3TOS83jk_V34dKa4JtiAY9r14J9zZP&index=3

https://www.youtube.com/watch?v=Y-8jpaWtiyo&list=PLKk3TOS83jk_V34dKa4JtiAY9r14J9zZP&index=4

https://www.youtube.com/watch?v=OfT_ERAQIQ&list=PLKk3TOS83jk_V34dKa4JtiAY9r14J9zZP&index=5

[https://www.youtube.com/watch?v=u8OWcCm274k&list=PLKk3TOS83jk_V34dKa4JtiAY9r14J9zZP&index=6.](https://www.youtube.com/watch?v=u8OWcCm274k&list=PLKk3TOS83jk_V34dKa4JtiAY9r14J9zZP&index=6)

Tool 4.4.3 Lesson planning and action-oriented teaching – a manual for secondary technical schools, Afghanistan

This publication is a lesson-planning guide for teachers, especially those working in secondary technical schools. It provides information on the planning, implementation and evaluation of theoretic vocational lessons, while at the same time describing the necessary scientific background knowledge in the areas of learning psychology, teaching and learning/didactics, the tasks of teachers, and the evaluation of the quality of teaching and learning. It also includes media resources and methodoogies for teaching.

Source: www.giz.de/en/mediacenter/publications.html (enter the title into the search bar).

Tool 4.4.4 Teaching and training methods in apprenticeship: A review of research, United Kingdom

This publication, *Remaking apprenticeships: Powerful learning for work and life*, is a review of the research into the pedagogy of apprenticeships, exploring the art, science and craft of teaching and learning methods for apprentices.

This tool is linked to six proposed learning outcomes for apprenticeships:

- Routine expertise in an occupation.
- Resourcefulness – the capacity to think and act in situations not previously encountered.
- Craftsmanship – pride in a job well done and an ethic of excellence.
- Functional literacies – numeracy, literacy, digital and graphical skills.
- Business-like attitudes – customer- and client-focused, entrepreneurial and aware of the concept of value for money, whether in the for-profit, public or third sectors.
- Wider skills for growth – the dispositions and wider skills for a lifetime of learning and change.

The identified learning methods appropriate to apprenticeships involve: learning from experts, deliberate practising, hands-on learning, feedback which promotes learning, real-world problem-solving, one-to-one coaching and mentoring, competing against the clock and seamless blending of online and face-to-face learning.

Source: www.cityandguilds.com/-/media/documents/what-we-offer/apprenticeships/remaking-apprenticeships_final-pdf.ashx.

Tool 4.4.5 Approaches to effectively engage apprentices and students to lower the drop-out rate, NetWBL

Building on successful practices, tools and approaches for the prevention of student drop-out, partners from six European countries came together in the “tune in!” project with a view to disseminating information on all such successes. The “tune in!” toolbox contains practical examples of exercises that can be used by teachers and trainers and has a notably practical focus (learning by doing). Notably, a set of associated guidelines has been produced for those new to the subject of educational drop-out. Materials (toolbox and guidelines) can be accessed in English and all six partner languages and form a useful and practical addition to occupational and transferable learning materials.

Source: www.wbl-toolkit.eu/index.php?id=51



Tool 4.4.6 A digital platform providing online apprenticeships and career coaching services for apprentices, France

Openclassrooms is a platform that provides the off-the-job training component through online learning. Video courses and real-life projects are always accessible, allowing apprentices to work wherever and whenever happens to fit into their schedules. The Openclassrooms apprenticeship programmes include weekly, one-to-one mentorship sessions with a dedicated professional in each field, supporting apprentices through their programmes.

Apprentices can earn bachelor’s and master’s-level diplomas in web development, data, IT and project management, among other subjects. They can also develop crucial soft skills, such as working effectively in teams, public speaking and learning how to learn efficiently.

Source: <https://openclassrooms.com/en/>



▶ 4.5 Monitoring, assessment and certification

A comprehensive, credible mechanism for monitoring and assessing apprentices' performance is an indispensable component of all quality apprenticeship programmes. It is crucial for ensuring apprentices' progress and establishing that they are on the right track to attain the required competencies to complete the programme (see box 4.3).

Box 4.3 Monitoring apprenticeships, South Korea



In South Korea, monitoring of apprenticeships starts from the selection of the participating company and proceeds until the completion of the training. It covers overall work, such as preparation for training, apprentice recruitment, treatment of and working conditions for apprentices, teaching methods, management, assessment and certification, and the use of HRD-Net – Vocational and Information Network.

Source: Kang, Jeon and Lee, 2017.

Assessment is usually divided into two categories with different objectives: formative and summative assessment. Summative assessment (also known as assessment *of* learning) refers to final assessments (including tests and examinations) after the completion of the apprenticeship programme. It is used to determine whether apprentices have achieved the learning outcomes of the programme or competency standards that would make them eligible for the intended qualification. Formative assessment (also referred to as assessment *for* learning), by contrast, draws on information gathered at frequent intervals throughout the learning process, with the aim of identifying specific learning needs and adjusting training and teaching accordingly (Looney, 2011).



The issue: Why formative assessment is important for quality apprenticeships

Through formative assessment, the learning progress of apprentices can be monitored continuously throughout the apprenticeship programme. More specifically, it allows enterprises and TVET providers to:

- ▶ be fully informed about the learning and training of apprentices in various training venues, and whether they encounter any challenges during their training period
- ▶ improve the coherence of on- and off-the-job training offered by enterprises and TVET providers, respectively, in different training venues



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- ▶ enhance apprentices' awareness and understanding of the expectations of the programme and of their progress
- ▶ identify the strengths and weaknesses of individual apprentices, and provide the required support to improve their learning and performance
- ▶ identify apprentices who are falling behind or at risk of dropping out and introduce individual support measures as appropriate
- ▶ make an informed decision on whether to offer the graduating apprentice a job
- ▶ modify and adjust the programme to strengthen its benefits for all parties involved.

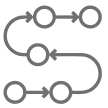
It is important to keep in mind that monitoring of apprentices should not be regarded as a control measure or as a means of eliminating weaker apprentices during the programme, but rather as a support instrument for ensuring the success of apprenticeship programmes for all.



The issue: Why the summative assessment and certification system is important for quality apprenticeships

Summative assessment evaluates whether an apprentice has achieved the learning outcomes or competency standards prescribed for a programme. As these learning outcomes are based on the occupational standards, the qualification received by apprentices on completion of their programme demonstrates that they have gained the required competencies to work in that occupation. It is important to ensure that the assessment process is of high quality, reliable and fair, and involves social partners, so that employers can confidently place their trust in it and value the qualification acquired by apprentices in their recruitment process, thereby improving the prospects of apprenticeship graduates in the labour market.

The qualification awarded to apprentices should be an integral part of the education and training system of the country and allow further education and training opportunities for apprenticeship graduates.



The steps needed to implement the monitoring, assessment and certification mechanism

The implementation of assessment requires the collaboration of various stakeholders, such as quality assurance bodies, employers' and workers' organizations, enterprises and TVET providers. The steps listed below illustrate the roles of the different actors in monitoring and assessing apprentices' learning progress.

- ▶ Employers' organizations can play a leading role in raising awareness about the importance and benefits of an effective monitoring and assessment system for apprenticeships. They can also provide support for enterprises to strengthen their monitoring and assessment capacity.
- ▶ Quality assurance bodies and the entities responsible for assessment should develop a mechanism for monitoring and assessment with the involvement of all stakeholders. Apart from clearly defined learning outcomes and assessment criteria, they should also specify the roles and responsibilities of relevant stakeholders.
- ▶ Enterprises can develop a performance appraisal sheet for evaluating apprentices' performance based on a set of criteria (refer to Tool 4.5.1). The evaluation criteria should cover both occupation-specific technical skills and generic, transferable skills that support occupational mobility and career development.
- ▶ In-CTs, supervisors or mentors should conduct regular monitoring interviews with apprentices to review their learning progress and achieved outcomes after each in-company training sequence and introduce supporting measures if necessary. Apprentices can also carry out self-evaluation of their performance, which is later discussed with their in-CTs or mentors to agree on a joint evaluation.
- ▶ In-CTs and teachers of TVET providers should keep track of what apprentices have learned and the activities that they have carried out on a daily basis during their on- and off-the-job training in an apprentice training logbook (see box 4.4). This information allows TVET teachers to offer teaching that supports apprentices' practical activities at the enterprise, while also enabling in-CTs to build on the theoretical knowledge that apprentices have acquired at TVET providers when assigning work tasks to complement apprentices' off-the-job learning content. A well-maintained logbook can also constitute a requirement for the final assessment.
- ▶ The quality assurance body or entity responsible for assessment should set up an examination committee to design and implement summative assessments covering both practical and theoretical aspects of on- and off-the-job training according to the occupational profile and the learning outcomes of the programmes. The committee should be composed of representatives from employers' and workers' organizations and TVET providers, and it might act on behalf of a credible and well-respected institution, such as an employers' organization, chamber or TVET agency.
- ▶ It is usually the responsibility of the quality assurance body to award the qualification to apprentices who successfully completed the assessment.

Box 4.4 Apprentices' logbooks

Many apprenticeship schemes involve logbooks, maintained by the apprentices, in which they note down the tasks they have performed and reference relevant documents, photographs of finished products, etc.

Logbooks are used in various ways:

- to direct apprentices' attention towards what they need to achieve
- to encourage them to reflect on their performance
- to record key stages of achievement for assessments of progress, or to count towards formal qualifications.

Source: ILO, 2018.

Box 4.5 Use of transparency in assessment

In South Korea, resources and documents related to external evaluation are open to the public on the apprenticeship website (www.bizhrd.net). Companies and apprentices can refer to the website to prepare for the evaluation.

Source: Kang, Jeon and Lee, 2017.

**Tips**

- ★ Giving a leading role to employers in the assessment process and involving industry experts as examiners can help to ensure the credibility of the certification.
- ★ A clear distribution of responsibilities, effective communication and close cooperation between the enterprise and the TVET institution, as well as a detailed feedback and evaluation mechanism for monitoring apprentices' progress are all essential features for the successful delivery of apprenticeships.



Tools for implementing a training assessment and monitoring system

Tool 4.5.1 A guide for monitoring and assessing apprentices' performance, United States

The *Employer's playbook* offers a "how to" guide for monitoring the apprenticeship programme's performance, to ensure that the programme works well and delivers the expected outcomes. It includes sections on the assessment of participants' success, training impact and support structures, as well as the evaluation of the programme and mid-programme adjustments. An example of an apprentice evaluation report can be found here:

www.themanufacturinginstitute.org/Hidden/~-/media/CBE15B009AA745F496C3BBAAD21286F6.ashx

Source: *Employer's playbook for building an apprenticeship program*, p. 83:

www.themanufacturinginstitute.org/~-/media/53456D700856463091B62D1A3DA262F4/Full_Apprenticeship_Playbook.pdf



Tool 4.5.2 Online mock tests and online assessment, India

In India, theory part of assessment of apprentices is conducted online, while the practical test is conducted by the employer at the shop floor premises. National Instructional Media Institute (NIMI) has developed a tool that allows apprentices and trainees to take mock tests on an online platform, to help assess and broaden their knowledge and skills and prepare for the theory examination. The test questions have three levels of difficulty to assess knowledge, functional understanding and problem-solving skills, and include pictures to test the practical understanding of the trainees.

The results are generated automatically at the end of the test and show correct answers with explanations, allowing apprentices/trainees not only to assess their knowledge, but also to study for the summative assessment. Finally, apprentices take part in an online summative assessment for all theoretical subjects.

A sample mock test can be found here:

<http://nimionlinetesting.in/moodle/moodle/course/view.php?id=11>

Source: <http://nimionlinetesting.in/moodle/moodle/>

Tool 4.5.3 An apprenticeship logbook, Bhutan

This apprentice logbook provides users with a record of the status of an apprentice's skills and knowledge; how, when and where these skills and knowledge have been gained; and who has been involved in providing and assessing the training.

This tool includes sections on the following aspects: instructions on maintaining the logbook, keeping a record of daily activities, attendance sheets and performance assessment forms.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254638

Tool 4.5.4 An apprenticeship logbook, Denmark

This tool provides an example of an apprentice logbook for a carpentry apprenticeship. The logbook, which should be completed jointly by the apprentice and the company, includes evaluation forms that contain a number of tasks relevant to the apprentice's development of specific job-related competencies, with five levels of assessment – from apprentice's lack of knowledge and skills in a given area to the ability to independently plan and execute the assignment.

In addition to the employer assessment, a special activity list is provided for the apprentice to indicate their familiarity with profession-related sub-topics listed under technical themes. This provides the apprentice and the enterprise with an overview of the apprentice's general level of skills.

Source: www.bygud.com/media/2030/carpenter_log_book.pdf

Tool 4.5.5 Sample logbook, Asian countries¹

This tool provides a template for a logbook that can be used by an enterprise and apprentices for the on-the-job training component of the apprenticeship (refer to annex 12 of the tool).

Source: GIZ (2017) *Down to earth: A practitioner's guideline to work with business and industry in TVET*.
https://sea-vet.net/images/seb/e-library/doc_file/311/giz2017down-to-earthguideline-version-2.pdf

**Tool 4.5.6 Mobile logbook, British Columbia**

In British Columbia, apprentice and trainee crane operators use a mobile logbook called SkillRecord to record and demonstrate their work experience and competencies.

The mobile logbook allows users to log hours worked, tasks performed and equipment used, and makes it easy to add photographs to the logbook entries. It automatically summarizes logbook entries by employer, equipment and other criteria, providing a broader, more complete picture of apprentices' experience and skills. Finally, SkillRecord also allows apprentices to view their logbooks, thereby facilitating collaboration and peer-to-peer learning.

Source: <https://bccranesafety.ca/logbook/>
<https://skillrecord.com/british-columbias-apprentices-embrace-mobile-logbook/>

¹ The source publication was developed by the Community of Practice "Private Sector Cooperation in TVET" within the GIZ Sector Network Assets for Asia. The Community of Practice comprises GIZ staff (international experts, national personnel, integrated experts and development advisers) from the following Asian countries: India, Indonesia, Lao People's Democratic Republic, Mongolia, Myanmar, Pakistan, Sri Lanka, The Philippines, Thailand and Viet Nam.

Tool 4.5.7 Model documents for reporting on apprentice performance, Switzerland

This assessment form is used for the training report and indicates the level of progress achieved by the apprentice, at least once each semester.

The apprenticeship trainer and apprentice discuss the content of the training report, which includes the assessment of technical, methodological, social and personal competencies, as well as a section to be filled in by the apprentice, with a focus on technical and methodological competencies, working atmosphere and level of personal encouragement with the programme.

Source: The training report form: http://vpvet.ch/dyn/bin/21423-23926-1-bildungsbericht_eg_2016i.pdf

Guide to using the form: http://vpvet.ch/dyn/bin/21423-23927-1-infoblattbb_eg_2016.pdf

Tool 4.5.8 Rules and conditions for formative and summative assessment, South Africa

This tool from South Africa offers the necessary policy support and assistance for developing, organizing, structuring and implementing an assessment framework for the National Certificate (Vocational).

The tool provides rules and conditions related to conducting, managing and administrating continuous assessment and external examinations. It describes the rights of all those involved in the assessment process, including officials involved in the administration of the assessment, apprentices, parents and institutions that make use of assessment results.

Source: www.dhet.gov.za/FET%20College%20Examination/Other%20TVET%20College%20Examination%20Documents%201/1Policy%20on%20the%20conduct%20of%20exams%2030287%20of%2012%20september%202007%20PDF.pdf

Tool 4.5.9 Assessment and certification system, Denmark

In Denmark, exams must reflect the goals and objectives of each programme. Consequently, exams vary from programme to programme, and include oral, written, oral based on projects (project based assessment) and a journeyman's test.

Tests and exams are typically organized by the VET College. The trade committee is responsible for the journeyman's test, although the actual test is agreed in cooperation between the trade committee and the VET College.

After successful completion of the requisite school period, participants receive a school certificate (skolebevis), and after completion of the whole programme, apprentices receive an education certificate, which includes the school certificate, the placement certificate, a letter of trade and, if appropriate, the journeyman's certificate. The education certificate confirms that the apprentice is a skilled worker and can be employed accordingly.

Source: www.apprenticeship-toolbox.eu/?id=89:examination-certification-in-denmark

Tool 4.5.10 How final assessment is organized, Switzerland

In Switzerland, “qualification procedure” is the generic term for all final assessments in vocational training, and it can take the form of a single examination, several partial examinations or other qualification procedures that are separately recognized by federal authorities (SERI). Each vocational programme is regulated by a federal ordinance, which includes the requirements for the qualification procedure to be deemed successful. In most programmes, the work-based training is assessed through pre-assigned examination projects and/or individual practical projects.

- Pre-assigned examination project – the defined examination tasks are set by the professional organization and are the same for all learners in the region. These examinations can be held either centrally (e.g. in a training centre) or in the respective host companies and are conducted at the same time for all candidates.
- Individual practical project – the learner completes an individual practical project at his or her workplace in accordance with a real work task established by the employer. The candidate’s supervisor drafts a document describing the task to be examined (with the learner’s assistance) and submits it to be assessed by the board of examiners. After the completion of the project, it is reviewed by the supervisor, who then suggests an assessment. During an expert discussion, the candidate presents his or her project to the board of examiners. The board and the supervisor reach an agreement on the final grade to be awarded for the work done.

Source: <http://qv.berufsbildung.ch/dyn/1579.aspx>
www.berufsbildung.ch/dyn/11007.aspx?lang=FR&action=detail&value=6&lex=1



Tool 4.5.11

How examiners for the apprenticeship final assessment are chosen and trained, Switzerland

In Switzerland, examiners are appointed by the cantonal authority (local government) on the recommendation of the professional associations. Their mandate is to prepare and conduct all or part of the examinations.

Examiners are qualified people recruited from among those responsible for delivering training in companies and vocational schools. They must hold at least the federal certificate of competence of the professional field in which they work as experts or have an equivalent qualification. The experts should be trained in their professional field and have adequate pedagogical, methodological and didactic know-how. They are trained in courses provided by the Federal Institute for Vocational Education and Training (SFIVET) in collaboration with the cantons and labour organizations.

The *Handbook for experts on qualification procedures for initial vocational training* is the reference work for carrying out qualification procedures. Published by the SFIVET, the manual was developed in collaboration with the Swiss Service Centre Vocational Training (SDBB) and vocational training partners. It contains approaches and solutions for the preparation, implementation and evaluation of qualification procedures at upper secondary level and is suitable for all specialists who become examiners.

Source: SFIVET's basic and continuous courses for examiners:
www.iffp.swiss/expertes-et-experts-aux-examens

Link to the handbook for examiners (available in French, German and Italian):
<http://pq.formationprof.ch/dyn/7236.aspx>

Tool 4.5.12

How final assessment is organized, Germany

In Germany, the final examination is regulated in the respective occupational ordinance and the competent bodies, which are usually the chambers, play an important role.

The final examination in this example of the qualification for an electronics technician for industrial engineering consists of two parts:

- Part 1 takes place before the end of the second year of training. The examination consists of a complex work-related task, situational oral examination elements and written tasks.
- Part 2 of the final examination comprises tasks related to the following aspects: company order; system design; function and system analysis; and business and social studies. Attention is also given to VET, employment and collective wage agreement law, the structure and organization of the company providing the training, health and safety at work, environmental protection, company and technical communication, planning and organization of work, evaluation of results, quality management and assessment of the safety of electrical plant and equipment.

Source: [www.bibb.de/dokumente/pdf/ElektronikerIn\(1\).pdf](http://www.bibb.de/dokumente/pdf/ElektronikerIn(1).pdf)

▶ 4.6 Social inclusion



The issue: Why social inclusion is an essential component of quality apprenticeships

Apprenticeship can be a powerful and reliable pathway for people from all kinds of backgrounds to obtain the competencies required to access decent jobs and pursue rewarding careers. For enterprises, inclusive apprenticeships enable access to a wider pool of talent and create a positive image of the enterprise (see box 4.6).

Box 4.6 Refugees in apprenticeships, Germany



In 2016, Nestlé Germany launched the “Nestlé helps” initiative to provide emergency aid and strengthen the integration of refugees. One of the goals of the programme is to provide access to work and help to integrate young refugees into the labour market through apprenticeships and internships. Initially, 20 young people will be offered apprenticeships and 25 have already completed internships. In addition to the actual training, Nestlé covers the costs of necessary language courses.

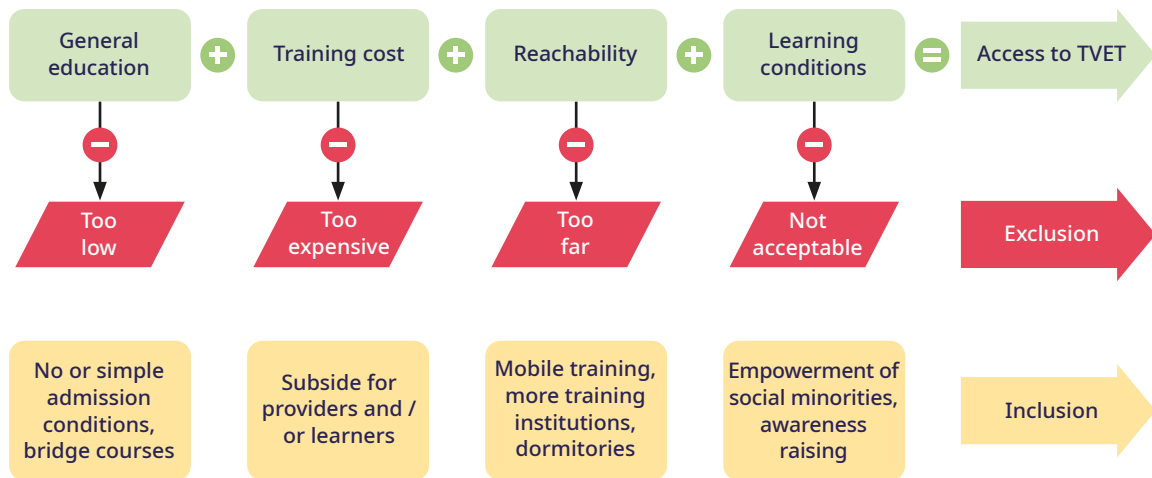
Source: Information collected and provided by GAN Global; <https://www.nestle.de/medien/news/nestle-hilft>

Inclusiveness in apprenticeships needs targeted approaches to offer equitable opportunities to all sections of society in the recruitment process, while supporting apprentices’ successful programme completion, regardless of their social and educational background. However, multiple challenges currently undermine the goal of inclusiveness; for example, minimum entry requirements for apprenticeships that may render many candidates ineligible; insufficient opportunities and/or inadequate provision for persons with disabilities and those living in rural and remote areas; gender biases. Figure 4.3 illustrates some of the inclusion challenges that arise in TVET and apprenticeship programmes.

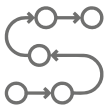
In addition to overcoming the challenges in terms of access, apprentices, especially the younger ones, may need targeted support to successfully complete the apprenticeship programme. It is worth noting that vulnerable young people are more likely to struggle to complete their apprenticeship than an average apprentice. While the drop-out of an apprentice commonly results in a weak labour market outcome for the individual, it is also costly for the employer who has invested in recruiting and training that apprentice (OECD, 2018a).

Furthermore, programmes designed for apprentices with disabilities are required to address some specific issues. An example from Brazil is given in Toolkit 1, box 39.

► Figure 4.5 Inclusion challenges in TVET and apprenticeship



Source: Based on Kehl et al., 2019.



The steps needed to ensure inclusion in apprenticeship programmes

- Each enterprise, in consultation with workers' organizations, may develop a strategy for inclusiveness that is in line with national policies as well as its own vision. The strategy may include the following aspects:
 - » setting targets for increasing the participation of disadvantaged or under-represented groups
 - » sensitizing and training staff, particularly those responsible for apprenticeship recruitment, supervision and mentoring, about the importance and benefits of promoting inclusiveness, paying special attention to women, persons with disabilities, migrants and other vulnerable groups
 - » offering additional support and mentorship to apprentices who are at risk of dropping out
 - » providing targeted guidance services, in cooperation with organizations that represent or support disadvantaged or under-represented groups, both before and during an apprenticeship
 - » strengthening outreach activities to prospective apprentices from disadvantaged or under-represented groups organized by career guidance counsellors, education providers, enterprises and employers' and workers' organizations.
- Enterprises should ensure effective induction of young persons in the workplace and take measures to prevent discrimination and harassment at work.
- The appropriate regulatory body should assess the inclusiveness of apprenticeships and take corrective measures, if needed.



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Tips

- ★ To ensure inclusiveness in apprenticeships, a combination of approaches is required at macro, meso and micro levels. While practitioners can take action at the micro or meso levels, policy-makers need to promote an enabling environment at the macro level, through developing effective policies and incentivizing enterprises to ensure inclusiveness. These issues are discussed further in chapter 10 of Toolkit 1.
- ★ To raise awareness of the importance and benefits of inclusiveness in apprenticeships, case studies on successful apprentices from disadvantaged backgrounds should be promoted.
- ★ The following measures can help to promote social inclusion in apprenticeships:
 - ▶ *Pre-apprenticeship programmes*, designed to accommodate a wide range of learners from diverse educational and social backgrounds, provide them with the full range of competencies needed to move on to a regular apprenticeship. Some examples are given in Table 6.1 in module 6.
 - ▶ *Support measures during an apprenticeship*, designed to ensure that apprentices who struggle at various stages of an apprenticeship receive targeted assistance, allowing them to complete their programme successfully.



Tools for social inclusion in apprenticeships

Tool 4.6.1 Integrative apprenticeships for learners with special needs, Austria

In Austria, integrative apprenticeships (IBA) are designed for learners with special needs, those with disabilities and those without a basic school-leaving certificate. Characteristics of integrative apprenticeships include the following:

- Longer completion period or partial qualification option: Participants can take longer to complete the programme (by one or two years) or obtain a partial qualification in one to three years.
- Training assistance: The IBA programme supports apprentices throughout their training, both during placement with the training company and at school. Training assistance has both a coordinating and a support function. Most training assistants have a special education background and come from organizations for disadvantaged youth. When IBA takes place at a training company, training assistants are in charge of administrative tasks, define the content of the training agreement between the apprentice and the training company, prepare/sensitize the company employees in advance of the arrival of the apprentice and find a person to offer initial support, and register the apprentice at the vocational school. Subsequently, training assistants act as mediators, provide tutorial support and design the final exam for the partial qualification pathway. When IBA takes place at a supra-company training centre, training assistance is provided by the centre's social worker.

Source: www.oecd.org/education/skills-beyond-school/Work-based_Learning_For_Youth_At_Risk-Getting_Employers_On_Board.pdf

Tool 4.6.2 Guidance on how to make apprenticeships and workplace learning inclusive for those with disabilities, ILO

This ILO tool gives an overview of the concept and role of disability-inclusive apprenticeships and workplace learning and focuses on practical approaches to implementing these schemes. It also details policy recommendations for governments, skills development institutions, employers and other stakeholders – including workers' organizations and those for persons with disabilities – for creating a more enabling environment. The publication includes examples from around the world which demonstrate how disability-inclusive apprenticeships and workplace learning can be put into practice.

Source: www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_633257.pdf

Tool 4.6.3 A special, shorter apprenticeship programme for vulnerable youth, Switzerland

In Switzerland, special two-year apprenticeship programmes can be offered to young people aged at least 15 years old who have completed lower secondary education, who are at risk of dropping out of education and training and/or who are struggling to obtain a “regular” three- or four-year apprenticeship.

The programme is provided in around 60 occupations. Programmes are organized like regular apprenticeships and include on-the-job training and time spent in a vocational school. Typically, one day per week is spent in school, with the optimal class size considered to be 12 students. Apprentices in this special programme are offered individual support, including one-to-one tutoring, remedial courses and support from in-CTs. On completion of the special programme, progression to three- or four-year apprenticeships is possible (based on national or canton level regulations).

Cost-benefit analysis of the two-year apprenticeships shows that, on average, participating enterprises manage to break even financially by the end of the programme, so these schemes can appeal to employers, as well as meeting the requirements of social inclusion.

Source: www.oecd.org/education/skills-beyond-school/Work-based_Learning_For_Youth_At_Risk-Getting_Employers_On_Board.pdf

Tool 4.6.4 Tools for the identification of apprentices who are at risk of dropping out and guidance for trainers, VET teachers and parents on dealing with this situation

The project QuABB (Capacity building for apprentices, companies and vocational schools involved in apprenticeship training) provides a set of tools for the identification of apprentices who are at risk of dropping out and offers guidance to trainers, VET teachers and parents on handling this situation. The early warning toolkit contains a collection of 30 tools for apprentices, in-CTs and VET teachers. The mood barometer is an indicator used to capture a snapshot of the emotional status of the class and enable teachers to enter into conversation with those apprentices experiencing negative moods.

Source: <https://www.cedefop.europa.eu/en/toolkits/vet-toolkit-tackling-early-leaving/resources/qualifizierte-ausbildungsbegleitung-betrieb> (in German)

▶ 4.7 Checklist

By completing the following checklist, readers of this Toolkit can revisit the key elements involved in the organization of apprenticeship training and also carry out a rapid assessment of the functioning of related systems. It will assist readers to identify the elements that could be improved and to assess whether additional measures are needed.



Organizing quality apprenticeship programmes	Yes	No	Needs improvement	Remarks
Are all stakeholders involved, through social dialogue, in developing a communication strategy to promote apprenticeships?				
Are youth groups involved in the development of promotional activities for apprenticeships?				
Is the communication strategy effective in engaging different target groups by taking their specific needs into account?				
Can prospective apprentices obtain adequate information about the benefits of participating in apprenticeships?				
Are employers responsible for hiring apprentices?				
Is there a company training plan that specifies the details of on-the-job training and identifies the responsible supervisors or mentors at the company?				
Is the company training plan part of the apprenticeship agreement?				
Is there a rotation plan across different departments within the company for enriching and diversifying apprentices' learning experiences?				
Is there a mechanism for resolving conflicts and settling disputes in the event that problems arise?				
Is the learning content sufficiently well-coordinated between the TVET providers and employers to achieve effective learning progress?				
Have TVET providers and employers reached an agreement on the distribution of on- and off-the-job training periods?				
Is there a systematic assessment mechanism that encourages and supports apprentices' learning progress?				

Organizing quality apprenticeship programmes	Yes	No	Needs improvement	Remarks
Is there a method whereby TVET providers and employers can exchange information about the learning progress of apprentices?				
Do apprentices use a logbook to document their learning progress? If so, do logbooks facilitate the exchange of information on apprentices' learning progress between TVET providers and employers?				
Is there a clear agreement on how the costs of apprentices' assessment should be shared between different stakeholders?				
Are workers' and employers' organizations involved in the design of apprentices' assessment?				
Do employers play a leading role in the assessment of apprentices' learning?				
Do the assessment criteria align with the relevant occupational profile and curriculum?				

The questions to which readers have answered “No” or “Needs improvement” point to gaps where measures to improve or strengthen the organization of apprenticeship training in their contexts should be considered. It is important to keep in mind that the involvement of social partners, including workers' and employers' organizations, in the design, development and implementation of apprenticeships, is a key factor for the success and sustainability of apprenticeship programmes.



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

► Post-training transitions and evaluation



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ILO Toolkit for Quality Apprenticeships

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- Module 2 Developing quality apprenticeship programmes
- Module 3 Preparing quality training places
- Module 4 Organizing apprenticeship training
- ▶ **Module 5 Post-training transitions and evaluation**
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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



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APPRENTICE PROGRAM

Celebrating 10 years
through skills



▶ Post-training transitions and evaluation

[A]pprenticeships [are] a way to guarantee skills and to help our employees cope with the onset of AI (Artificial Intelligence). Apprenticeships boast a strong track record of return on investment for both business and the apprentice's career track.

Alain Dehaze (The Adecco Group CEO), 16 January 2018

This module considers the processes that follow the completion of an apprenticeship – apprentices' transition into working life or further education and training, as well as the evaluation of apprenticeship programmes. It has two sections as follows:

Post-training transitions and evaluation

▶ Transition to the labour market or into further education and training

▶ Evaluation of quality apprenticeship programmes

▶ 5.1 Transition to the labour market or into further education and training



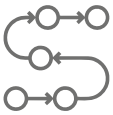
The issue: How to facilitate a smooth transition to the labour market or into further education and training

The primary goal of apprenticeships is to facilitate apprentices' smooth transition to the labour market and enable them to access decent employment. While many apprenticeship graduates are hired by the enterprise in which they completed their training, some of them may search for jobs in other enterprises, plan to start their own business or pursue further education and training. Therefore, support for apprenticeship graduates should be provided by various entities, such as employment services, in relation to job search, CV writing and job interview skills. Graduates seeking to start their own businesses also need to develop entrepreneurial and management skills, including how to formulate business ideas and access business development services, both financial and non-financial.

As some apprenticeship graduates may aspire to higher level qualifications, countries should ensure that their formal education and training system provides effective pathways for progression from apprenticeship qualifications to higher education or further training. This has become especially relevant in view of the fast changes taking place in the world of

work. The permeability between apprenticeships and other education and training systems is increasingly important as individuals need to reskill and upskill continuously throughout their working lives to adapt to the ongoing labour market transformations.

Mr Johann N. Schneider-Ammann, former Swiss President, speaking at the International Congress on Vocational and Professional Education and Training, referred to permeability as a key element of the success of the Swiss education system. He stated that permeability occurs in two directions: laterally, between the academic and vocational education paths, and from the bottom up, with opportunities for lifelong learning and promotion, and that no qualification leads to a dead end.



The steps needed to ensure a smooth transition to the labour market or into further education and training

- ▶ The lead entity managing apprenticeship programmes should identify organization(s), through social dialogue, to take responsibility for developing and offering post-training employment services to apprenticeship graduates. Public and private employment services usually provide services that can be complemented by the career offices of TVET providers as well as by employers' organizations and local and sectoral industry associations.
- ▶ Enterprises and TVET providers should provide information to apprentices about employment services providers and job portals that offer job-matching services for apprenticeship graduates and potential employers.
- ▶ The skills needed for job search, CV writing, interview and entrepreneurship should be integrated into apprenticeship curricula, so that apprentices are equipped with the relevant skills for entering the world of work on completion of their programme.
- ▶ Enterprises and TVET providers should link apprenticeship graduates who are seeking to start their own businesses with financial and non-financial business development service providers, as well as public and private entities that support SMEs.
- ▶ TVET providers should advise apprentices on how to access further education and training. At the same time, policy-makers should ensure that the national education system allows easy access to further education and training for apprenticeship graduates (see boxes 5.1 and 5.2).



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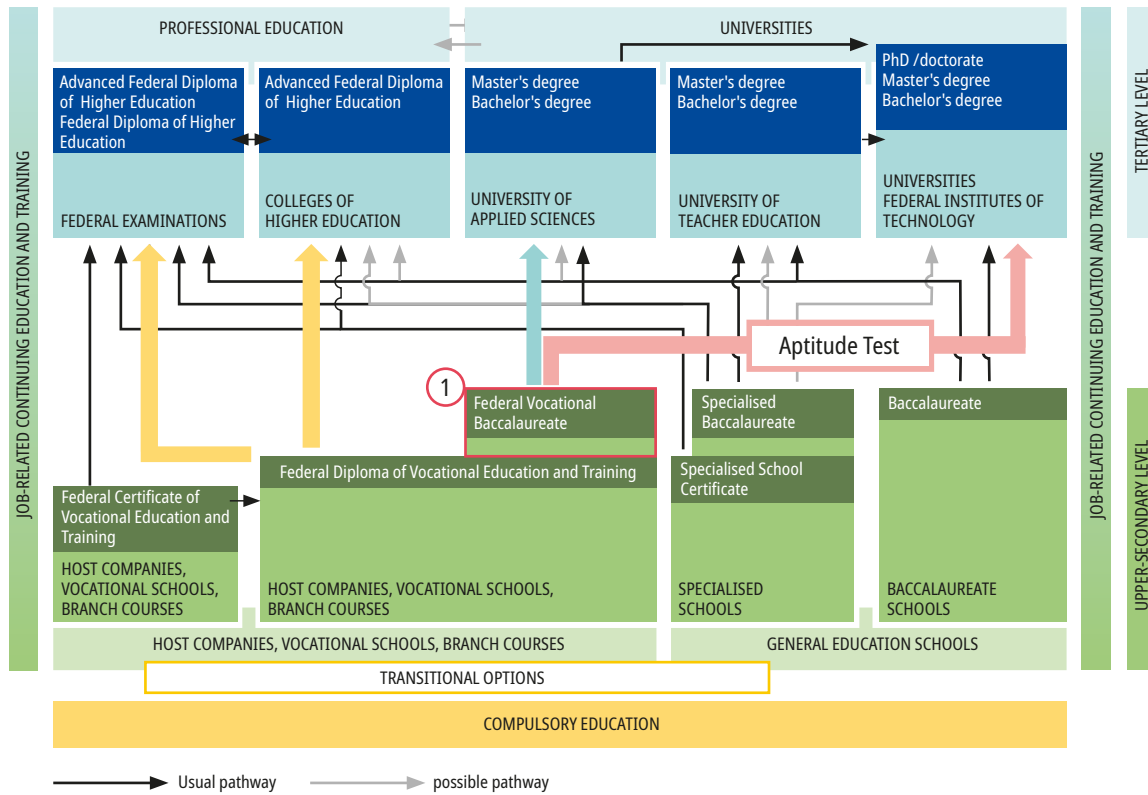
Box 5.1 Pathways to qualification



UNESCO has established recommendations to improve the pathways for all those pursuing initial vocational qualifications, while a recent UNESCO report describes the potential obstacles, and the many ways in which countries around the world are seeking to overcome them (Field and Guez, 2018). The report offers some examples of how such pathways can work in contexts where TVET students are given options to pursue simultaneous study, so that they are able to access higher education.

- *In Brazil*, there are two models – academic and vocational courses may be pursued as one programme in the same upper secondary school. In addition, general upper secondary students may pursue a simultaneous technical programme in a separate school.
- *In Denmark*, the EUX programme combines workplace training with academic classwork, so that students end up with both a skilled worker’s certificate and an academic qualification granting access to higher education.
- *In Switzerland*, as illustrated in figure 5.1, upper secondary VET students can opt to pursue a general education qualification (the Federal Vocational Baccalaureate (FVB), shown as number 1 in the figure) in parallel with, or following completion of, their TVET programme. The FVB grants them access to universities of applied sciences (blue arrow), which take half of their students from the VET system. Holders of the FVB can also take the University Aptitude Test, which grants them access to a university or federal institute of technology, such as ETHZ or EPFL (orange arrow).

▶ **Figure 5.1 Pathways of vocational and professional training in the Swiss system**



Source: Adapted from SERI, 2019.

Box 5.2 Post-apprenticeship qualification, Germany and Austria



In Germany and Austria, the “Meister” qualification, obtained through an examination, allows apprenticeship graduates to pursue a higher level qualification that includes a combination of occupation-specific technical skills, entrepreneurial skills and skills for mentoring and training apprentices (refer to Tool 5.1.4). In this way, the Meister qualification provides strong support to the apprenticeship system. First, it opens up more options for apprenticeship graduates, clearly signalling that an apprenticeship is not a dead end, and, second, it supports the apprenticeship system more broadly by equipping apprenticeship graduates with the skills needed to guide future apprentices.



Tools for ensuring a smooth transition to the labour market



Tool 5.1.1 Information on apprenticeship opportunities and post-apprenticeship pathways, Switzerland

The national Swiss portal www.orientation.ch provides comprehensive information on post-apprenticeship pathways and opportunities, helping apprenticeship graduates in the transition to the labour market or into further education and training. It offers guidance on how to become self-employed and how to start a business and highlights important points to consider beforehand, as well as detailing legal requirements and procedures.

The website offers information and links on apprenticeship and other helpful tools to aid career choices, helping users to find their way through the multiple programmes and pathways of vocational education and training. It shows apprentice opportunities in a given area and occupation, including a description of tasks, education and training pathways, and career progression via further education and training.

Source: www.orientation.ch/dyn/show/1418?lang=fr (available in German, French and Italian)

Tool 5.1.2 How to design, plan, implement and evaluate an employment fair, ILO, Egypt

This tool seeks to enhance the capacity of national and local level institutions to support jobseekers, including apprentices, in their quest for employment. It documents the experiences that the ILO has gathered in supporting public employment service offices in planning and implementing employment fairs. Its main goal is to serve as a reference for staff in public employment service offices and members of local career guidance taskforces that are partners in the organization of employment fairs.

Source: www.ilo.org/wcmsp5/groups/public/---africa/--ro-addis_ababa/---sro-cairo/documents/publication/wcms_561931.pdf



Video: *ILO's Start and Improve Your Business (SIYB)*,
www.youtube.com/watch?v=v8_b3jQvVkM#action=share

Tool 5.1.3 **Guide to starting and improving a business, ILO**

This guide is intended as a practical tool to support the implementation of the Start and Improve Your Business (SIYB) programme. It provides step-by-step guidance for the successful introduction of SIYB in a given context, from carrying out an initial market assessment to planning for sustainability. SIYB has four training packages that correspond to the stages of business development:

- Generate Your Business Idea
- Start Your Business
- Improve Your Business
- Expand Your Business.

Source: www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_315262.pdf

Tool 5.1.4 **The master craftsperson qualification – higher level vocational qualifications for graduate apprentices, Germany**

The traditional further qualification for an apprentice, after several years of work experience, is the master craftsperson qualification. Master craftsperson qualifications offer a higher vocational education which is quite different from university education. In Germany, individuals with an industrial master craftsperson qualification hold key positions in companies. Straddling the worlds of planning and production, they act as intermediaries between production workers and management, and their qualifications prepare them for serving as specialists, trainers and leaders in their field. Their core tasks are focused on technical and organizational areas as well as on the training and leadership of colleagues. In addition, they are also responsible for applying and integrating the latest process, information and communication technology into existing production processes.

Source: <https://www.eckert-schools-international.com/en/dimi.html>

Tool 5.1.5 Europass to promote mobility between countries in the EU

The Europass Certificate Supplement is a tool designed to make apprentices from one EU country employable in other EU countries. The Certificate Supplements describe the country-specific standards of the respective training occupation and provide a brief description of the knowledge, skills and competencies acquired through vocational training. In addition, they provide information on the duration, type and level of training as well as the course of training in which this can be achieved.

The Europass Certificate Supplements apply to all those who have obtained the relevant vocational certificate. They are prepared by the competent authorities in the respective EU Member State. The Certificate Supplements for dual training occupations in Germany and for advanced training occupations are drawn up by the Federal Ministry of Education and Research and the BIBB, together with the social partners. In addition to the German-language version, the Europass Certificate Supplements are also available in English and French.

Source: www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/mechatronikeri2018_e.pdf

► 5.2 Evaluation of quality apprenticeship programmes



The issue: Why evaluation of apprenticeships is necessary

The active participation of various stakeholders is essential for the success of apprenticeships. To secure their continuous support and participation in apprenticeships, it is important to be able to provide concrete evidence of the outcome and impact of programmes, and the net benefits to different stakeholders.

For example, potential apprentices would like to know the outcome of the programmes in terms of employment rates, income levels and long-term career prospects. They would also like to be able to assess the quality of the training offered by various enterprises and TVET providers. For these purposes, tracer studies can provide a very useful tool for gathering the relevant information.

Enterprises would like to be able to weigh the costs and benefits of apprenticeships while governments' interest may focus more on the social and economic outcomes of apprenticeships (an example from South Korea is given in box 5.3). In the United States, registered apprenticeship programmes are evaluated using an apprenticeship outcomes performance matrix, which lists indicators for employers, apprentices or workers, and partner

organizations (Tool 5.2.9). This tool seeks to determine “whether using apprenticeship as a talent development strategy has been valuable to employers; created opportunities for workers to enhance their skills, earn industry-recognized credentials, and increase earnings; and helped workforce, education, and community partners achieve their goals” (United States Department of Labor, n.d.). For policy-makers, evaluation at the system level may also involve benchmarking of their national apprenticeship system against internationally recognized good practices.

Therefore, evaluation of the apprenticeship system and programmes is essential to collect information on performance which provides evidence to inform stakeholders’ decisions regarding the changes needed to improve and strengthen the apprenticeship system and programmes. Stakeholders would also be able to decide whether a particular apprenticeship programme should be scaled up, limited or stopped, and how it could be improved.

While the evaluation of the system and specific programmes can be carried out separately, the evaluation findings at the two levels are inextricably linked. Very often, the implementation challenges at the programme level stem from underlying gaps or weakness in the broader policy environment.



Tips

- ★ A tracer study can help to answer a number of questions about the transition of apprenticeship graduates to the labour market, such as: How many are hired by their training employers directly after training? How quickly can apprentices find a job if they do not remain with the apprenticeship employer? What level of income can the apprenticeship graduates obtain? How many of them choose to continue with their education? What situation are do graduates find themselves in, half a year or one to two years after finishing their apprenticeship? These data, taken together, provide a comprehensive evaluation of the outcomes of an apprenticeship programme.
- ★ The steps for conducting a tracer study are as follows:
 1. Plan and design a tracer study.
 2. Formulate research questions.
 3. Develop a questionnaire.
 4. Send out the questionnaire and collect data.
 5. Analyse the data and interpret the results.

For further details, see Tool 5.2.2.

Before developing apprenticeship programmes, practitioners need to be fully aware of the design features, training and working conditions for apprenticeships prescribed in the law and the regulatory framework. Therefore, policy-makers and practitioners should cooperate and carry out regular evaluation of the apprenticeship system and programmes, developing comprehensive evaluation mechanisms and methodologies for that purpose. They should share evidence and data gathered from a wide array of evaluation mechanisms and methodologies, in order to obtain a holistic perspective of the strengths and weaknesses of the apprenticeship system or programmes.

Box 5.3 Economic and social outcome analysis of apprenticeships in South Korea



In South Korea, apprenticeship programmes are evaluated based on both economic and social outcome analysis.

Economic outcomes are examined through cost-benefit analysis from the employers' perspective. The total cost includes personnel expenses (e.g. apprentices' income, in-CT allowance), operating expenses (e.g. teaching materials, training equipment) and apprentice selection and recruitment expenses (e.g. advertisement and promotion). The total benefit comprises, among other factors, apprentices' enhanced productivity, reduction in the cost of new worker recruitment or retraining and government incentives.

Social outcomes are categorized and assessed on three levels:

- *National level* – Four outcomes, namely, improvement in youth employment rates, reduced age of entry into first job, reduced period spent seeking employment, alleviated mismatch between supply and demand.
- *Organizational level* – 11 outcomes, including company's strengthened competencies in the implementation of on-the-job training and the quality of internal training and improvements in work performance, adaptability and satisfaction of apprentices.
- *Individual level* – Seven outcomes, including improvement in employability and job performance as well as adaptability of enterprises and enhanced psychological well-being due to increased job security and welfare provision.

Source: Kang, Jeon and Lee, 2017.



The steps needed to implement a comprehensive evaluation system

The regulatory body or working group overseeing the implementation of apprenticeships should take the following steps, facilitated by social dialogue:

- ▶ Identify a set of key performance indicators (KPIs) for measuring the outcomes of the apprenticeship system and programmes at national, regional, local or enterprise levels, while allowing enterprises the flexibility to adapt the KPIs to their particular circumstances.
- ▶ Develop detailed guidelines for evaluation, indicating the roles of various stakeholders, methodologies (for example, tracer studies, employers' and apprentices' opinion surveys), frequency and data requirements. In particular, support employers in carrying out a cost-benefit analysis of their apprenticeship programmes.
- ▶ Assign the responsibility for evaluation to a specific entity (for example, a quality assurance body).
- ▶ Ensure transparency and quality in the evaluation processes.
- ▶ Discuss the findings of the evaluation in a social dialogue working group and propose recommendations.
- ▶ Compile the findings and data from the evaluation systematically and produce an annual report on apprenticeship programmes. Ideally, the report should be made available to the public.
- ▶ Widely disseminate the report among relevant stakeholders, so that they can use the evaluation results effectively to improve the regulatory framework, programme design and provision of vocational guidance and counselling services.



Tips

- ★ The use of technology can significantly reduce the cost of evaluation. For example, mobile-based applications, such as KoBoToolbox (www.kobotoolbox.org), can be used to conduct tracer studies free of charge, while the use of block chain technology can allow the career progression of apprentices to be monitored after they have completed their programmes.
- ★ In addition to quantitative data, qualitative information can be collected to evaluate the satisfaction of various apprenticeship stakeholders, including enterprises, parents, apprentices, TVET providers, ministries and employers' and workers' organizations.



Tools for the evaluation of the apprenticeship system and programmes

A number of tools for carrying out tracer studies, cost-benefit analysis, assessment of the apprenticeship policy environment and self-assessment of apprenticeships, as well as performance indicators, are given below for both policy-makers and practitioners who are engaged in the evaluation of the apprenticeship system and programmes.

Tools for conducting tracer studies



Tool 5.2.1

Online survey for graduate apprentices, EAN

This tool is an example of an online survey for graduate apprentices, to assess their opinions about the quality of apprenticeship programmes. The #AskTheApprentices survey questions cover modules such as: the quality of education, learning materials and teaching methods; apprentices' rights, responsibilities and protection; apprentices' contracts; representation in the workplace; promotion of apprenticeships; anti-discrimination measures; and access to information on apprenticeships.

Source: <https://www.surveygizmo.eu/s3/90161249/EAN-Survey>

Tool 5.2.2

Guide to tracer studies, ETF, ILO and Cedefop

This guide offers a step-by-step introduction to the wide range of different tracer study approaches available and provides detailed instructions on how to design a graduate tracer study, develop the questionnaire and carry out the data analysis. Furthermore, it provides two versions of the questionnaire: a minimal version, which was designed to be used with very few adaptations/changes; and a module version, which is a toolbox of different topics and questions from which elements can be selected as appropriate.

Although this guide primarily targets TVET and higher education, it can easily be adapted to apprenticeship programmes.

Source: www.ilo.org/skills/areas/skills-training-for-poverty-reduction/WCMS_534331/lang-en/index.htm

Tool 5.2.3

A survey of apprentices to assess the system, United Kingdom

This report presents the findings of the apprenticeships evaluation learner survey 2017 in the United Kingdom. The survey, which is carried out on a regular basis, is intended to monitor key progress indicators and assess the impact of recent policy reforms in order to help shape future development of the apprenticeship programme. Specifically, it covers individuals' motivations for undertaking their apprenticeship, their experience of the training they received, their satisfaction with the apprenticeship and the impact it has had on their careers.

Source: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/659709/Apprenticeships_evaluation_2017-learners.pdf

Tools for enterprises, including cost–benefit analysis**Tool 5.2.4 QualiCarte – a tool that allows employers to self-assess how well they manage apprentices, Switzerland**

QualiCarte is an instrument for assessing the quality of in-company vocational training in any occupation. It consists of 28 quality requirements, divided into five chapters, covering: monitoring of quality improvement measures and objectives, commitment, introduction to training, training, responsibility of the host company and end of the agreement.

This tool can be used by employers for self-assessment purposes but also functions as an external assessment tool in cases where representatives of cantons or professional associations want to assess the quality of training provided in a given host company.

Source: http://vpet.ch/dyn/bin/21423-23923-1-qualicarte_eg_2016i.pdf

Tool 5.2.5 A review of methodologies for measuring the costs and benefits of in-company apprenticeship training, ILO

Understanding the costs and benefits of apprenticeship training, as well as its outcomes, is an important factor for enterprises, enabling them to make informed decisions relating to the skills development of current and future employees. Existing studies on this topic paint a mixed picture: some reveal net benefits to employers and others, net costs. In addition to the observed variations in apprenticeship systems and practices between countries, a proper international comparison of cost–benefit analyses is hampered by differences in research methods. This report reviews the research methods and findings of major existing studies with the aim of helping to advance discussions on research methods and highlighting areas where knowledge gaps exist.

Source: http://ilo.org/skills/areas/work-based-learning/WCMS_725494/lang--en/index.htm

Tool 5.2.6 Assessment of returns on apprenticeship investment, India

This tool provides a questionnaire for assessing returns on investments in apprenticeships.

The publication discusses five case studies in which senior managers from SMEs assess the costs and benefits of the apprenticeships they provide. The case studies provide a clear insight into how the cost–benefit or returns on investment (ROI) approach can be adapted to the case of SMEs in the Indian context and how evidence gained from the ROI approach can be used as an effective instrument for enterprises to base their training and hiring decisions on.

Source: https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new_delhi/documents/publication/wcms_332263.pdf

Tool 5.2.7 Analysis of the costs and benefits of apprenticeship to employers, Germany

This tool provides information on how dual vocational education and training is financed in Germany and which cost-benefit factors are involved.

The tool answers the following questions:

- What are the actual costs and benefits of vocational education and training in Germany?
- Is external recruitment cheaper than training?
- Is dual VET a worthwhile model?

Source: <https://www.bibb.de/govet/en/71186.php>



Performance indicators

Tool 5.2.8 Set of indicators for assessing work-based learning, IAG

This paper lists a range of indicators developed by the Inter-Agency Working Group (IAG) on Work-based Learning (WBL) to monitor and evaluate WBL. Although the proposed indicators are related to the performance of WBL, they can easily be adapted for the assessment of quality apprenticeships.

The proposed indicators cover two policy areas:

- Access, participation and equity – the indicators show the proportion of learners that participate in WBL, and the proportion of companies that provide WBL.
- Quality and efficiency of WBL – the indicators show the proportion of learners that complete WBL programmes and the proportion of companies with a certified in-company trainer/mentor.

There are also two additional indicators for quality assessment that can be used during a transition period when WBL programmes are not yet fully developed: share of programmes with learning outcomes/objectives for the WBL component and share of programmes with assessment procedures for the WBL component.

Source: https://www.skillsforemployment.org/KSP/en/Details/?dn=EDMSP1_254639

Tool 5.2.9 Apprenticeship outcomes performance matrix, United States

In the United States, registered apprenticeship programmes are evaluated using an apprenticeship outcomes performance matrix, which lists indicators for employers, apprentices or workers, and partner organizations.

<i>Indicator</i>	<i>Outcomes</i>	<i>Time frame</i>
Employersw		
Number of apprentices retained		
Decrease in recruitment costs		
Increase in productivity		
Increase in workforce diversity		
Increase in workplace safety		
Apprentices/workers		
Wage increases		
Number of credentials earned		
Partner organizations		
Number of programmes developed		
Number of individuals trained		
Increase in under-represented populations engaged (e.g. women in non-traditional occupations, veterans, individuals with disabilities, etc.)		
Number of apprentices retained		

Source: United States Department of Labor, n.d.

Tools for system-level evaluation

The ILO has developed an analytical framework for evaluating and benchmarking a country's apprenticeship system and programmes. This framework can assist in carrying out detailed, external evaluation of the policy environment and apprenticeship system, leading to practical policy recommendations to overcome identified challenges. It enables a rapid assessment of an apprenticeship system to be carried out and highlights gaps and challenges that are not always obvious to the practitioners themselves.

Tool 5.2.10 Evaluation tool for apprenticeship policy and system, ILO

The tool serves three purposes, as illustrated below:

1. Comprehensive evaluation tool

The tool, in the form of an analytic framework, provides guidance on carrying out an evaluation of a country's apprenticeship system, offering an analysis of the characteristics and performance of the apprenticeship law, policy and system in a country. It also allows the country's system to be benchmarked against international good practices.

It describes the evaluation procedures and includes three questionnaires covering:

- the public authorities responsible for apprenticeships
- the social partners
- apprenticeship graduates.

2. Rapid self-assessment tool

The tool can also be used by practitioners to carry out a rapid self-assessment to help identify the perceived strengths and challenges in an apprenticeship system. As the self-assessment can be completed quickly, and by a range of different stakeholders, it might be used as part of a workshop involving apprenticeship stakeholders. Completing the self-assessment would form the initial point for debate and discussion, allowing individuals to explore those areas where different stakeholders' assessments of the system are radically different, determining why those differences of perception arise and what steps are necessary to improve system performance.

3. Tool for understanding policy environment

The tool can also be useful in helping practitioners to develop a clear understanding of the policy environment, including national law, policies and regulatory and institutional framework, which is necessary before embarking on the development of apprenticeship programmes.

Source: ILO, 2020a.

The following two tools are in the form of reports that provide the results of reviews of a country's apprenticeship system, carried out by CEDEFOP and OECD. These reports illustrate examples of actual reviews, using methodology and tools developed by the two organizations.

Tool 5.2.11 Review of the apprenticeship system in Italy, Cedefop

5.2.11

Cedefop has been carrying out in-depth reviews of apprenticeship systems at national level in order to identify their specific strengths and any challenges that they face in order to propose a set of policy recommendations for ensuring quality apprenticeships. Such information can also help other countries to reflect on their own practices and implement reforms for quality apprenticeships.

This report includes the key findings, conclusions and recommendations of the thematic country review on apprenticeships in Italy. It also offers a short description of the review's rationale and methodology.

Source: https://www.cedefop.europa.eu/files/4159_en.pdf

Tool 5.2.12 Evaluation framework for Modern Apprenticeships in Scotland, OECD

5.2.12

This evaluation framework aims to generate insights into the outcomes, benefits and challenges of Modern Apprenticeships in Scotland, thereby strengthening the links between apprenticeships and labour market policies. Furthermore, it can also provide policy-makers in other countries with a concrete example of an evaluation strategy in an actual policy setting.

The evaluation framework proposes recommendations for evaluating Modern Apprenticeships in Scotland, detailing various evaluation activities, scope of evaluation and data options. It outlines both long-term and medium-term evaluation strategies covering various methodologies, such as ex-ante strategy, use of multiple specific control groups, analysis of impact on well-being and on employer productivity, etc.

Source: <https://www.oecd-ilibrary.org/docserver/59084781-en.pdf?expires=1568268999&id=id&acname=guest&checksum=730E7BACD41ADCCF809CD54135EE1894>.

► 5.3 Checklist

By completing the following checklist, readers of this Toolkit can revisit the key elements involved in post-training transitions and evaluation and also carry out a rapid assessment of the functioning of related systems. It will help readers to identify the elements that could be improved and to assess whether additional measures are needed.



Post-training transitions and evaluation	Yes	No	Needs improvement	Remarks
Do apprenticeship qualifications have a good reputation in the relevant sector(s)?				
Do employers recognize the apprenticeship certificate when recruiting employees?				
Is there an institution responsible for job placement for apprentices?				
Are specific job-search tools for apprentices available?				
Is there support for apprenticeship graduates who would like to become self-employed?				
Are there opportunities for apprenticeship graduates to continue their education?				
Is there a monitoring system for evaluating the effectiveness of apprenticeship programmes? If so, has it been discussed and defined in a social dialogue working group?				
Are baseline data for apprentices collected before apprenticeship programmes begin to allow tracer studies to be carried out?				
Is an annual report produced in which data on quality assurance are presented to the public?				
Are the data from the monitoring system evaluated and presented in accordance with the specifications of the social dialogue working group?				
Are the results of evaluation readily available to all stakeholders, including the general public?				
Are the results of the apprenticeship evaluation used by decision-makers for reviewing policy and programmes?				

The questions to which readers have answered “No” or “Needs improvement” point to gaps where measures to improve or strengthen post-training transitions and evaluation in their contexts should be considered. It is important to keep in mind that the involvement of social partners, including workers’ and employers’ organizations, in the design, development and implementation of apprenticeships, is a key factor for the success and sustainability of apprenticeship programmes.



ILO Toolkit for Quality Apprenticeships

Volume 2: Guide for Practitioners

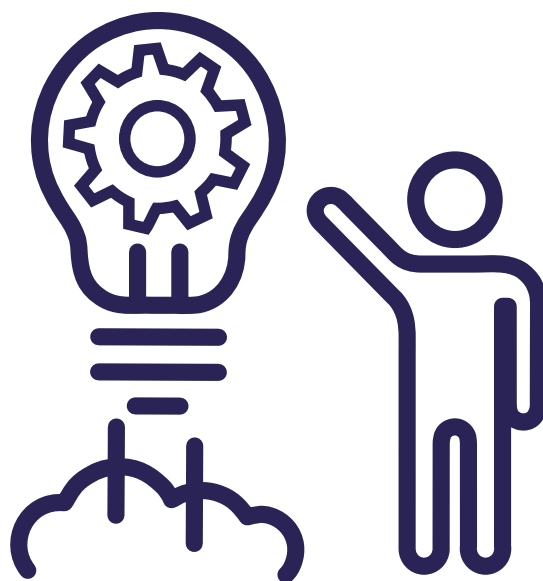
► Innovations and strategies in apprenticeships



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Volume 2: Guide for Practitioners

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- Module 1 Introduction - The quality apprenticeship training life cycle
- Module 2 Developing quality apprenticeship programmes
- Module 3 Preparing quality training places
- Module 4 Organizing apprenticeship training
- Module 5 Post-training transitions and evaluation

▶ **Module 6 Innovations and strategies in apprenticeships**

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Acronyms and abbreviations

BIBB	German Federal Institute for Vocational Education and Training
CBC	competency-based curriculum
Cedefop	European Centre for the Development of Vocational Training
CVET	continuing vocational education and training
DC dVET	Donor Committee for Dual Vocational Education and Training
EaFA	European Alliance for Apprenticeships
ESS	employer/establishment skills survey
ETF	European Training Foundation
EU	European Union
GAN	Global Apprenticeship Network
GIZ	German Corporation for International Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>)
GTOs	Group Training Organisations
ICT	information and communication technology
ILO	International Labour Organization
in-CT	in-company trainer
IOE	International Organisation of Employers
IVET	initial vocational education and training
KPI	key performance indicator
LMI	labour market information
MoU	memorandum of understanding
NCS	National Competency Standards
NIMI	National Instructional Media Institute
OECD	Organisation for Economic Co-operation and Development
off-JT	off-the-job training
OJT	on-the-job training
OS	occupational standard
RTOS	Registered Training Organizations
SDC	Swiss Agency for Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training
VET	vocational education and training



▶ Innovations and strategies in apprenticeships

The workers' organizations (Labour 20 – L20) and employers' organizations (Business 20 – B20) have called on the G20 Member States to endorse actions to promote apprenticeships. In cooperation with global workers' and employers' organizations, they have developed Key Elements of Quality Apprenticeships (ITUC, 2013).

This module presents a range of innovations and strategies to promote quality apprenticeships.

▶ 6.1 Innovations and emerging trends in apprenticeships

While apprenticeships have a history that goes back for millennia, they are continuously evolving and innovating in response to emerging demands in the labour market. New technologies, demographic change, globalization and new ways of organizing and managing human resources are changing employers' skills requirements in multiple ways. Nearly everyone now expects their careers to evolve over time, supported by continuous learning. A wide range of other learning opportunities, including higher education, actively compete with apprenticeship. New e-learning technologies are changing the ways in which skills can be acquired.

While country circumstances vary significantly, the ongoing transformation in the world of work is changing the face of apprenticeships everywhere. The stereotype of apprentices – a male teenager learning a manual trade with a private sector employer – is often now far from the truth, with many more female apprentices engaged in a wider range of occupations throughout the public and private sectors, and undertaking apprenticeships at higher and even at tertiary level.

Although some of the traditional features continue to characterize apprenticeships today, apprenticeships can and should be used much more widely. In fact, apprenticeships can be found throughout the public sector, in service industries as well as in manufacturing, in non-manual occupations, offered at both higher and tertiary level. In response to the rapid changes taking place in the labour market, apprenticeships are increasingly being used to train for occupations other than the traditional trades and crafts. In some countries, a large proportion of apprentices are female. For example, in England, men and women have

roughly equal representation among starting apprentices (Powell, 2019). Some starting apprentices may be incumbent workers, so that the apprenticeship becomes a vehicle for upskilling and reskilling. While some apprentices may work side by side with just one self-employed mentor and guide, others work in organizations with hundreds of thousands of employees. In some cases, apprentices pursue their apprenticeship with several employers in rotation.

In addition to the multifaceted nature of apprenticeships, transformations in the world of work are creating unprecedented challenges, which are not readily addressed by the conventional forms of apprenticeship. For instance, traditional forms of apprenticeship may not be feasible for the growing economic sector of self-employed persons (OECD, 2018a). There are also cases in which apprenticeship programmes have evolved to such an extent that they are no longer recognizable as apprenticeships. For example, some apprenticeship programmes are shortened to a few months' duration. In many countries, there is therefore now an increasing tension between the demand for innovation and the need to sustain the fundamental features of traditional apprenticeships through establishing a precise definition.

This section provides an overview of the development of apprenticeships in new contexts – in non-traditional trades, at tertiary level and for adults as well as young school leavers. In particular, it offers three important perspectives:

- ▶ how new technologies are changing the ways in which skills can be acquired
- ▶ how apprenticeships can be used as a means of addressing the growing demand for digital skills
- ▶ other innovative arrangements, such as pre-apprenticeships, modularization and adaptations of apprenticeships to meet the needs of SMEs.

6.1.1 Technology-driven transformations in apprenticeships

Emerging trends

New technologies have been transforming the delivery of apprenticeship programmes, particularly in terms of methodologies and location. Advances in ICT tend to blur the conventional boundaries between workplace and classroom, where on- and off-the-job training has traditionally taken place. In recent years, teleworking has become increasingly common – some people work remotely, at home or at multiple sites. At the same time, e-learning platforms have also transformed off-the-job training, which traditionally involved face-to-face teaching. Today, the conventional day-release arrangement for apprentices may no longer be relevant, since online learning can take place in almost any location.

Recognizing the ongoing process of digitalization of education and training systems, this Toolkit offers a range of digital technology tools that play an integral part in the design, delivery, monitoring and evaluation of apprenticeship programmes. Such tools not only enrich apprentices' learning process and encourage their greater engagement, but they are also used by employers to enhance the attractiveness of apprenticeships. Furthermore, technology tools also facilitate the acquisition of technical, transferable and digital skills, thereby improving apprentices' employability and adaptability to the changing world of work (see box 6.1).

The effective use of new technologies can improve apprenticeship programmes by supporting practitioners in the following ways:

- ▶ Promoting apprenticeships, through platforms that use different media to reach out, inform and attract people to apprenticeships and professions/trades (Tools 4.1.1, 4.1.2 and 4.1.7), as well as online vocational and career guidance (Tools 4.1.3, 4.1.4, 4.1.10 and 5.1.1.), including online match-making platforms that connect schools and colleges with volunteers from a range of sectors and professions (Tool 4.1.8) and conferencing software that brings together apprentices and employers from local and national enterprises (Tool 4.1.9).
- ▶ Recruiting apprentices through match-making platforms for apprenticeships that provide information about available apprenticeship vacancies and apprenticeship candidates in a given area and occupation (Tools 4.2.1 and 5.1.1), as well as online tests designed to support the selection of future apprentices, allowing an optimal match between training enterprises and apprentices (Tool 4.2.4).
- ▶ Enhancing the learning experience through digitalized instructional and learning media, and incorporating different learning methods that supplement more traditional ones, such as interactive e-books with embedded videos and 3D animated models, as well as video lectures and mobile apps (Tools 2.4.2, 2.4.3 and 4.4.6). Furthermore, providing better integrated vocational education through online learning platforms that create shared digital spaces to capture learners' workplace experiences and in which to compose formal learning journal entries, which foster peer-to-peer learning and support teachers in creating learning activities (Tool 2.4.1).
- ▶ Using artificial intelligence (AI) and data analytics to provide early warning about apprentices who are at risk of dropping out and to enhance the delivery of programmes and the learning experience. Predictive analytics (PA) identify the various profiles or combinations of factors which might indicate, for example, the likelihood that an apprentice will drop out. PA can look at patterns in the responsiveness of tutors, determining how quickly work is assessed and returned to apprentices. It has the potential to match tutors with individual learners.¹ MWS Technology Ltd have developed

¹ See <https://www.aelp.org.uk/news/news/think-pieces/patron-think-piece-aptm-smart-machines-can-transform-apprenticeships/> for further details.

Aptem, a one-stop apprenticeship management app² with built-in machine learning functionality for the United Kingdom.

- ▶ Creating stronger relationships and promoting coordinated support between apprentices, enterprises and TVET providers, through portals that connect different learning venues, allowing all stakeholders to be informed of the vocational and academic progress of apprentices (Tool 2.4.1).
- ▶ Monitoring of training through mobile logbooks that allow apprentices to record and demonstrate their learning and training progress, including details such as hours worked, tasks performed and equipment used (Tool 4.5.6), as well as (self-)assessment platforms that assess and broaden apprentices' competencies and prepare them for the summative assessment or examination (Tool 4.5.2).



² See <https://www.aptem.co.uk/features/> for further details.

Box 6.1 Transformations in the delivery of apprenticeships



The following examples demonstrate the effective use of technology in creating personalized, flexible learning pathways.

Virtual apprenticeships

Virtual apprenticeships are conducted remotely, with learners interacting with their mentors and teams at the company entirely via digital communication tools. Typically, these types of arrangements lead to jobs which can be performed in a similar manner: programming, digital marketing, journalism, media-production, etc.

GenM is a company that offers virtual apprenticeships in marketing and has paired over 20,000 students with around 5,000 businesses. Under their programme, students first follow an online digital marketing curriculum and then interview various employers via a messenger app before signing a contract which pairs them with their chosen employer. For the next three months, the employers mentor the apprentices on a one-to-one basis by employing them on production tasks. After a three-month period, employers may hire the learner or gain access to another. The student may seek employment with the employer, look for employment elsewhere or list themselves as freelancers on a platform operated by GenM itself.

Plug-and-play learning in Malaysia

Selong Human Resource Development Centre (SHRDC) in Malaysia is working on digital apprenticeships by supporting the launch of a two-year master's level apprenticeships. Using technology as part of the process, it is developing a plug-and-play curriculum in which different skill units are bundled in various configurations for different stakeholders and specific purposes. The technology can be set up in one common location with students logging in from any location to learn. Resources and assessments are also shared and are available 24/7. SHRDC can also operate personalized apprenticeship programmes.

The plug-and-play approach, delivering small chunks of learning, may become the norm in future – bearing in mind the fact that the curriculum is digital but also combined with a hands-on learning component. Apprenticeships, on average, require about 20 per cent of the training to be classroom-based instruction. SHRDC brings together mentors from industry to collate all the technology learned into an application based on performance and user experience.

e-Learning in New Zealand

MITO, an industry training organization, has introduced apprenticeship and training programmes for the New Zealand automotive industry, in which the theory component is delivered online as e-Learning courses. This approach allows apprentices to access online learning resources, including videos, interactive simulations and theory assessments, at any time and from any device – mobile phone, tablet or computer. Real-time results and progress reports are available through MITO's online portal to both apprentice and supervisor. Furthermore, these programmes are supported by MITO's e-Learning support services – facilitators who help learners with any issues they have while working through the e-Learning courses.

Source: ILO and UNESCO, forthcoming; <https://mito.org.nz/get-qualified/apprenticeships-and-training/>.

6.1.2 Addressing rising demand for digital skills to be delivered through apprenticeships

Emerging trends and challenges

The world of work is undergoing a substantial transformation due to new forces. In particular, technological advances, such as AI, automation and robotics, have produced numerous new opportunities, but also given rise to urgent challenges. While new jobs are constantly being created with the emergence of the digital economy, many jobs are at risk of becoming obsolete. Digital innovations will rapidly change the demand for skills, thereby creating a wider skills gap that has the potential to hold back economic growth. Skills for the digital economy may require apprenticeship programmes at higher education level.

Apprenticeships have the potential to reduce the skills gap by equipping individuals with the skills needed to adapt to the emerging digital economy, especially first-time jobseekers and those whose jobs may become obsolete during this transition. In fact, apprenticeship programmes are already no longer confined to traditional manual occupations, as their scope to provide an effective and efficient training model is also being increasingly recognized in the technological sector.

In an attempt to better equip students with the skills needed in the digital economy, some universities have started to incorporate apprenticeships into their degree programmes. Through a combination of work placement and part-time study, these new apprenticeship models offer students the chance to attain a bachelor's or master's degree qualification while completing an apprenticeship (see box 6.2). This collaboration between industries and higher education can attract top talents to participate in apprenticeships and respond to the actual needs of companies, especially in terms of digital skills. The curricula of digital apprenticeships typically cover a variety of digital skills, including cyber security, big data, software engineering, digital banking, IT skills for the automotive industry, etc. Several examples of these new apprenticeship models are described in detail below.

Box 6.2 Tech Industry Gold degree apprenticeships: Employers-universities partnership for digital careers



Tech Partnership Degrees is a not-for-profit organization which unites employers and universities to improve the flow of talent into the digital workforce. As a UK Professional, Statutory and Regulatory Body (PSRB), it operates Tech Industry Gold, the industry accreditation for digital and technology higher education, creating high-quality degrees and degree apprenticeships that meet employer-defined standards for content, delivery and assessment.

Digital degree apprenticeships, designed by leading employers in the digital sector, equip apprentices for work in a wide range of graduate-level technology roles, including cyber security analyst, data analyst, business analyst, network engineer, software engineer and many more. In 2019, there were over 1,600 degree apprentices on Tech Industry Gold degree apprenticeships, employed by more than 80 companies.

Source: www.tpdegrees.com

Warwick Manufacturing Group³

As a part of the University of Warwick, Warwick Manufacturing Group (WMG) was founded in 1980 to improve the competitiveness of industries through innovation and the development of new technology and skills. Currently, WMG provides degree-level apprenticeship modules, including five undergraduate courses and three postgraduate courses in the field of digital technologies. The five undergraduate courses are Applied Engineering, Cyber Security Engineering, Digital Healthcare Science, Digital and Technology Solutions and Engineering, with a duration of three to four years. Apprentices are employed by companies such as Dyson and Jaguar Land Rover, where they are given the opportunity to learn skills on the job.

The three postgraduate courses are Engineering Business Management, Senior Leadership and Systems Engineering Technical Leadership, with a duration of two-and-a-half to three years. Similarly, apprentices complete some of their postgraduate modules through on-the-job training in companies like GE Aviation and Royal Mail Group.

Apprentices do not pay fees to the universities. Instead, they receive remuneration of between £16,000 and £25,000 per year. The details of two WMG undergraduate courses are provided below (for more examples, please follow the link in the footnote).

³ See <https://warwick.ac.uk/fac/sci/wmg> for further details.

- ▶ BEng Engineering with Dyson: a four-year programme that covers essential skills for the digital economy, including agile software development, cyber risk in organizations, data science and machine learning, and electronics manufacturing and assembly.
- ▶ BEng Applied Engineering with Jaguar Land Rover: a four-year programme that focuses on high-level digital skills, especially through courses such as computer-aided design (CAD), computer-aided manufacturing (CAM) and electrical and electronic systems.

University of Exeter and J.P. Morgan⁴

J.P. Morgan, a multinational investment bank and financial services company, partnered with the University of Exeter in October 2018 to offer the United Kingdom's first apprenticeship degree programme in Applied Finance (Level 6). The programme covers areas ranging from securities to IT in investment operations and prepares apprentices to become financial services professionals with the essential skills for using digital banking products. A large proportion of the programme takes place at the workplace through projects linked to academic content, while some modules can also be completed by distance learning.

Accenture

The multinational professional services company, Accenture, offers a BSc degree in Digital and Technology Solutions with a focus on one of the following specialisms: software engineering, data analysis or IT consulting. The four-year programme starts with the Level 4 Digital and Technology apprenticeship followed by Level 5 and 6 to complete the degree programme.

UBS⁵

The Swiss bank, UBS, offers a four-year apprenticeship in Information Technology, which aims to deepen apprentices' IT knowledge and allow them to acquire essential IT skills. As part of the training at UBS' Zurich offices, apprentices have a choice of comprehensive training in one of three disciplines:

- ▶ systems engineering: servers, operating systems, networks, hardware and software
- ▶ application development: software development
- ▶ mediamatics: digital media, design, maintenance and editing of websites, marketing, communication and administration.

On completion of the training, apprentices are awarded a Federal VET Diploma in Information Technology or Mediamatics.

⁴ See <http://www.exeter.ac.uk/undergraduate/courses/accounting/applied-finance/#Learning> for further details.

⁵ Information collected and provided by GAN Global.



AI Singapore Apprenticeship Programme⁶

The Artificial Intelligence Apprenticeship Programme (AIAP) is a national programme in Singapore, designed to address skills shortages in AI and machine learning through developing a strong pipeline of AI talent. The goal is to train 500 AI engineers over the next few years under the programme. Potential apprentices must have a keen interest in the area of machine learning and data science and either a polytechnic diploma or a university degree. The programme consists of two months of AI coursework (comprising hybrid classroom and self-directed learning) and seven months of on-the-job training on real-life issues in the AI industry, with apprentices mentored by professionals who work not just in AI, but also in big data and high performance computing. Successful completion of the AIAP equips apprentices with skills in the following areas: data modelling/tuning, data engineering, data product-related software engineering and cloud applications. A monthly stipend of SGD \$3,500–\$5,500 is paid during the nine months of training.

⁶ See <https://www.aisingapore.org/industryinnovation/aiap/> for further details.



Box 6.3 provides an example of one of the IT companies that offers apprenticeships to address skills shortages by equipping apprentices with the required digital skills: Microsoft.

Box 6.3 Microsoft's apprenticeship programme



Microsoft launched its apprenticeship programme in 2010 with the following three main objectives:

- (1) to help more people access digital careers
- (2) to enable employers to widen their talent pool, and
- (3) to address critical shortages of digital specialists.

Microsoft apprenticeships cover the ICT roles and skills requirements that are most in demand. Microsoft offers a range of training in both business and technical environments, including a Level 6 Degree Apprenticeship in Digital Solutions Technology – a four-and-a-half-year programme designed for those aiming to start their careers in technology. On successful completion of an apprenticeship with Microsoft, apprentices receive a nationally recognized apprenticeship qualification and support to help them continue their career at Microsoft. The apprentices are also part of a community in which they receive continuous support throughout their apprenticeships.

Microsoft ensures that the programme is attractive to both employers and apprentices, and that the content is of high quality and relevant, thereby guaranteeing the programme's credibility and recognition. Apart from apprentices and employers, the programme relies on the vital contribution of Microsoft learning partners, which include leading IT training providers in the United Kingdom, such as QA, Firebrand, Intequal and GK Apprenticeships. While Microsoft takes the lead in programme design and content creation, training is carried out by learning partners who maintain a direct relationship with apprentices and employers. Learning partners also assist employers in apprentice recruitment and engage prospective employers. At the same time, learning partners can benefit from such collaboration, as Microsoft's reputation helps to extend their local reach.

Source: Microsoft, 2018.

6.1.3 Pre-apprenticeships

Challenges

Getting an apprenticeship can be a daunting task as employers naturally want to recruit the best possible candidate. Also, some countries stipulate eligibility conditions, including minimum educational qualifications, for gaining admission to an apprenticeship, thereby excluding many persons, particularly women and those belonging to underprivileged groups.

Apprenticeship programmes can be demanding, both intellectually challenging and requiring strong interpersonal skills. Apprentices may not be adequately prepared for the requirements of an apprenticeship programme or the working conditions in the industry, and some may decide to drop out, which represents a significant loss to both enterprise and apprentice.

To overcome the challenges, a few countries have initiated the development of different types of pre-apprenticeship programmes. These programmes aim to provide young people with the necessary preparation that will facilitate their access to a regular apprenticeship programme. Pre-apprenticeship programmes can benefit the potential apprentices in several ways, such as:

- ▶ meeting eligibility conditions by improving literacy, numeracy and soft skills
- ▶ allowing potential apprentices to experience an actual work environment for a particular industry and occupation in order to make an informed decision about whether to commit to a full apprenticeship
- ▶ some programmes provide basic on-the-job skills, which enhance the chances of being selected as an apprentice or being offered a job
- ▶ participants may receive credit for the period of study completed, which could shorten the time it takes to complete a full apprenticeship.⁷

Pre-apprenticeship programmes can take multiple forms, as shown in Table 6.1.

⁷ See, for example, <https://www.aapathways.com.au/about/pre-apprenticeships>.

► **Table 6.1 Pre-apprenticeship programmes**

Country	Programme	Target group	Typical duration	Content
Australia	Pre-apprenticeship	Youth aged 16–24 years old	6–12 months	General employability skills, occupation-specific skills
England (United Kingdom)	Traineeship	Poorly qualified with little work experience and not in employment	6 weeks to 6 months	Work experience placement, work preparation training, literacy and mathematics, if needed
Germany	Introductory training	Youth aged 16–25 years old	6–12 months	Work-based learning, optional school-based component
	Preparatory VET year	Youth aged under 18 years old	12 months (with possible extension up to 18 months)	General subjects at vocational school; exploration of three occupational fields (including work placements)
	Basic vocational year		12 months	Vocational theory and practice in a selected field; work placement
Scotland	Certificate of Work Readiness	Youth aged 16–24 years old	10–12 weeks	Off-the-job training targeting employability skills; work experience
Switzerland	SEMO	Youth aged under 25 years old	6 months (with possible extension up to 9½ months)	1–2 days a week at a vocational school
	Bridging measures		12 months	Literacy, mathematics, motivation and career guidance
	Pre-apprenticeship for integration (currently being piloted)	Migrant youth (with refugee or provisory status) aged 16–35 years old	12 months	Preparation for formal apprenticeship programmes, 3 days in company, 2 days in vocational school, general subject and vocational theory, targeted support on language skills

Source: Based on OECD, 2018b, and Kis, 2016.

To reduce the risk of apprentices dropping out, employers should continuously monitor apprentices' progress during the delivery of the apprenticeship, to identify those facing the greatest difficulties and provide them with adequate support. While providing sufficient support in the course of apprenticeships can minimize apprentice drop-out, it is equally important to ensure that apprentices are adequately prepared prior to starting the programme.

It is important to keep in mind that there is no one-size-fits-all approach to pre-apprenticeships and how they are organized. While developing countries with apprenticeship programmes will face different challenges, the issue of adequate preparation for apprenticeship is universal. The skills and knowledge gaps among potential entrants to apprenticeship programmes can be extremely diverse. For example, those coming from the informal economy may have strong practical skills but lack adequate literacy skills and the required educational qualifications. In contrast, young graduates may possess sufficient theoretical knowledge and literacies, but have limited work experience and employability skills. The interactive guide from the Learning and Work Institute, produced in collaboration with the J.P. Morgan Foundation (Tool 6.1.1), provides support to practitioners in the design and implementation of pre-apprenticeship programmes tailored to specific contexts.



Tool 6.1.1

Guide to the design and delivery of pre-apprenticeships, Learning and Work Institute

This step-by-step guide to pre-apprenticeship programme design and delivery has been created for pre-apprenticeship providers who want to develop and expand their programmes, and for providers who do not currently offer pre-apprenticeships but who plan to do so in the future.

This tool is accompanied by a set of case studies and films from across Europe, which demonstrate effective practice in specific aspects of the design and delivery of pre-apprenticeship programmes.

Source:

<https://www.learningandwork.org.uk/wp-content/uploads/2019/04/Pre-Apprenticeship-Resource.pdf>

6.1.4 Adult entrants to apprenticeships

Emerging trends and challenges

As both learning and career pathways are becoming more complicated, the prevailing perception of apprenticeships, which involves a young person acquiring the competencies needed for a particular lifelong career, is increasingly irrelevant and misleading. In view of the new patterns of learning and working, it is important to situate the apprenticeship model within the framework of lifelong learning, so that it can support the reskilling and upskilling of individuals from all walks of life.

The extension of apprenticeship opportunities to adults and older workers would require corresponding adjustments in apprenticeship systems and programmes. In particular, adult entrants to apprenticeships may already have considerable work experience and, therefore, possess some or even all of the skills and knowledge necessary to perform the job.

For adults who already have some of the required skills, many apprenticeship programmes offer the possibility of accelerated completion, or even direct access to the final qualifying examinations without undergoing apprenticeship training. The latter option is typically limited to adults who have acquired most of the required competencies through relevant work experience. Depending on individual needs, they may also pursue preparatory courses or additional training to strengthen their practical knowledge and skills prior to the examinations.

Some of the conditions in various countries that allow direct access to the final examination or assessment associated with an apprentice qualification, without having to pursue an apprenticeship, are listed below (OECD, 2014; Kis and Windisch, 2018):

- ▶ **Austria:** Adults with relevant work experience that amounts to at least half of the duration of a regular apprenticeship (direct applications accounted for 15 per cent of the awarded apprenticeship qualifications in 2012).
- ▶ **Canada:** Candidates with a sufficient number of working hours in the trade – typically one-and-a-half times the apprenticeship period.
- ▶ **Germany:** Adults who have been performing skilled tasks for at least one-and-a-half times the apprenticeship duration; school qualifications may also be taken into account (in 2009, 6 per cent of the successful final assessment candidates had followed this route).
- ▶ **Norway:** Candidates must have five years' work experience and must pass a theoretical exam (approximately one-third of certificates were awarded on the basis of experience-based certification in 2015).
- ▶ **Switzerland:** Adults with five years' relevant work experience, including three years in the target occupation.
- ▶ **United States:** Three kinds of apprenticeship are available:⁸
 - » time-based – in which an apprentice's progress is measured by the number of hours spent in on-the-job training and related training instruction (RTI)
 - » competency-based – in which the apprentice's progress is measured by his or her demonstrated ability to apply the necessary knowledge, skills, attitudes and critical thinking to accomplishing relevant job functions
 - » hybrid – in which part of the apprentice's progress may be measured in hours and part through the demonstration of competency.

The options for accelerated completion of apprenticeship programmes and direct access to final assessment are particularly relevant to those working in the informal economy, who may have the relevant skills and working experience but who are denied access to apprenticeship qualifications. Similarly, migrants who possess foreign qualifications that are not recognized in the host country need RPL procedures in place so that their competencies and experience can be formally taken into account when entering apprenticeships.

⁸ See <https://innovativeapprenticeship.org/employers/> for further details.

While the mechanisms mentioned above are not apprenticeships as such, they have a role to play in enhancing the inclusiveness of apprenticeships and, therefore, should be considered as an important element of apprenticeship systems.

6.1.5 Modular and shorter apprenticeship programmes

Emerging trends and challenges

Recent years have seen intensive discussion, and some reforms, aiming to make apprenticeship programmes more modular by dividing curricula and assessments into smaller components (Pilz, 2012).

However, the modularization of apprenticeships is controversial. Some argue that the fragmentation of curricula and competencies undermines the more holistic conception of professions, which is such a crucial feature of apprenticeships. The fundamental principle of apprenticeships is to enable apprentices to acquire the competencies needed to work in a given profession through comprehensive on- and off-the-job training, rather than simply acquiring a set of specific skills.

Apprenticeship programmes in shorter and more specific modules have become increasingly common. Some employers and apprentices are in favour of this emerging trend, as the modularization of apprenticeships can offer the following advantages:

- ▶ allow increased specialization, especially in the form of “additional” modularization, where, alongside a set of compulsory modules, apprentices can pursue some specialized elective modules
- ▶ facilitate the update of qualifications, by enabling the modification of individual modules in response to new developments, without having to revise the whole qualification
- ▶ enable certification of part-qualifications, which serves as a mechanism by which those who have dropped out or switched to a different programme, can transfer their credits to another apprenticeship programme (Pilz, 2012)
- ▶ allow apprentices to be exempted from completing selected modules through RPL, as they may already possess the required knowledge and skills to fulfil certain components of the qualification.

In Austria, apprenticeship programmes in some fields, including materials technology, installation and buildings technology, vehicle technology and timber technology, have been modularized since 2006, to allow for the possibility of specialization, in addition to acquiring the main apprenticeship qualification. Following the successful completion of the compulsory two-year core curriculum, apprentices pursue a modular specialization of their choice in the final year. After three years, apprentices can choose whether to take the final examination in their foundation and main modules or continue with their specialized modules for a further half- or full year. The specialized modules are assessed at the end of the programme and listed on the apprentice’s transcript (Pilz, 2012).

6.1.6 Higher level or degree-level apprenticeships

Emerging trends and challenges

After completing a university degree, many graduates face difficulties in finding a job and in meeting the skills requirements of the local, national, regional and global labour markets. In many countries, the skills gap is significant for several degree subjects, whereas apprenticeships are known to be one of the most efficient and effective ways of helping students to acquire skills that are relevant to labour market demands. Apprentices stand a better chance of finding employment than graduates from the conventional education system. They also earn while learning, thus avoiding the need to resort to student loans during their studies, unlike many of their peers studying in universities.

Although many apprenticeships are situated at around ISCED Level 3 (or upper-secondary level), apprenticeship models are also proven to be applicable to higher levels of qualification. However, it has been challenging for many countries to apply the apprenticeship model to higher education for the following key underlying reasons:

- Apprenticeships require education institutes to work in partnership with employers to design and organize training programmes for universities and industry. For many academics and university administrators, this could be a daunting, complex task.
- It is not easy to find enough placements in industry for the on-the-job training component for all students undergoing the vast range of courses available in universities.
- The traditional model of apprenticeships, where students typically spend 70 per cent or more of their total time at the workplace, may not be appropriate for many university degree courses.
- Apprenticeships require educational institutions to play a supporting role to industry in the position of off-the-job training providers, which universities may find irksome.

Considering the benefits of the apprenticeship model over traditional classroom-based education, countries such as Australia, Germany, India, Switzerland, the United Kingdom and the United States have started to expand apprenticeships at the higher education level.

Higher or degree-level apprenticeships (equivalent to ISCED Level 6) are part of the dual system university programmes in Germany. They also exist in the form of “alternance” arrangements in some university programmes in France and are known as “degree apprenticeships” in England.

The Australian Industry Group (Ai Group) project, funded through the pilots initiative, is a collaboration between the Ai Group, Siemens Ltd and Swinburne University of Technology. Swinburne has developed two new higher education qualifications for the pilot scheme, a Diploma and an Associate Degree in Applied Technologies (ILO, 2020b).

“Oxbridge” (the collective term for the universities of Oxford and Cambridge), widely known as the pinnacle of UK higher education, has also begun to offer opportunities to apprentices. In Cambridge University, the types of apprenticeship on offer vary by subject and complexity of programme, ranging from Level 3 (A level) to Level 7 (master’s level).

Several examples of degree-level apprenticeships with a focus on digital skills are provided earlier in section 6.1.2. Box 6.4 illustrates an additional example from India.

Box 6.4 National Open College Network (India)



Although the degree-level apprenticeship model represents a huge leap in terms of both regulation and delivery in India, National Open College Network seeks to integrate apprenticeships into degree-level education, following the UK example. Its pilot programme is commissioned by the UK’s Department for International Development and aims to impart the necessary skills for employment in areas such as aerospace and aviation, the automotive industry and the renewable energy sector.

Source: www.nocn.org.uk/international/india/

6.1.7 Adapting apprenticeships to the needs of SMEs

Emerging trends and challenges

SMEs often lack sufficient resources to provide apprentices with the full range of on- and off-the-job training and they may face specific barriers in recruiting apprentices. Furthermore, they may not be able to afford the fixed costs involved in fulfilling the formal requirements of the apprenticeship system, which weigh more heavily on smaller enterprises.

In light of the specific challenges facing SMEs, countries have developed various strategies to support SMEs and enhance their participation in apprenticeships. For instance, two main approaches can be found in Germany. In the first, a number of employers may take on apprentices between them, sharing the responsibility of training provision, so that the apprentices obtain the full range of on- and off-the-job training required. The second approach is to allow employers the option to arrange certain parts of the training at other enterprises which have the relevant facilities and expertise (Poulsen and Eberhardt, 2016).



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In some countries, enterprises can also seek support from intermediary organizations, which group smaller enterprises together in the delivery of apprenticeship training. A few examples of such intermediary organizations are illustrated below (Field et al., 2010):

- ▶ In **Australia**, Group Training Organisations (GTOs) are not-for-profit enterprises but are supported by the Government. GTOs employ apprentices and allocate them to host employers, who are required to pay a fee to the GTOs. In addition to recruiting apprentices, GTOs also support enterprises in administration, management of on- and off-the-job training, and rotation of apprentices among participating employers to ensure that apprentices acquire the full range of experience.
- ▶ In **Norway**, training offices (TO) (*opplæringskontor*) are owned by employers and are usually related to specific trades. They aim to facilitate apprenticeships by identifying potential training companies and supporting employers and the staff involved in apprenticeships. While many TOs organize the theoretical part of the apprentices' off-the-job training, some may also sign apprenticeship agreements on behalf of smaller enterprises.
- ▶ In **Switzerland**, host company networks (*Lehrbetriebsverbände*) group together enterprises to share the responsibilities of apprenticeship training. This arrangement is especially aimed at maximizing the training potential of those companies that are too small and/or specialized to cover all the competencies specified in a defined VET curriculum as a singular entity, but may be able to offer the full spectrum by joining forces to train apprentices as a group. Usually, one enterprise or a separate organization takes the role of coordinator and organizes the coaching, training and rotation of apprentices between various companies during their apprenticeship.

▶ 6.2 Strategies for promoting quality apprenticeships

Germany's tried and tested dual system [apprenticeship] ... was the best way forward at a time when almost six million under-25s in Europe are out of work ... One thing that experience taught us is that there is, of course, no need for any country to introduce the whole dual system straight away. Inter-company vocational training can be an alternative.

Angela Merkel (German Chancellor) in 2013

This section outlines the following strategies to overcome the main challenges faced by countries in implementing and scaling up quality apprenticeships (ILO, 2019c):



In developing and implementing the strategies, policy-makers and practitioners should work collaboratively.

6.2.1 Creating an enabling environment for quality apprenticeships

In order to promote quality apprenticeships, it is necessary to create an enabling environment by taking the following steps:

- ▶ developing and implementing strategies, setting national goals and allocating adequate resources
- ▶ mainstreaming quality apprenticeships in national development strategies and in employment, education and lifelong learning policies
- ▶ developing a robust regulatory framework
- ▶ encouraging social partners – employers' and workers' organizations – to support quality apprenticeships by formally involving them in the entities responsible for the design and implementation of quality apprenticeships

- ▶ developing the capacity and providing support services to the social partners so that they are better placed to participate effectively in the regulatory and consultative bodies or within a broader social dialogue mechanism
- ▶ providing incentives,⁹ both financial and non-financial, to enterprises, especially SMEs
- ▶ encouraging intermediaries, including through financial support, to participate in the provision, coordination and support of quality apprenticeship programmes
- ▶ undertaking awareness-raising activities and promotional campaigns at regular intervals to improve the image and attractiveness of quality apprenticeships
- ▶ establishing pre-apprenticeship programmes to enable young people to acquire the competencies required to become eligible for a quality apprenticeship programme
- ▶ facilitating access to further technical and higher education opportunities for apprentices
- ▶ using new technologies and innovative methods to improve effectiveness and efficiency in delivering and managing quality apprenticeships
- ▶ giving stakeholders at the sectoral level the flexibility to recommend training duration, wages, the proportion of on-the-job training based on the complexity and investment in training required for occupations belonging to the sector.

6.2.2 Making apprenticeships more attractive to enterprises and, in particular, to SMEs

As has been mentioned throughout this Toolkit, enterprises of all sizes are key stakeholders in apprenticeship systems and programmes. Public authorities may launch ambitious apprenticeship strategies, but these strategies cannot be achieved without the support of businesses or other organizations.

To address this issue, it is recommended that the following specific measures are implemented to encourage enterprises, and in particular SMEs, to become involved in apprenticeships:

- ▶ organizing campaigns and events to promote the benefits of quality apprenticeships for enterprises
- ▶ providing incentives, both financial and non-financial, to enterprises, especially SMEs
- ▶ setting up a national, sectoral, regional and/or local service to match enterprises with would-be apprentices
- ▶ encouraging the establishment or strengthening of sectoral or other bodies that can undertake skills anticipation exercises and/or aggregate SMEs' training needs
- ▶ encouraging the establishment or appointment of intermediaries, such as chambers of commerce or GTOs, that can advise and support SMEs and/or develop partnerships for them with local VET institutions

⁹ For more details, please refer to section 8.3 of volume 1 of the Toolkit, as well as the DC dVET discussion paper *Companies engaging in dual VET: Do financial incentives matter?*, https://www.dcdualvet.org/wp-content/uploads/DC-dVET_Discussion-Note-Financial-Incentives.pdf

- ▶ providing flexible training programmes for those responsible for mentoring apprentices in companies
- ▶ developing an information service for disseminating ideas and experiences of what works in making quality apprenticeships more attractive to enterprises and, in particular, to SMEs
- ▶ providing the flexibility to adapt a part of the national training standard to the specific requirement of an enterprise.

6.2.3 Making apprenticeships more attractive to young people

There are numerous reasons why young people might not be attracted to undertake apprenticeships. To address this issue, it is recommended that the following specific steps are taken to encourage young people into apprenticeships:

- ▶ running information days in schools, and campaigns in the wider community, with the assistance of apprenticeship ambassadors, to promote the benefits of quality apprenticeships for young people
- ▶ providing a comprehensive advice and guidance service – before and during the apprenticeship – to help young people make informed training and career choices
- ▶ ensuring that apprentices are adequately remunerated during the entirety of the apprenticeship and covered by social protection schemes according to national contexts
- ▶ setting up a national, sectoral, regional and/or local service to match apprentices with enterprises that are prepared to offer apprenticeships
- ▶ ensuring that apprenticeship qualifications are recognized nationally and that they provide access to further technical and higher education opportunities
- ▶ ensuring that the working conditions and the working environment in participating enterprises are safe
- ▶ developing an information service for disseminating ideas and experiences of what works in order to improve the image of apprenticeships
- ▶ encouraging workers' organizations to represent apprentices and to protect their rights in accordance with national law.

6.2.4 Promoting inclusiveness in apprenticeships

The following measures can promote inclusiveness in apprenticeships:

- ▶ organizing campaigns and information days in schools, and in the wider community, to promote the benefits of quality apprenticeships for all
- ▶ setting targets for increasing participation and reserving apprenticeship places for people from vulnerable groups and women

- ▶ providing in-depth diversity training to all staff with recruitment and mentoring responsibilities
- ▶ informing enterprises about the range of agencies that exist to support members of under-represented groups in relation to quality apprenticeships
- ▶ providing a specially targeted advice and guidance service, with the cooperation of organizations that represent or support vulnerable groups and women, both before and during quality apprenticeships
- ▶ providing some form of financial incentive – for example, in the form of a recruitment grant, a tax exemption or subsidies for social security payments – for enterprises that take on apprentices from under-represented groups
- ▶ improving reporting, accountability and transparency, by publishing the number of apprentices employed by enterprises, programme completion rates and transition-to-work rates, with the figures broken down by gender, ethnicity and disability
- ▶ ensuring that apprentices are adequately remunerated during the entirety of their apprenticeship and that they are covered by social protection schemes in accordance with the national requirements
- ▶ making quality apprenticeships more flexible to accommodate the different needs of women and persons with disabilities
- ▶ making physical adaptations to classrooms and workplaces to ensure that persons with disabilities can participate productively
- ▶ developing an information service for disseminating ideas and experiences of what works in achieving equality and diversity in quality apprenticeships
- ▶ encouraging workers' organizations to represent apprentices and protect their rights and to contribute to the development of a strategy for the inclusion of underprivileged groups in quality apprenticeships.

6.2.5 Promoting quality apprenticeships in the informal economy

Characteristics

In the informal economy, apprenticeships (usually referred to as informal apprenticeships) are the main means of learning skills and acquiring competencies for employment. Informal apprenticeship can be broadly defined as an informal system of skills transfer from a master craftsman to a young apprentice who acquires skills by way of observation, imitation and repetition while working with the master craftsman. The transfer of knowledge and skills is based on an agreement (written or verbal) between master craftsman and apprentice in line with local community norms and practices, and the training is not regulated by the law of a country.

Challenges

Informal apprenticeships have a number of shortcomings (Aggarwal, 2013):

- ▶ training is neither systematic nor structured and the quality of the training provided by the various skilled craftspersons varies significantly (Haan, 2006)
- ▶ there are generally no training standards or effective quality assurance mechanisms
- ▶ the lack of decent working conditions and occupational safety and health provision
- ▶ the underpinning knowledge is often not adequately provided
- ▶ the agreement between the skilled craftsperson and the apprentice is typically verbal and therefore difficult to enforce, which may lead to exploitation of the apprentice
- ▶ the duration of training could be excessive
- ▶ some master craftspersons charge fees for training apprentices
- ▶ the skills acquired are neither certified nor recognized nationally, making it difficult, though not impossible, for the apprentice to be mobile in the labour market (Hofmann and Okolo, 2013).

Recommendations

To address this issue, it is recommended that the following specific measures are implemented to promote quality apprenticeships in the informal economy (Aggarwal, 2013; Walther, 2008; ILO, 2011; ILO, 2012):

- ▶ customizing the nature of interventions by building on local practice and promoting group-regulating mechanisms through small business associations rather than through public authorities
- ▶ strengthening the micro and small economic units by providing training to master craftspersons in pedagogy and technical and business skills, ensuring access to business development services and microfinance and improving occupational safety and health at work
- ▶ improving the skills of apprentices by supplementing on-the-job training with off-the-job learning covering related theory, technical and business skills and core work skills and possibly by rotating the apprentices in various small businesses
- ▶ promoting the use of written apprenticeship agreements
- ▶ providing vocational and career counselling
- ▶ providing post-training support for wage and salaried employment and self-employment
- ▶ providing incentives for micro and small economic units to offer quality apprenticeships
- ▶ strengthening the capacity of small business associations to function as regulators of apprenticeships, register agreements, assess skills and award certificates
- ▶ facilitating the acquisition of national qualifications through RPL.



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There have been a number of positive examples of such strategies, such as a training programme that was introduced in Kenya to upgrade the skills of craftspersons, which resulted in increased sales and profits for the businesses concerned, as well as an increase in the number of apprentices they engaged (ILO, 2012, p. 48). Benin, Burkina Faso and Zimbabwe, among several other countries, also implemented strategies to promote quality apprenticeships in the informal economy. Recognition of skills acquired through informal training provides another way of connecting formal and informal systems, and Tanzania and Bangladesh are examples of countries that are seeking to establish or improve their certification processes, as they move to increase apprentice numbers in both the formal and the informal economies.



Tool for upgrading informal apprenticeships

The ILO has developed a resource guide to upgrading informal apprenticeships in Africa (ILO, 2012).

Tool 6.2.1 Resource guide for upgrading informal apprenticeships in Africa, ILO

This resource guide serves two main purposes. First, it provides a set of proven tools for assessing informal apprenticeships. It offers practical “how to” information on the use of assessment tools to examine apprenticeship from the perspectives of industry clusters, communities, training institutions and apprentices. Second, the guide presents a framework of policy options that can be used to strengthen informal apprenticeship systems and address their weaknesses.

Source:

https://www.ilo.org/wcmsp5/groups/public/---africa/---ro-addis_ababa/documents/publication/wcms_171393.pdf

Annex I:

Who should drive or lead apprenticeships?

Stakeholders often ask “Who should drive or lead apprenticeships?”. This crucial issue is discussed in this section.

Every stakeholder has an important role¹⁰ in developing and managing apprenticeship programmes. However, their roles are not the same in every country. Many factors, such as the political environment, social and economic policies, traditions and the capacity of individual stakeholders, influence the allocation of specific roles and responsibilities between different stakeholders, with consequent effects on the design of the institutional framework. Some examples are given below to demonstrate how the roles of key stakeholders vary, not only between different countries, but also within the same country.

Variation in the role of employers between Germany and Switzerland

In both Germany and Switzerland, two countries with highly successful apprenticeship systems, employers play a leading role, yet their roles are not exactly similar. In Germany, although apprenticeships are the responsibility of the state, their implementation is entrusted largely to employers. While all stakeholders contribute to the planning and preparation of training regulations, chambers take care of quality assurance as well as the assessment of competencies acquired during in-company training (BIBB, 2014; DCdVET, 2016). In contrast, in Switzerland, even though employers play a leading role in apprenticeships, canton (state) governments are responsible for quality assurance and examinations. However, they undertake this responsibility in association with professional organizations.

Various stakeholders operate apprenticeship programmes in the United States¹¹

While apprenticeships in the United States are always employer-driven, every programme has a “sponsor” who is responsible for the overall operation of the programme. Sponsors can be a single business or a consortium of businesses, a range of workforce intermediaries, including an industry association or a joint labour–management organization, or community colleges and community-based organizations.

Union apprenticeships:¹² Labour unions have a long history of offering apprenticeships. The Joint Apprenticeship and Training Committees (JATCs), managed by representatives from unions, provide training to apprentices in specific occupations and geographic regions. In many cases, a national JATC works with employers, union representatives and

¹⁰ For the generic roles and responsibilities of different stakeholders, see chapter 7 of Toolkit 1.

¹¹ Source: <https://www.dol.gov/apprenticeship/toolkit/toolkitfaq.htm#3a>

¹² See https://innovativeapprenticeship.org/apprentices/#union_head for further details.

skilled workers to develop standards that guide training programmes across the country. JATCs often operate standalone training facilities, where apprentices gather as a group to gain the knowledge and skills required to succeed in their on-the-job training (OJT). The OJT takes place within companies and organizations that are signatories of the JATC agreement. Apprentices that complete union-sponsored apprenticeships are called “journey workers”.

Employer-sponsored apprenticeships: Other apprenticeship programmes are sponsored by individual employers, groups of employers, trade associations or other professional groups. Small companies may offer their own programmes, or they may work through intermediary organizations, which help to connect employers with potential apprentices.

Intermediaries: There are a number of “apprenticeship intermediaries” in the United States. These entities work with both employers and apprentices to design, provide and recruit participants for apprenticeship programmes. A number of organizations across the country have been contracted by the Department of Labor to expand apprenticeship opportunities in the United States.

Two types of apprenticeship management in South Korea

In South Korea, apprenticeships are divided into two types: (a) company-led and (b) training centre-led, depending the party responsible for managing the programme. In company-led apprenticeships, participating companies develop their own dual programmes and provide both on- and off-the-job training independently. For training centre-led apprenticeships, companies organize off-the-job training in cooperation with large companies or training centres. The main characteristics of these two forms of management are compared in table I.1.

Types	Feature	Management body	Off-the-job training (off-JT)	On-the-job training (OJT)
Company-led	Company independently develops the programmes and provides both OJT off-JT	Company	Company or professional training centre	Company
Training centre-led	Training centre provides off-JT and company offers OJT	Training centre	Training centre	Company

As we have seen from the above examples, many factors influence the allocation of roles and responsibilities among various stakeholders. However, to ensure strong labour market relevance, apprenticeships should be led by enterprises. In other words, employers should be in the driving seat and collaborate with other stakeholders in designing and implementing apprenticeships.

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The dual vocational education and training system, in which apprentices spend time in both a host company and in vocational school, is a key element of success in the Swiss education system, and the main VET model in Switzerland. About two-thirds of all young people in Switzerland take up an apprenticeship when they are about 15. Their job prospects are excellent as they are able to learn the skills that businesses require.

Johann N. Schneider-Ammann (former Swiss President), June 2016

Apprenticeship ... is a crucial part of our long-term economic plan to secure a better future for Britain. It will help give us the skills to compete with the rest of the world.

David Cameron (former UK Prime Minister), October 2014

When you look at apprenticeship systems around the world, the most important success denominator is practically always social dialogue. Apprenticeships work because they link classroom and workplace training and because they tap the knowledge of both employers and workers on what training is needed and how to deliver it.

ILO Director General, Guy Ryder, speaking at the launch of the B20 and L20 "Joint understanding on key elements of quality apprenticeships", 18 June 2013, in Geneva

[A]pprenticeships [are] a way to guarantee skills and to help our employees cope with the onset of AI (Artificial Intelligence). Apprenticeships boast a strong track record of return on investment for both business and the apprentice's career track.

Alain Dehaze (The Adecco Group CEO), 16 January 2018

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