Chapter 15

New Directions for Apprenticeships

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Abbreviations

Cedefop	European Centre for the Development of Vocational Training
COVID-19	coronavirus disease
GTO	group training organization
ICT	information and communication technology
ILO	International Labour Organization
MNE	multinational enterprise
SMEs	small and medium-sized enterprises
TVET	technical and vocational education and training

15.1 Introduction

Skills development is central to improving employability, decent work, and productivity. Yet, education and training systems are often unable to equip learners with skills as per the demands of the world of work. The resulting skills mismatch negatively affects individuals, businesses, and society at large by not fully utilizing existing human capital and by constraining economic growth and opportunities that generate decent jobs, alleviate poverty, and improve living conditions.

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The perennial issue of skills mismatch is being further accentuated by megatrends such as technological advancements, globalization, climate change, and demographic shifts. In today's fast-changing world of work, one job for life is no longer valid for individuals. All individuals need to continuously learn to acquire new skills and update existing skills throughout their working life to remain employable. Furthermore, increased longevity also implies that working lives are increasingly extended. Therefore, older workers who choose to stay in the labor market should be provided with adequate opportunities for lifelong learning.

Apprenticeships are known to be one of the most efficient modes for acquiring skills relevant to the market demand for young people at the entry point to the labor market. Accordingly, the design of training and working conditions for apprentices are usually more suited to the needs of young persons. However, in times of rapid change, increased longevity, unpredictability, and disruptive technologies, it is important to situate apprenticeships within the framework of learning societies. Therefore, a key issue is how apprenticeship programs can become more flexible and responsive to the learning needs of all individuals and offer learning opportunities in a variety of settings, whether formal, informal, and nonformal, and throughout their working life. Also, apprenticeships should adapt to changing learning and working preferences among the millennials and digital natives.

15.2 The Concept of Apprenticeship

Apprenticeship is a centuries-old tradition in which a young person acquires the skills of a trade while working with a master craftsperson. In some countries (for example, England and Germany), this traditional form (informal apprenticeships) has evolved to formal apprenticeships that combine training at the workplace with part-time education in a technical and vocational education and training (TVET) institute or school (Ryan 2012). Meanwhile, it continues to operate in the traditional form in many countries, particularly those with large informal economies (ILO 2019a).

The informal system of transfer of competencies from a master craftsperson to a young apprentice is called informal apprenticeship. The apprentice acquires competencies in a trade by way of observation, imitation, and repetition while working with the master craftsperson. Usually, an oral agreement, which is based on the norms and practices followed by the local community, guides the transfer of competencies between master craftsperson and apprentice. The law of a country does not regulate the training and agreement (Aggarwal 2013; ILO 2012).

The characteristics and quality of apprenticeship programs differ significantly around the world, and as such, there is no single or standard definition. The International Labour Organization (ILO) introduced the concept of quality apprenticeships as programs that not only combine off-the-job and on-the-job learning, but also are “regulated and financed by laws, collective agreements and policy decisions arising from social dialogues, and require a written contract that details the respective roles and responsibilities of the apprentice and the employer”

(ILO 2017, p. 4). In contrast to the informal arrangements in informal apprenticeships, quality apprenticeships provide the apprentice with remuneration and standard social protection coverage, in addition to recognizing the successful completion of training through a qualification.

The ILO approach to developing quality apprenticeship systems is based on six key building blocks: (i) meaningful social dialogue, (ii) a robust regulatory framework, (iii) clear roles and responsibilities of all stakeholders, (iv) equitable funding arrangements, (v) strong labor market relevance, and (vi) inclusiveness. These characteristics also distinguish quality apprenticeships from other forms of work-based learning such as informal apprenticeships, internships, and traineeships.

15.3 Benefits of Quality Apprenticeships

Quality apprenticeships are beneficial for three main stakeholders: apprentices, enterprises, and government. The main benefits are (i) increasing employability, (ii) lowering the cost of training, (iii) increasing productivity, (iv) reducing skills mismatch, and (v) enhancing collaboration between TVET institutes and employers.

15.3.1 *Increasing Employability*

Apprenticeships consistently lead to positive employment outcomes (ILO 2019a). In the Netherlands, a comparison of labor market outcomes between work-based apprenticeship and school-based routes can be done as people can acquire the same vocational qualification through either of the two routes. The unemployment rate of apprenticeship graduates was much lower (2–5%) compared to the unemployment rate (11–30%) of school-based vocational training graduates. Also, the gross hourly wage for apprenticeship graduates was 16.29 US dollars (\$) ¹ compared to \$12.22 for the latter for level 4 qualifications (Ministry of Education, Culture and Science 2014).

15.3.2 *Lowering the Cost of Training*

The apprenticeship training is cost-effective compared to a school-based vocational training program. While a training center has to invest in creating infrastructure (land and building) and purchasing equipment and tools for providing practical training to students, enterprises do not need to invest as they already have these facilities.

¹Exchange rate used is €1 = \$1.215 (as of 20 January 2021, x-rates.com).

15.3.3 Increasing Productivity

The findings from employers' surveys indicate that apprentices promote productivity and innovation in enterprises. An Inter-American Development Bank report indicated that over 60% of employers have seen improved productivity in their enterprises because of apprenticeships (Fazio et al. 2016). A study by the Centre for Economics and Business Research (2013) in the United Kingdom (UK) estimated that the productivity of workers who have completed apprenticeships increased by \$292.46² per week on average (ILO 2019a).

15.3.4 Reducing Skills Mismatches

In most countries, school-based vocational education and training systems are not able to keep pace with fast labor market transformations, resulting in growing skills mismatches. Apprenticeships take less time to adjust training programs to changing labor market needs (ILO 2019a).

15.3.5 Enhancing Collaboration Between TVET Institutes and Employers

One of the main challenges faced by TVET systems is the lack of effective collaboration between TVET institutes and employers, which is essential to ensure the quality and relevance of the training. As apprenticeships, also referred to as dual TVET, are planned and implemented together by TVET institutes and employers, it naturally promotes a systematic means of collaboration between the two.

15.4 Challenges in Apprenticeships

The main challenges faced by countries in implementing apprenticeships are (i) social stigma, (ii) low participation of employers, (iii) situating apprenticeships in the context of lifelong learning, and (iv) ensuring the quality of apprenticeship training in the informal economy.

²Exchange rate used is £1 = \$1.367 (as of 20 January 2021, x-rates.com).

15.4.1 Social Stigma

People, specifically the millennials and digital natives, tend to associate apprenticeships with blue-collar jobs, dead-end qualifications, and students who cannot gain admission to universities. The negative social perception of apprenticeships in many countries is due to their unavailability in the services sector and other emerging sectors of the economy such as the digital and green economy. Furthermore, low quality training and poor working conditions of apprentices in the informal sector also contribute to this poor image. The negative social stigma attached to apprenticeships makes it the “second choice” for many young people and jobseekers.

15.4.2 Low Participation of Employers

The proportion of young persons joining apprenticeships is lower than those going to TVET institutes in most countries. One of the reasons is the nonavailability of sufficient training places as a large number of enterprises, especially small and medium-sized enterprises (SMEs), do not offer apprenticeship programs. According to the European Centre for the Development of Vocational Training (Cedefop), many SMEs are reluctant to offer apprenticeships due to an unfavorable business environment, burdensome legislation, and internal shortfalls (Cedefop 2015).

15.4.3 Apprenticeships in the Context of Lifelong Learning

The fast-changing labor marketplaces demand that people acquire new skills and update existing skills throughout their working life. Since apprenticeships are traditionally meant for young persons, reorienting and customizing apprenticeships to meet the specific needs of adults and older workers in the context of lifelong learning is a major challenge.

15.4.4 Large Informal Sector in Developing Countries

The informal economy comprises more than half of the global labor force and more than 90% of micro and small enterprises worldwide.³ In developing countries, the informal economy accounts for 35%–90% of total employment.⁴

³International Labour Organization. Informal economy. <https://www.ilo.org/employment/units/emp-invest/informal-economy/lang--en/index.htm>.

⁴International Labour Organization. Informal economy. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_140951.pdf.

Apprenticeships in the informal economy, or informal apprenticeships, are widespread and are an important means for learning skills and knowledge in developing countries. However, they have many shortcomings. Informal apprenticeships can be exploitative as they are not regulated by law. The skills and technology in the informal sector tend to lag behind those used by enterprises in the formal sector; hence, the skills acquired by apprentices in the informal sector may not meet the needs of modern sectors of the economy. Also, the skills and knowledge acquired by apprentices are neither certified nor recognized nationally, thus making it difficult for them to access further education and training, and to be mobile in the labor market.

15.5 New Directions in Apprenticeships

The future of work discussions in the context of the fast-changing world of work and skills needs have generated strong momentum for skills and lifelong learning. Usually, school-based TVET systems face challenges in quickly adjusting to these changes. Although quality apprenticeships tend to respond faster to the changing skills needs, the traditional model is designed to provide skills to young persons at the time of entry to the labor market. Apprenticeship systems, therefore, need to be reformed to make them more effective in meeting the needs of adults and older workers, as well as to make them attractive for millennials and digital natives. At the G20 2016 Summit in Hangzhou, for instance, the Leaders of the G20 endorsed the “G20 Initiative to Promote Quality Apprenticeships” (G20 2016).

This section provides an overview of the innovations and new developments that have the potential to make apprenticeships more attractive and effective, particularly for adults and older workers, including millennials and digital natives.

15.5.1 New Learning Venues

Learning in apprenticeships typically takes place in two venues: enterprises and TVET institutes; thus, it is also referred to as a dual training system. However, in the process of strengthening apprenticeship systems especially by supporting SMEs in implementing apprenticeship programs, new types of learning venues (managed by a third party or intermediary) have been set up. An intermediary in apprenticeships can be broadly defined as an organization “which act[s] on behalf of, link, are somewhere in between or mediate between the main parties— apprentices and employers” (ILO 2019b, p. 2). Primarily, intermediaries can address the challenges faced by employers in offering apprenticeships by performing all administrative and reporting functions and by organizing training for which a particular enterprise does not have the facility. It can employ apprentices as a third-party employer; train apprentices on behalf of

employers; and provide apprentice support services, or group smaller enterprises in delivering apprenticeship training.

Depending upon the regulations in a country, various types of organizations such as industry associations, chambers, and not-for-profit organizations can act as intermediaries. For example, in Australia, group training organizations (GTOs) are not-for-profit enterprises supported by the government. The GTOs act as the employer of apprentices and deploy them to various enterprises, from whom they charge a fee. GTOs also support enterprises in the management of off- and on-the-job training, and rotation of apprentices among participating enterprises to ensure that apprentices acquire the full range of training as per the standards (Field et al. 2010).

Although existing literature does not provide sufficient information on the impact of different types of intermediaries, the establishment of intermediaries is a promising practice to encourage employers, in particular SMEs, to offer apprenticeship training. The success of intermediaries also hinges on whether the regulatory framework in a country facilitates a sustainable business and funding model for them. In low- and middle-income countries, governments would need to share the cost of operations of intermediaries, and at the same time give autonomy to employers' organizations, industry associations, and chambers to manage them.

With the rapid adoption of online learning and learning apps, virtual learning has gradually become a part of apprenticeship training. This virtual learning venue allows an apprentice to learn any time and at any place. While it can exacerbate the digital divide and create challenges for older workers, it can attract millennials and digital natives toward apprenticeships, and improve apprenticeships' effectiveness, as observed in the next section.

15.6 Digital Technologies for Modernizing Apprenticeships

While the innovations in digital technologies are causing challenges for education and training systems to meet the fast-changing demands of the world of work, the use of digital technologies can significantly improve the implementation of all processes involved in apprenticeship programs.

One of the main challenges most apprenticeship systems face is the harmonization between on-the-job training in enterprises and off-the-job training in schools. The use of digital technologies is blurring the conventional boundaries between workplace and classroom by providing opportunities for apprentices to acquire underpinning knowledge online at any time. As stated in the *ILO Toolkit for Quality Apprenticeships—Volume 2: Guide for Practitioners* “[c]onventional day-release arrangement for apprentices may no longer be relevant since online learning can take place in almost any location” (see module 6 in ILO 2020, p. 2). The use of mobile logbooks in place of conventional logbooks has a significant advantage in that teachers in school and trainers in the workplace can simultaneously review the progress of apprentices. For example, in British Columbia, an apprentice can use a mobile logbook called *SkillRecord* to demonstrate his or her work experience

and competencies, and control one's learning process. The logbook automatically summarizes entries by an employer, equipment, and other criteria, providing broader and more complete picture of apprentices' experience and skills.

The ILO Toolkit elaborates on the following new trends in the use of digital technology (ILO 2020):

- (i) ***creating awareness and promoting apprenticeships*** through online vocational and career guidance portals;
- (ii) ***recruiting apprentices*** through digital platforms to match apprenticeships and employers, and conduct online tests for the selection of apprentices;
- (iii) ***enhancing learning experience*** through digital instructional and learning media, including 3D visualization;
- (iv) ***creating stronger relationships and coordinated support*** between enterprises and TVET providers, through portals connecting different learning venues;
- (v) ***monitoring of training*** through online (self) assessment and the use of mobile logbooks throughout the apprenticeship; and
- (vi) ***strengthening of knowledge sharing and networking*** with mobile apps and online portals.

15.6.1 Apprenticeships for Digital Skills

The demand for digital skills has been increasing rapidly due to technological advancements in the information and communication technology (ICT) sector as well as other sectors of the economy. The curriculum development process, however, is unable to keep pace with the fast-changing technology. According to the World Economic Forum, [the curriculum development process is] so time-consuming that even cutting-edge skills and information can be outdated when the new curriculum is adopted (Advani 2019). In addition to the slow development and revision of curricula, the greater challenge lies in the implementation of the curricula due to the lack of the latest equipment, facilities, and qualified trainers. The skills gap resulting from the mismatch between demand and supply of digital skills can hold back economic growth.

Apprenticeships, in comparison to the school-based training systems, are better placed to reduce the skills gap by equipping individuals with the skills needed to adapt to the emerging digital economy. Countries such as Singapore, the UK, and the United States have started implementing apprenticeship programs for occupations in the digital economy. Singapore has started the Artificial Intelligence Apprenticeship Programme⁵ to address skills shortages in artificial intelligence and machine learning, by developing a strong pipeline of artificial intelligence talent. An example of the collaboration between universities and enterprises in the UK to incorporate apprenticeships into their degree programs is given in Box 15.1.

⁵See AI Singapore. AI apprenticeship programme (AIAP): growing our own timber. <https://www.aisingapore.org/industryinnovation/aiap/>.

Box 15.1 Tech Industry Gold Degree Apprenticeships

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 professional, statutory, and regulatory body in the United Kingdom, 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 Tech Partnership Degrees. www.tpdegrees.com.

Some countries are also including the training of digital skills into apprenticeship curricula of various trades. For example, in Austria, apprenticeship programs are being revised to include digital skills in the training contents of occupations in various sectors. It is expected that the digital orientation of programs will increase the attractiveness of apprenticeships for young people.⁶

15.6.2 Adult Entrants to Apprenticeships

In today's fast-changing labor markets and aging societies in some countries, it is necessary for workers of all ages to regularly upgrade their skills and knowledge throughout their working life to remain employable. As the apprenticeship model allows individuals to acquire skills through on-the-job learning, it has the potential to reskill and upskill adults and older workers at the workplace. However, traditionally the apprenticeship programs are designed for young persons. For example, Brazil has an upper age limit of 24 years to join an apprenticeship (ILO 2019a).

To make an apprenticeship program accessible and effective for adults and older workers, changes would be required in the training and working conditions stipulated in apprenticeship system and programs (ILO 2020). While some apprenticeship systems allow older workers to join apprenticeships, such as by providing credits for the skills they already have and the opportunity to complete the program in a shorter period, this topic remains largely under-researched and underdeveloped. Some of the specific questions that need to be addressed include the following:

⁶European Centre for the Development of Vocational Training (Cedefop). <https://www.cedefop.europa.eu/en/news-and-press/news/austria-digitisation-promoted-new-apprenticeship-occupations>.

- (i) For youth and older workers in the same occupation, should the learning program and pedagogic methods be the same?
- (ii) How can customized apprenticeship programs of varying duration be offered according to the needs of workers with diverse competencies?
- (iii) How much remuneration should youth and older workers receive during the apprenticeship period?
- (iv) Who pays for the cost of apprenticeships for existing workers seeking to reskill and upskill?
- (v) What would motivate an employer to provide a customized, short-term apprenticeship for a worker of another employer?

15.6.3 Higher-Level or Degree-Level Apprenticeships

The unemployment rate of graduates who have completed a university degree is higher compared to apprenticeship graduates in many countries. The latter also earn while learning, thus avoiding the need to take student loans during their studies, unlike many of their peers studying in universities. The introduction of apprenticeship programs at the university level can also improve permeability and provide opportunities for apprentices for vertical mobility from secondary to higher education level. Thus, apprenticeship can contribute to promoting learning societies and increasing the attractiveness of apprenticeships for young persons. Accordingly, some countries such as Australia, Germany, India, Switzerland, the UK, and the United States have started to expand apprenticeships at the higher education level (ILO 2020). “Oxbridge” (the collective term for the universities of Oxford and Cambridge), considered as among the top universities in the world, has also started offering apprenticeships. For example, Cambridge University offers apprenticeship programs up to master’s degree level (ILO 2020).

However, despite the benefits, few countries have started apprenticeship programs in universities for some courses. Apprenticeships require education institutes to work in partnership with employers in designing and organizing training both at universities and in the industry. For many academics and administrators in the universities, this is a daunting, complex task. Furthermore, the traditional model of apprenticeship requires an apprentice to spend a majority of total time (up to 80%) at the workplace, which may not be appropriate for many university courses. It is also not easy to find enough placements in the industry for on-the-job training for all students undergoing a vast range of courses in universities.

15.6.4 *Provision of Quality Learning Opportunities in the Informal Sector*

Despite having many weaknesses, informal apprenticeships are widespread in countries with a large informal sector. Table 15.1 presents an analysis of the reasons or factors behind its popularity.

Considering the importance of informal apprenticeships for learning knowledge and skills in many countries, it is highly desirable to strengthen this informal system

Table 15.1 Suitability of informal apprenticeships for developing countries

Situation in developing countries	Suitability of informal apprenticeships
<ul style="list-style-type: none"> Formal training systems have inadequate training capacity to meet the huge demand for acquiring skills from young women and men entering the labor market and those who want to upgrade their skills 	<ul style="list-style-type: none"> Small and micro enterprises in the informal economy are widespread in developing countries and have vast potential to impart skills to a large number of women and men
<ul style="list-style-type: none"> Formal training usually focuses on meeting the demand of the formal economy. At the same time, the relevance of training is sometimes questionable 	<ul style="list-style-type: none"> Informal apprenticeship is a socially accepted practice for transmitting skills from one generation to the next. At their workplaces, apprentices not only learn relevant technical skills but are also introduced to business culture and business networks. Familiarity with these environments increases their chances of employment once the apprenticeship is complete. For example, in Malawi, the employment rate of graduates of informal apprenticeships was 97% (Aggarwal et al. 2010)
<ul style="list-style-type: none"> A large percentage of school dropouts who are not eligible for admission to formal training programs 	<ul style="list-style-type: none"> Informal apprenticeships provide access to training for school dropouts
<ul style="list-style-type: none"> A large percentage of the population lives under poverty who find it difficult to afford the cost of formal training Governments do not have sufficient resources to establish quality training infrastructure for all 	<ul style="list-style-type: none"> Improved and effective informal apprenticeship systems can train young people in developing countries, and therefore expand the skills base of national economies at a much lower cost than the formal technical and vocational education and training systems Many apprentices start earning wages once they demonstrate their proficiency in some tasks during their training period

Informal apprenticeships are widespread in countries with a large informal sector

Source Adapted from Aggarwal, A. 2013. Lessons learnt from informal apprenticeship initiatives in Southern and Eastern Africa. In A. Salim et al. *Apprenticeship in a globalised world: premises, promises and pitfalls*. Zurich: LIT Verlag. <https://www.inap.uni-bremen.de/dl/inap%20conference%20proceedings%202013.pdf>

of learning to extend quality lifelong learning and decent work opportunities to informal apprentices and master craftpersons working in the informal sector.

Accordingly, the ILO has designed and implemented innovative pilot programs to upgrade informal apprenticeships in many countries such as Bangladesh, Benin, Burkina Faso, Kenya, Malawi, and Tanzania. Based on the lessons learned from various pilot programs, the ILO recommends having an integrated strategy for upgrading informal apprenticeships to quality apprenticeships, and supporting micro and small enterprises (Box 15.2).

Box 15.2 Strategies to Upgrade Informal Apprenticeship

- The strategy should be developed based on a thorough understanding of local customs and practices, rather than policy adopted from another country.
- Within the informal economy, the aim of the strategy may be to promote a self-regulating mechanism. While public authorities facilitate such a mechanism, stakeholders involved in the informal apprenticeships should be provided support services and appropriate incentives.
- The development of quality assurance and regulations is very important but these functions may preferably be performed by small business associations of master craftpersons in the informal economy rather than directly by a public authority.
- The capacity of small business associations to function as regulators of apprenticeships, register agreements, assess skills, and award certificates should be strengthened.
- The capacity of micro and small enterprises can be strengthened by providing training to master craftpersons to improve their technical, pedagogical, and business skills; ensuring access to business development services and microfinance; and improving occupational safety and health at work.
- The skills of apprentices should be improved by supplementing on-the-job learning with off-the-job learning covering related theory, technical and business skills and core work skills; and rotating apprentices among various small businesses.
- The acquisition of national qualifications through the recognition of prior learning should be facilitated.

Source International Labour Organization. 2020. ILO toolkit for quality apprenticeships—volume 2: guide for practitioners. Geneva. https://www.ilo.org/skills/pubs/WCMS_607466/lang-en/index.htm.

15.7 A New Normal for Apprenticeships in the Context of the Coronavirus Disease Pandemic

The coronavirus disease (COVID-19) pandemic has seriously disrupted the training of apprentices. With the closure of workplaces, practical on-the-job training for apprentices cannot be continued in many enterprises. While many countries have shifted off-the-job trainings online, enterprises and education institutions face many challenges in delivering effective online learning, such as infrastructure issues (e.g., insufficient access to a high speed, reliable internet connection and computers); high internet costs; limited digital literacy of users; limited competence of trainers to develop effective online learning materials; lack of adapted training programs; and electrical power cuts (ILO, forthcoming).

Based on the findings from a global survey of enterprises on the impact of the COVID-19 pandemic on skilling, upskilling, and reskilling of employees, apprentices and interns conducted by 10 development partners,⁷ the training of apprentices has been interrupted in 86% of the surveyed enterprises, and nearly half of the enterprises have stopped paying stipends or wages to apprentices.

The main challenge was in continuing practical on-the-job training during the lockdown. While it was possible to do so for some occupations in the ICT and services sector, enterprises could not find feasible alternatives for most of the “traditional occupations” even though some initiatives were taken, such as using simulators, and virtual and augmented reality. It also needs to be acknowledged that the priority of enterprises was on the health and well-being of employees, and resumption of operations.

As lockdown measures were relaxed, enterprises resumed work-based learning by introducing precautionary measures such as social distancing, wearing of face mask, disinfecting workplaces, introducing temperature checks, and reducing the number of apprentices in a group.

While relatively limited research has been conducted on this topic, the findings indicated the number of apprenticeship training opportunities would be reduced in the medium term. According to research conducted by The Mitchell Institute for Education and Health Policy at Victoria University in Australia, new apprenticeships and/or traineeship offers will decline by 30% within 2 years (from the beginning of the pandemic in early 2020 to June 2023). The findings from the global survey have also indicated that over half of the surveyed enterprises (61% of SMEs compared to 49% of large and multinational enterprises) are intending to reduce investments in training due to financial constraints following the pandemic (ILO, forthcoming).

To mitigate the challenges faced by enterprises and boost intake for apprenticeship training, countries such as Australia and the UK have announced policy measures, including wage subsidies.

⁷African Development Bank, Asian Development Bank, European Commission, European Training Foundation, Cedefop, Global Apprenticeship Network, ILO, Organisation for Economic Co-operation and Development, UNESCO, and the World Bank Group.

Even after the pandemic is over, online learning is likely to remain as another learning venue in apprenticeship systems as it offers many advantages. However, to overcome the digital divide and make digital learning more equitable and accessible to all, countries need to ensure that all learners have affordable access to computers and the internet. For example, the Government of South Africa has decided to provide free laptops to poor students for online learning (BusinessTech 2020). To improve the effectiveness of online learning, the capacity of trainers to deliver high-quality online training, and of apprentices to use digital platforms and tools, should be strengthened. The use of blended learning methods combining face-to-face learning and online learning would be more appropriate, rather than completely switching to online learning.

15.8 Conclusions

This article explores promising practices that can give new directions to apprenticeship systems to ensure their relevance for learning societies. These include using intermediaries to increase the participation of employers, in particular SMEs, in apprenticeship training; improving the management of various processes of apprenticeship training with the help of digital technology; bridging the skills gap in digital economy; introducing higher-level or degree-level apprenticeships; making apprenticeship program accessible and effective for adults and older workers; and providing quality learning opportunities in the informal sector.

To design and implement the reforms effectively, governments should ensure the active participation of social partners and other relevant stakeholders in the process of developing and implementing new policy measures. Governments may include apprenticeships in any strategy for promoting lifelong learning; provide an enabling environment for enterprises to implement apprenticeships with ease, and a regulatory framework and equitable financing mechanism that balances the interest of both employers as well as apprentices; develop the capacity of social partners; provide need-based incentives and support services to enterprises; ensure permeability between general education and apprenticeships; and promote gender equality and inclusiveness. The reforms may also aim at developing alternative models of apprenticeships suitable for people of all age groups, formal and informal economies, traditional and emerging sectors, and secondary and higher education levels.

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