

## Chapter 4. The Conception and Practice of TVET in Sub-Saharan Africa<sup>1</sup>

This chapter is based on our systematic review of the literature (as detailed in later chapters), drawing on TVET definitions, reference frameworks (RQ2) and TVET models (RQ7.a). The chapter begins by addressing our working definition of TVET. We then present a number of different interpretations of the concept and practice of TVET which we found in the literature. We draw out specific dimensions of these interpretations and highlight their similarities. We also consider national differences in what is and what is not considered TVET. The goal of this chapter, however, is not to compare or evaluate different definitions. Instead, we seek to develop a common reference framework which encompasses a range of definitions and types of TVET.

This chapter forms the basis for the analysis of publications — regarding the definition of TVET and any diverging reference terms (RQ2) and the approaches to vocational training models (RQ7.a) — in later chapters.

We note that it is difficult to review and analyse TVET research due to the wide variety of TVET systems, as well as the lack of a clear overarching definition of TVET. Beyond research, we may consider the question of the compatibility of different systems, which is of utmost importance for labour migration. If one accepts the plurality of TVET definitions, the obvious conclusion is to seek a common reference framework. Such a reference framework requires the categorisation of TVET definitions according to a number of dimensions which are presented in this chapter.

### Research questions considered in this chapter

The research questions relevant to this chapter are listed in the box below. In this chapter, the role of the research questions is slightly different as it is difficult—if not impossible—to answer RQ2. Instead of answering RQ2 directly, we offer a framework. RQ3.a and RQ7.a are relevant to this framework and therefore listed in the box below. However, they recur in later chapters where they are fully answered (cf., Chapter 6 and Chapter 8.).

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### Research questions considered in this chapter

**[RQ2]** Which **definition of TVET** (i.e., TVET, apprenticeship, ‘Berufsbildung’, ‘apprentissage’, etc.) is used? Which (possibly divergent) terms are used? Where are such terms used (geographies) and how?

#### **RQ3. Topics, perspectives, current debates.**

**[RQ3.a]** What are the **topics, perspectives and current debates** concerning TVET that can be identified? Are there **special topics** that stand out (e.g., ‘informal apprenticeship’)?

**RQ7. TVET models** that are discernable in the literature; the **main lessons** in designing, developing and delivering TVET models.

**[RQ7.a]** What **pedagogical or programmatic designs** are researched in the literature? Which models of TVET are used (or planned) in SSA (e.g., distance learning, blended learning, in-service, pre-service, work-based, school-based, formal vs. informal)?

### Conclusions of this chapter regarding the concept and practice of TVET in SSA

The variety of TVET systems and the lack of a clear, overarching definition of TVET may not affect how it works within countries where a local definition may be sufficient. However, it does mean that there are concerns about the compatibility of different systems and the potential constraints on international labour migration. The harmonisation of career paths and the standardisation of common post-TVET skill levels are important, at least at a regional level.

This chapter argues that it makes sense—and that it is possible—to unify conceptually the many forms of TVET in a common reference framework, despite the diverse terminology used to describe TVET in the literature. The reference framework offered here covers several dimensions (RQ3.a):

1. the formality of the provision (Section 4.3);
2. the cooperative/transversal dimension (cooperation among different places of learning; ‘Lernortkooperation’) (Section 4.4.1);
3. the temporal/longitudinal dimension (Section 4.4.2);
4. the formality of the sector of work;
5. the breadth of education offered: ‘expansive’ vs. ‘restrictive’ (Section 4.5).

To illustrate the utility of the reference framework, we considered competency-based TVET. Sometimes, competency-based approaches include a narrow set of skills and are therefore placed at the ‘restrictive’ end of the spectrum, for instance in anglophone systems. However, other competency-based approaches seek to evolve how TVET systems operate; this includes changing self-perceptions of teachers as professionals (e.g., for teachers, [†Haßler, et al., 2018](#) and references therein).<sup>2</sup> Such approaches

<sup>2</sup> For further discussion on competency-based approaches see [†Bremer \(2005\)](#).

lie at the expansive end of the spectrum, and are much closer to some of the values of the current German dual system. Therefore, we argue that—within international research—labels (such as *'competency-based'* or *'dual'*) are less meaningful than a categorisation of TVET along the above dimensions. We also note that the above dimensions bear similarities to other TVET characteristics, including conceptual work in high-income contexts (†[Kim, et al., 2014](#)) and the German core elements pillars (†[Schwarz, et al., 2016](#)).

This Chapter 4 focuses on the various dimensions of TVET that appear in the set of U-publications analysed in this report. We note that the underlying definition of TVET is not stated in many publications. Research from Ghana, Kenya, Cameroon, Nigeria and Tanzania considers both formal and informal TVET and concludes that a sharp separation between the two forms is not always possible, necessary or, indeed, helpful (RQ3.b). Broader perspectives that consider how to connect formal and informal education are needed.

These publications (from Ghana, Cameroon, Nigeria, South Africa and Tanzania) pay particular attention to the transition from general education to TVET (and further education in general). Researchers advocate meaningful, lifelong, professional learning that starts in general education and does not end with TVET. At the same time, it is clear that institutions are not always able to respond to such broad requirements.

This chapter presents the most important professions for which TVET is provided in SSA (according to the research under consideration). Differences are clear, and can be traced to different educational histories; the range of professions that are considered TVET in SSA differs from the range of professions that are considered TVET in Europe (RQ3.b). In some countries in SSA, for example, the teaching profession is considered as a TVET profession<sup>3,4</sup>.

As with the other chapters, the following sections offer additional details of the points discussed in the summary above.

At this point we note that in SSA the term TVET is generally used for technical and vocational education and training, whereas in OECD contexts the term VET is used (c.f. †[Eichhorst, et al., 2012](#)). We define TVET as follows.

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3 The education takes place in a 'college', whereby 'colleges' in SSA are located in the post-secondary not in the tertiary area.

4 It is important to note that even in European contexts some of these divisions are softening. Once clearly defined tracks of 'professional education' and 'academic education' are merging in Europe and North America. The Beruflichen Hochschule in Hamburg, for example, is developing a new concept to enable students to complete a Bachelor's degree alongside TVET from 2021 (†[Pressestelle Hamburger Senat, 2019](#)).

## 4.1. Working definition of TVET

Our working definition of TVET is shown in Figure 4.1 immediately below.

### Figure 4.1. Definition of TVET

TVET is a pathway both to personal development, and to participation in and co-shaping work and society. TVET thus enables participants to exercise social, economic and environmental responsibility. TVET focuses on occupation-specific knowledge, practical skills and attitudes that are independent of the place, content, and provider of education.

This definition overlaps with the definition of the German Conference of Ministers of Education and Cultural Affairs ([†Kultusministerkonferenz, 2017: 2](#)). We think this definition is suitable because it places the individual — the learner — at the centre of TVET efforts. It states that TVET processes are based on work- and technology-related social, economic and ecological conditions. The definition refers to a self-determined and independent responsible action and design of the TVET students (or learners) in work processes, pointing to the competence orientation of the educational processes. With TVET, the trainees acquire competencies for a specific profession. We note that while others<sup>5</sup> focus solely on initial TVET and the issuance of qualifications, we look at all educational pathways (initial and continuing). Therefore, we consider the type of qualification as subordinate, and include literature regardless of a focus on recognised certifications. In SSA, the knowledge and experience attested formal certifications are often misleading as courses often fail to provide up-to-date, applicable knowledge and practical job-related skills ([†Global Monitoring Report, 2014](#)).

Our working definition of TVET acknowledges the five quality criteria for TVET in Germany, which are considered direction-setting in international TVET cooperation.<sup>6</sup> We also make reference to the UN's Sustainable Development Goals, which nations in SSA have committed to implement.

Our definition also aligns with UNESCO's concept of TVET ([†Grijpstra, 2015:18](#)):

*'those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to **occupations** in various sectors of economic and social life' ([†ibid.:18](#)).*

To distinguish our overarching definition from other definitions—including German or European definitions—we always use the acronym 'TVET' to refer to our working

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5 For example, [†Eichhorst, et al. \(2012:1\)](#) consider initial TVET and therefore focus on educational pathways that lead to a qualification.

6 [†Bundesinstitut für Berufsbildung, TVET Quality Criteria \(2017\)](#), available at [https://www.bibb.de/dokumente/pdf/ab12\\_fachtagung\\_10-qualitaetsmerkmale\\_20160926.pdf](https://www.bibb.de/dokumente/pdf/ab12_fachtagung_10-qualitaetsmerkmale_20160926.pdf)

definition. Otherwise, we specifically refer to ‘German TVET’<sup>7</sup> or ‘European TVET’<sup>8</sup>. It is important to note that many types of TVET in sub-Saharan Africa (SSA) do not necessarily follow European models. The corresponding models in SSA are clearly shaped by national legislation and national circumstances. Although European influences can be seen, there is no European model per se that operates in SSA. Finally, we note that the terms TVET and VET are used interchangeably in the literature (†Eichhorst, et al., 2012:1).

#### 4.1.1. Working definition: TVET college

We use the term ‘college’ as the place in which (technical and vocational) education and training occurs (i.e., ‘technical college’, ‘college of health’, or ‘college of education’). College is not synonymous with vocational school in Germany.<sup>9</sup>

Our focus here is on secondary vocational education or TVET following secondary education. Only a few of the U-publications provide a clear definition of TVET or definitions of related terms such as education or teaching. There are a number of reasons why this may be the case. For example — as noted elsewhere — many of the U-publications only deal with a specific part of TVET, such as a specific profession, and therefore do not need to be concerned with overarching questions.

## 4.2. Definition of TVET in the literature

The U-publications consist of articles written by various authors across the globe who focus on TVET in SSA; the U-publications are ranked U in terms of relevance (‘ultra-high relevant’) and were therefore coded. Just over 20% of the U-publications provide information on the question of a TVET definition. However, very few of these publications share a clear definition of TVET, or indeed related terms, such as apprenticeship. There are a number of reasons why this may be the case. It appears to be primarily because articles typically focus on a specific subset of TVET (e.g., nursing education, initial teacher education, etc.). The authors of such articles do not explicitly link their research to the wider area of TVET, which means that they do not provide a definition for TVET.

We highlight (cf., overview Chapter 3) the small number of papers in languages other than English (with a limited exception for French). Therefore, the terminology used in

7 We note that in our use of the acronym ‘TVET’ can refer to either of the German terms ‘Berufsbildung’ and ‘Berufsausbildung’. The connection between those terms from the German Vocational Training Act is as follows: *“Vocational training is a part of the education system in Germany, specifically adult education.”* According to §1 of the Vocational Training Act (BBiG), a distinction is made between (1) preparation for vocational training (‘Berufsausbildungsvorbereitung’), (2) vocational training (‘Berufsausbildung’), (3) further vocational training (‘berufliche Fortbildung’) and (4) vocational retraining (‘berufliche Umschulung’) as parts of vocational training (†Berufsbildungsgesetz (BBiG), 1). †Pütz (2003) offers an informative English-language overview of the German system.

8 We note that the acronym ‘VET’ is commonly used in Europe. We do not use the acronym ‘VET’ here, but use ‘TVET’, as this is more common in sub-Saharan Africa. Lauterbach notes *“Um den im deutschen Sprachraum mit beruflicher Bildung definierten Bereich darstellen zu können wird deshalb im Englischen die Bezeichnung ‘Technical and Vocational Education and Training’ (TVET) verwendet. Die UNESCO hat sich für diese Definition entschieden.”* (p. 45, Lauterbach, 2005; updated in: †Lauterbach, et al., 2018). As we have noted, in the EU a distinction is made between VET and TVET (†ibid.). Also, see †Baumann, 2012.

this report is based on English-language terminology. However, importantly, this use of language reflects African realities rather than European realities.

#### 4.2.1. TVET: differing terms, same concept

In our analysis, it became clear that different forms of TVET — described using different working definitions — can nevertheless be based on a common understanding. Walker and Hofstetter recognised that different authors and institutions have employed different terms for concepts with the same underlying definition (†Ethiopia, Benin: Walker & Hofstetter, 2016). A programme in agricultural vocational training in Ethiopia, for example, is sometimes referred to as “*ATVET, agricultural education and training, or vocational training in agriculture*” (†*ibid.*, 8). However, the reviewed literature shows that the term ‘agricultural TVET’ (ATVET) is most appropriate, as it is also used in further discussion on TVET in studies from low- and middle-income countries (†Kenya, Guinea, Burkina Faso: Lancy, 2012). In addition, we came across terms for functions or issues that are identical, but have a slightly different meaning in different countries.

In contrast, however, at national level there are also TVET-related terms that have clear interpretations. In Kenya, for example, the Kenyan National Industrial Training Standards (Kenya: Government, 2015) define ‘apprentice’ as follows:

*“Apprentice means a person who is bound by a written contract to serve an employer for such period as the board shall determine, with a view to acquiring knowledge, including theory and practice, of a trade in which the employer is reciprocally bound to instruct that person”* (†Government of Kenya, 2015:ii).

Another example is ‘learnerships’. This term very precisely describes in-company training in South Africa that leads to a nationally recognised qualification (†South Africa: Davies & Farquharson, 2004).

#### National particularities

In most countries (including high-income countries), vocational education and training is by definition clearly distinguished from other paths (e.g., academic educational paths). However, the educational pathways to entering certain occupations are not always uniform. For example, teachers in general and TVET schools in Germany must have completed higher education<sup>10</sup>. In many African countries, the educational pathway to

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<sup>10</sup> In Germany, apprentices (‘Auszubildende’) are supervised by skilled workers (‘Fachkräften’) throughout their training. At vocational schools (‘beruflichen Schulen’), teachers (‘Lehrende’) who have completed tertiary education take over this task. During the practical phases — in companies — the apprentices are supervised by trainers (‘AusbilderInnen’) who have to meet certain requirements: Anyone who wants to provide qualified training has to pass the instructor aptitude test (‘Ausbildereignungsprüfung’) according to the Ordinance on Trainer Aptitude (†‘Ausbildereignungsverordnung’, ‘AEVO’, 2009). This is not a higher education qualification, nor does it require a university degree as a prerequisite. In addition, § 30 (2) of the Vocational Training Act (†‘Berufsbildungsgesetz’) requires that trainers must have the necessary vocational skills (‘berufliche Fertigkeiten’), knowledge (‘Kenntnisse’) and capabilities (‘Fähigkeiten’) as well as personal aptitude (‘persönliche Eignung’). The authorization to train according to AEVO is granted in Germany by the responsible Chamber of Industry and Commerce (‘Industrie- und

become a teacher (such as a 'technology teacher') in vocational education and training is regarded as vocational training. Decisive for classification as an academic or non-academic profession is usually the character of the educational institution that was attended. These classifications vary, in part depending on the nation, and can change according to political (and other) guidelines. Moreover, a profession can be regarded as TVET at a certain point in time, but if the educational path changes — or in some cases even just the place of education (from college to university) — the same TVET path is assigned to higher / university education. Such shifts often occur for educational policy reasons (for example, responsibility for TVET moves away from the Ministry of Labour to the Ministry of Education). This may be due to a change in national circumstances, depending on national needs in the various sectors.

TVET teacher training in many countries in SSA also has to submit to a sometimes difficult to follow 'allocation and development process' in which the national vocational training is located. For example, teacher education in Ghana was considered to be post-secondary and therefore located in the General Education Services division of the Ministry, alongside primary and secondary schools. However, the teacher education colleges have migrated to the National Council for Tertiary Education and now sit alongside universities. Technical vocational schools continue to belong to the separate 'Council for Technical and Vocational Education and Training' (COTVET, Ghana).

### Example: teacher education

In SSA, teacher colleges sometimes fall under the same ministry or directorate as tertiary institutions, but they may also be in the same ministry or directorate as primary and secondary schools. In Kenya, primary school teachers are trained in colleges, secondary school teachers are trained in universities, and there are specialised universities that train technical teachers. All the institutions are under Kenya's Ministry of Education. However, in Burkina Faso, teacher education is not part of the Ministry of Higher Education.

In SSA, the education of TVET lecturers often takes place at 'teacher training institutes', just like teacher education for teachers in primary and secondary schools. Such education is not considered as university education or higher education. For example, teacher education for general education and TVET in Germany is only offered at university level (access with a university entrance qualification)<sup>11</sup>. In the UK, teacher training used to take place at colleges and then moved to university. There has recently been an attempt in the UK to enable teachers to receive initial training at special training institutes ('Teach First'). A Bachelor degree is awarded in these institutes, which (in all disciplines) is sufficient to teach at primary / secondary schools. There is a current discussion in European

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Handelskammer', IHK) or Chamber of Crafts ('Handwerkskammer', HWK) as approval authority. There are, however, other (tertiary) oaths to obtain a training qualification. For example, it can also be acquired by studying business education ('Wirtschaftspädagogik'), engineering education ('Ingenieurpädagogik') or technical education ('Technikpädagogik', i.e., industrial teacher, 'Gewerbelehrer').

11 The profession of 'ErzieherIn' (Kindergarten teacher), however, is obtained through TVET. Nevertheless, 'ErzieherInnen' also teach in pre-schools.



VET research about the quality and usefulness of the various training paths for teachers ([†Hayward, 2018](#)), which would be enriched by further international experience.

Given that many teachers are already successfully teaching in schools without formal qualifications (e.g., [†Global Monitoring Report, 2014](#)), it is reasonable to suggest that the content of education programmes (and how it improves student learning outcomes) is a more important factor in teacher education than where such training takes place. In summary, we thus note that it is hardly meaningful to assign certain professions *a priori* to TVET or academic education. Similarly, an academic qualification should not be considered superior. Quality depends on both the content and execution of the education programme.

### 4.3. TVET: formal and informal

In this chapter we discuss specific dimensions of TVET in SSA that have emerged from the research we have examined. The distinction between ‘TVET in the formal sector’ and ‘TVET in the informal or so-called traditional sector’ ([†Greinert, 2008](#)) is evident in the literature on TVET. For example, in Kenya, the traditional Jua Kali sector<sup>12</sup> is described in one study as encompassing all work done outside of the formal sector, with TVET defined as focusing on vocational skills that cannot ordinarily be acquired in mainstream education, and require specific training ([†Kenya: Momanyi, 2015](#)). Other studies also loosely defined TVET as informal learning, understood as being a lifelong process in which participants acquire skills and develop by performing different roles ([†Cameroon: Wohlfahrt, 2018](#)).

However, when discussing the differences between formal and informal TVET, the following distinctions must be made in relation to specific sectors:

1. formal employment sector: formal government-regulated, taxed economy
2. informal employment sector: the ‘grey economy’<sup>13</sup>, beyond direct governance, including traditional roles (such as basket weaving, pottery, etc).

The following distinctions between types of provision are also necessary:

- formal provision: regulated by regulatory bodies;
- informal provision:
  - either some other indicators of formality (such as written agreements), but without government regulation, or
  - few or no indicators of formality.

Within the informal work sector, the literature from SSA explains that these ‘informal provisions’ are based on loose agreements (such as verbal agreements) between the skilled (‘professionals’) and those requiring skills (‘apprentices’). We note that the nature of provision, from informal to formal, is a spectrum. While informal provision

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12 The words ‘jua kali’ (Swahili) mean ‘hot sun’ and refer to the informal sector that includes informal traders and artisans (those that normally work by the roadside in the ‘jua kali’).

13 Also ‘shadow economy’.



does not result in government-recognised certifications, it may nevertheless include other indicators of formality (†Ghana: Gondwe & Walenkamp, 2011; †Ghana: Alagarsaja & Arthur-Mensah, 2013). For example, in traditional eye practice apprenticeships in Benin-city, Nigeria, 18% of apprentices have a signed agreement (including payments of money: †Nigeria: Ebeigbe, 2013). While this training may include other indicators of 'formality', it does not result in government-recognised certification (e.g., †Cameroon: Wohlfahrt, 2018).

Other systematic training programmes include more formal elements, but still occupy a position outside of the formal education system and do not have governmental accreditation. Such programmes may meet the specific needs of children and adults (life skills training), which is useful for work in the informal sector. These are typically provided by both governmental and non-governmental bodies, and aim to be flexible by being delivered anywhere that is convenient for learners. They should be flexible and offered at a location that enables participants to maintain their everyday working and living habits—at the same time securing their own livelihood during the education.

We also note that a number of studies do not distinguish between the type of education (i.e., formal or informal) with reference to a definition of TVET. Instead, the study references a practical goal, e.g., provision of training and retraining to ensure adequate employment and employability (†Tanzania: Machumu, et al., 2016).

Some research papers demand that TVET should prepare apprentices for both the formal and the informal labour market. If apprentices are to have a good chance of succeeding in a highly volatile work environment, then preparing for formal and informal employment must go hand-in-hand. (†Nigeria: Olabiyi, 2014).

Table 4.2 presents the different combinations of formal/informal employment and the dimension of formal/informal training<sup>14</sup>.

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14 The 'non-formal' descriptor is not mentioned here!

What about full or part-time study at the convenience of the apprentice or even following a restrictive time table as decided by the provider, etc [are these not captured by the studies as parameters of informal, non-formal, formal]?

**Table 4.2. Two related dimensions: The dimension of the formal/informal sector of work (employment) and the dimension of formal/informal provision of TVET (also see Chapter 8). Importantly, in any one country, these types co-exist.**

	<b>Formal employment sector:</b> formal, government-regulated, taxed economy	<b>Informal work sector:</b> grey economy, beyond direct governance, traditional roles
<b>Formal TVET provision:</b> regulated by regulatory bodies	E.g., initial TVET education / apprenticeship in many countries in SSA and elsewhere	<i>(non-existent)</i>
<b>Informal TVET provision:</b> some other indicators of formality (such as written agreements), but without government regulation	Formal continuing professional development (CPD); programmes taken at the practitioner's / crafts-person's discretion	This includes the 'informal coastal type' in West Africa (cf., <a href="#">↑Walther, 2006</a> ; <a href="#">↑Walther, 2008</a> )
<b>Informal provision:</b> few or no indicators of formality	E.g., 'on-the-job learning', 'mentoring' in many countries in SSA	This includes the 'Sahel type' ( <a href="#">↑Walther, 2006</a> ; <a href="#">↑Walther, 2008</a> ) as well as types of TVET in Tanzania ( <a href="#">↑Höjlund, 2013</a> )

A number of studies do not use the work-place situation (i.e., formal or informal employment) of the TVET student in the labour market to inform their definition of TVET; instead, the definition focuses on the main goal of providing skills training and retraining, i.e., to maintain decent employment and employability in any sector ([↑Tanzania: Machumu, et al., 2016](#)). Only some definitions encompass the notion that TVET should prepare learners for work in both the formal and informal labour markets, which would help every individual to compete and excel in rapidly changing labour markets ([↑Nigeria: Olabiya, 2014](#)).

#### 4.4. The cooperative and temporal dimensions

To introduce the cooperative and temporal dimensions of TVET, we briefly review Grijpstra's concept of TVET:

*"This conceptual definition of TVET cuts across educational levels (post-primary, secondary, and even tertiary) and sectors (formal or school-based, non-formal or enterprise-based, and informal or traditional apprenticeship) as preparation for employment and further life [and] is one of the functions of every educational system. It is therefore important to take into account the transversal and longitudinal nature of TVET in any strategic policy framework" ([↑Cameroon, Egypt, Ghana, South Africa, Tanzania: Grijpstra, 2015:18](#)).*

The notion of cutting ‘across educational levels’ is thus referred to as longitudinal (temporal) while the nature of TVET across sectors is referred to as transversal. Expanding †Grijpstra (2015:18), and using the terms cooperative and temporal, we suggest these definitions:

1. **Cooperative (transversal):** cross-sector engagement represented by different workplaces (both formal and informal) and with links to TVET locations;
2. **Temporal (longitudinal):** different TVET institutions as places for learning, at different points in the career of the learner. This includes TVET-oriented secondary schools, TVET colleges (post-secondary or tertiary), TVET laboratories/TVET centres, as well as distance education; this also includes lifelong learning and continuing education.

We first investigate the cooperative dimension before turning to the temporal dimension in the next section.

#### 4.4.1. The dimension of cooperation

The name ‘dimension of cooperation’ borrows from the German ‘Lernortkooperation’, i.e., cooperation between different places of learning<sup>15</sup>. In brief, aspects of the cooperative dimension (RQ7.a) are well-evidenced in the U-publications. Colleges or schools sit at one end of this dimension while the workplace sits at the other. Thus we characterise points along this dimension as

1. **Type K1.** Formalised college-based courses;
2. **Type K2.** Formalised dual system approaches;
3. **Type K3.** Apprenticeship-only approaches.

Type K1 and K2 designs are necessarily classified as formal (see above), while Type K3 designs can be formal or informal. These designs are discussed further in Chapters 6 and 8.

#### 4.4.2. Untangling the temporal dimension

This dimension takes into account professional development throughout professional life, including the transition from general to initial TVET and continuing TVET. The U-publications criticise — but also recognise — a range of ideas regarding the concepts of lifelong learning and flexible TVET<sup>16</sup>.

TVET was most frequently referred to as something that happens during a single period in time, rather than being a continuous process. This narrow ‘single-period-in-time’ definition of TVET lacks the scope of continuing professional development (CPD). Clearly, CPD can fall within the scope of TVET, and definitions of TVET should include the full spectrum from initial TVET to continuing TVET (CPD).

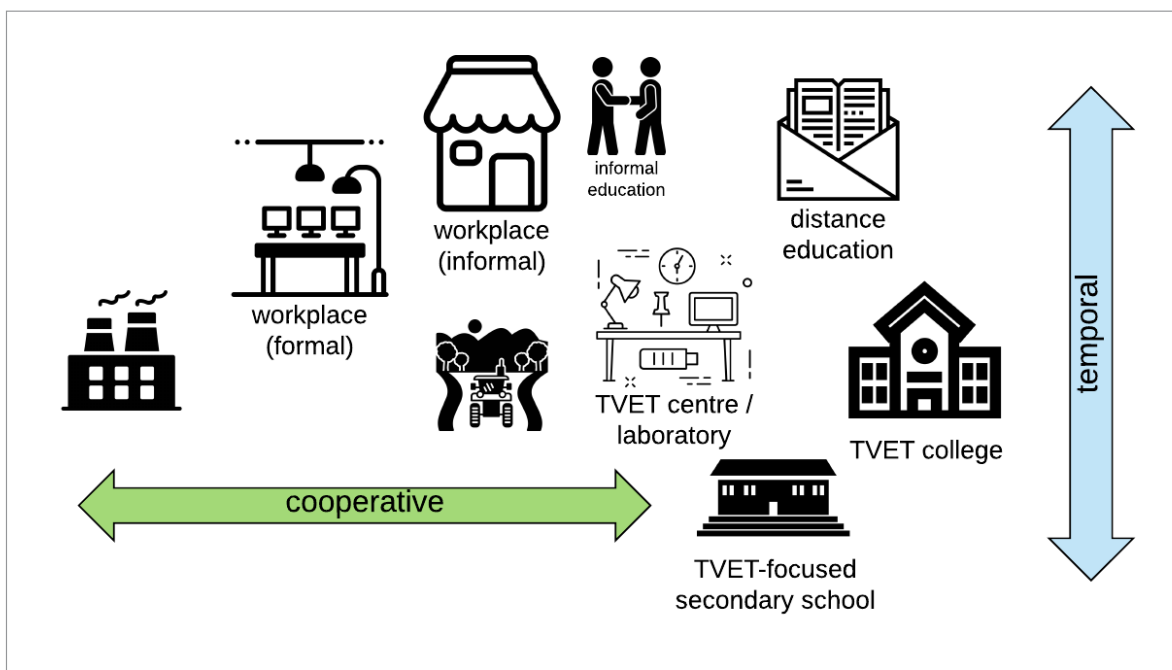
We also argue that the notion (often employed in teacher education) of **pre-service** versus **in-service** is not helpful because it emphasises the nature of ‘formal service’

(into which the teacher enters after qualification) rather than the continuous nature of learning. Instead, we use the notions of

1. **initial technical and vocational education (‘initial T/VET’, ‘1TVET’, ‘1VET’):** TVET that a participant enrolls in at the start of their career path and which usually happens over a period of one or more years (regardless of whether this training takes place in the workplace or in a college), i.e., an initial contiguous professional learning experience; and
2. **continuing professional development (‘continuing T/VET’, ‘CVET’, ‘CTVET’):** TVET that takes place at various periods throughout the participant’s working life, beyond the start of their career; this may accompany full- or part-time employment, or may take place during brief periods of unemployment to gain additional skills.

The two dimensions are illustrated in the figure below.

**Figure 4.2. The cooperative dimension (cross-sectoral and between workplace and college; transversal) and the temporal (longitudinal) dimensions of TVET.**



#### 4.5. TVET: ‘expansive’ and ‘restrictive’

Other than placing emphasis on the workplace as the place of learning, ‘apprenticeship’ does not represent a homogenous concept that can be clearly distinguished from other concepts. Sometimes it simply signifies the understanding that effective TVET must connect formal study (e.g., in a college) and workplace learning (e.g., in a company). The terms ‘expansive apprenticeship’ and ‘restrictive apprenticeship’ were coined by Safford

and colleagues (†[Malawi: Safford, et al., 2013](#)); they offer a helpful perspective on the scope of apprenticeships and TVET in general.

**Expansive apprenticeship.** The term ‘expansive apprenticeship’ (†[Malawi: Safford, et al., 2013](#)) refers to workforce development in which participants acquire knowledge and skills that equip them both for their current (or intended) roles within the workplace, as well as (in as much as possible) for a future workplace setting. This relates to the question of ‘whether to vocationalise or not’ and the appropriate balance between specific and generic skills (†[South Africa: Oketch, 2007](#)). Related to this definition of an ‘expansive apprenticeship’ is the idea that TVET is a resilient model of learning that can evolve and adapt to different contexts and demands, and is able to stretch to respond to both political and economic challenges (†[Fuller & Unwin, 2011, cited in: Safford, et al., 2013](#)). This relates closely to the definitions of TVET outlined in other studies, which are described below.

**Restrictive apprenticeship.** The opposite term, ‘restrictive apprenticeships’, only helps apprentices in their current workforce position and does not provide opportunities for wider learning. This could be considered to be the prevalent definition for apprenticeships in SSA, where the term ‘apprenticeship’ reflects an approach characterised by narrowly defined workforce roles (†[Malawi: Safford, et al., 2013](#)). According to Safford (*ibid.*) this definition is related to the way in which apprenticeship training was conducted in the past in Malawi, where the vast majority of workers were trained through a formal or informal apprenticeship system. In this system, there are usually private arrangements between parents/apprentices and a knowledgeable person who agrees to provide training and employment. This kind of apprenticeship can suffer from a weak educational approach, as many apprentices do not complete formal educational cycles and are only trained in a narrow skillset (†*ibid.*).

This definition of ‘restrictive apprenticeship’ is similar to the definition of ‘learnerships’ in South Africa, where students have a route to a nationally recognised qualification that relates to a specific occupation, and has a structured experience (†[South Africa: Davies & Farquharson, 2004](#)). These definitions relate to the more restricted definition of TVET, usually found in older studies (†[United Republic of Tanzania, 2008; cited in Machumu, et al., 2016](#)), and restrict TVET to a narrow and specific profession, with limited flexibility in an evolving labour market.

#### 4.6. TVET: education for a ‘skilled, adaptable labour force’?

The overall theme that emerges from our survey of the literature is that definitions of TVET are generally focused around the outcome of providing a ‘*skilled, adaptable labour force*’ that can respond to the changing environment in an economy in a holistic sense (†[Nigeria: Olukanni, et al., 2014](#); also see †[Uganda, Kenya: Evoh, 2014](#); †[Ethiopia: Lee, 2010](#)). This resonates with the overall narrative around ‘expansive apprenticeships’ (see above; †[Malawi: Safford, et al., 2013](#)). Other research recognises the need for streamlining, which is defined as preparing an individual with a narrower set of skills that

enables them to fulfil the immediate needs of the labour market (in informal or formal sectors).

This restrictive definition of TVET appears to have also been used in SSA. However, it is clear that shifts in thinking have taken place. For example, a number of studies referred to the changing definitions of TVET in SSA, acknowledging its role in training a diverse and flexible workforce that is able to adapt to the needs of the labour market rather than being restricted to one profession/sector (†Kenya, Tanzania: Malle, 2016). This is more in line with the definitions of ‘expansive apprenticeships’ and ADEA’s<sup>17</sup> definition of TVET, which is concerned with the acquisition of knowledge and skills for the world of work – a concept that is more wide-ranging in scope (†Sierra Leone: Kingombe, 2011). The UN’s Conflict and Education Research Group sees TVET defined in line with our working definition, and suggests that TVET should offer opportunities for personal development and social participation beyond gainful employment. It suggests that TVET should be seen as

*“a learning system in which both ‘soft’ and ‘hard’ skills are developed to promote livelihoods and inclusion that support community and individual agency” (†South Sudan: Atari & McKague, 2015:171).*

This adoption of wider definitions of TVET in South Sudan is indicative of the concept beginning to be understood more broadly: these wider definitions appear more often in the more recent literature, which suggests a shift in how TVET is understood around the world.

## 4.7. Professions and sectors of work included in TVET

The U-literature does not offer a conclusive picture of which professions are included in TVET. Similarly, our survey of researchers in SSA (Botswana, Ethiopia, Kenya, Malawi, Namibia, Nigeria, and South Africa) did not uncover a clear answer, as we now illustrate. The email survey was sent to 43 stakeholders and was answered by 16 people, representing a response rate of 37%.

### 4.7.1. Researcher survey: Professions included in TVET

Our survey asked, ‘To which of the major occupational groups is the notion of TVET applicable?’. Those occupational groups were defined with reference to the †International Labour Organisation (2007); they are presented in the following table.

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17 † Association for the Development of Education in Africa, Home, available at <http://www.adeanet.org/>

**Table 4.4. Major occupations according to the International Labour Organisation.**

Major occupation groups
Group 1. managers
Group 2. professional
Group 3. technicians and associate professionals
Group 4. clerical support workers
Group 5. service and sales workers
Group 6. skilled agricultural, forestry and fishery workers
Group 7. crafts and related trades workers
Group 8. plant and machine operators and assemblers
Group 9. elementary occupations
Group 10. armed forces occupations

Among the respondents to our researcher survey (with responses from Botswana, Ethiopia, Kenya, Malawi, Namibia, Nigeria and South Africa), there was broad agreement that all of the above occupational groups fit within TVET. However, some respondents excluded certain groups. The following groups were excluded at least once: clerical support workers; service and sales workers; crafts and related trades workers; armed forces occupations.

Some respondents felt that broader inclusivity is necessary for TVET; for example, one respondent stated that it may be better to speak of *'skills development'* because using the term TVET may limit actors to the ministries of labour and/or education, and therefore exclude other important stakeholders. Similarly, another respondent stated that TVET applies to almost all occupations. Another respondent stated that TVET should respond flexibly to market demand and gaps in skills.

#### **4.7.2. Subgroups of the major occupational group referred to as 'professional'**

To obtain additional insight, we asked about the subgroups of the major occupational group, 'professional'. These subgroups include:



**Table 4.5. Subgroups of Group 2 'professionals' (see Table 4.4)**

Subgroups of Group 2 'professionals'
Group 2.1. science and engineering professionals
Group 2. 1. health professionals
Group 2. 1. teaching professionals
Group 2. 1. business and administration professionals
Group 2. 1. information and communications technology professionals
Group 2. 1. legal, social and cultural professionals

In general, there was broad agreement from respondents (from the same group of countries outlined above). However, some respondents excluded certain groups. The following groups were excluded at least once: health professionals; business and administration professionals; information and communications technology professionals; legal, social and cultural professionals.

However, all such definitions of TVET are ultimately defined by the curriculum associated with those TVET programmes. Indeed, the respondent from South Africa mentioned specific challenges around the outdated curriculum for information and communications technology.

### 4.7.3. Frequently occurring occupations in the research

A number of occupations and industries regularly recur in the U-literature, including

- **Area 1: health, teacher education, agriculture** ('health', 'teachers', 'agriculture'):
  1. health (nurses/health care assistants, midwives, TVET for health, TVET interpreted as education of health professionals);
  2. teacher education (elementary school, lower and upper secondary, TVET interpreted as initial and continuing school-teacher education);
  3. agriculture and food production (ATVET, agricultural technical and vocational education).
- **Area 2: crafts, artisans, technical professions, trade, services and others** (craft and artisanal education, technical professions, trade, service industry), e.g.:
  1. tourism
  2. construction (bricklayer, etc.)
  3. entrepreneurship
  4. craft and craft trades.

(cf., Table 4.4 above).

It is not surprising that Area 1 (health, education and agriculture) is among the most frequently occurring in the U-literature. The imperative for action in these areas has long been recognised; they are core areas of the Sustainable Development Goals and have been comparatively well funded. Because of this long-term attention and financial support, this area occupies a special position and forms clear sectors of TVET in SSA. Area 1 corresponds to 'professionals in health, education and agriculture' (Groups 2.2, 2.3 and 6). Area 2 contains the remainder of Tables 4.3 and 4.4.

What is surprising is the large number of studies that deal with the topic of entrepreneurship. We have therefore classified those as a separate category. Although there are a number of publications on trade and crafts, they do not focus on specific crafts. It is noticeable that there are only a few publications concerning the construction industry. The number of publications on industrial production is also unexpectedly low.

We also point out that our automated screening revealed the almost complete absence of certain occupations in the U-literature. This includes some traditional occupations (bricklayer, electrician), as well as the most important new occupations of computer specialist or IT expert.

## 4.8. Chapter bibliography

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