



United Nations  
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# Discussion paper

on quality assurance of qualifications in technical  
and vocational education and training





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Cultural Organization

# Discussion paper on quality assurance of qualifications in technical and vocational education and training

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Background and Scope

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# CHAPTER 1

## INTRODUCTION

## Background and Scope

Following the 3rd International Congress on Technical and Vocational Education and Training (TVET), that was held in Shanghai in 2012, a recommendation was made to explore the possibility of developing international guidelines on quality assurance for the recognition of qualifications based on learning outcomes.

A key area of this work is the quality assurance arrangements that underpin the qualification process used in TVET with a view to generate trust and support the relevance of qualifications for the labour market and for individuals. How do the reforms of qualification systems and particularly the increasing focus on learning outcomes influence the quality assurance arrangements of certification?

This is one key question of this paper which is written to identify issues involved in assuring the quality and consistency of the qualification process so that the certificates issued have currency and are a valid and reliable testament to a learner's knowledge, skills and wider competences. The paper discusses these issues of quality and aims to be exploratory in nature and to open up the field of quality of qualification provision so that a wide range of stakeholders in the qualification process can challenge and offer elaborations and observations.

The scope of the paper includes technical vocational education and training (TVET) across the world. UNESCO sees TVET as “comprising education, training and skills development relating to a wide range of occupational fields, production, services and livelihoods. TVET, as part of lifelong learning, can take place at secondary, post-secondary and tertiary levels and includes work-based learning and continuing training and professional development that may lead to qualifications. TVET also includes a wide range of skills development opportunities attuned to national and local contexts. Learning to learn, the development of literacy and numeracy skills, transversal skills and citizenship skills are integral components of TVET<sup>1</sup>”.

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1 UNESCO, Recommendation concerning TVET, forthcoming

## CHAPTER 2

# DEFINITIONS



This paper refers and uses a range of concepts and terms that are essential for the debate concerning quality assurance of qualifications.

Table 1: Key terms concerning quality assurance of qualifications<sup>2</sup>

### **Learning**

It is the basis for obtaining a qualification. Learning can occur in formal settings or through experiences such as work or social activities. Learning can manifest itself through knowledge, skills or wider competences such as personal and social competences.

### **Assessment**

It is the process of judging an individual's knowledge, skills and wider competences against criteria such as learning outcomes or standards of competence.

### **Validation**

It is the confirmation that the assessment outcomes of an individual's learning meet predetermined criteria (standards) and that a valid assessment procedure was followed. This means that the assessed outcomes have been quality assured and can be trusted. Sometimes during this process grading of certain standards of assessed outcomes can lead to grades being awarded to candidates.

### **Certification**

It is a record of an individual's learning that has been validated. A certificate is usually issued by a body which has public trust, displays competence, and confers official recognition of an individual's value in the labour market and in further education and training.

### **Qualification**

The word qualification covers two different aspects.

1. Qualification is seen as the certificate, diploma or title that is awarded by a competent body and which testifies that an individual has achieved learning outcomes to given standards. The certificate, diploma or title confers official recognition of the value of learning outcomes in the labour market and in education and training. A qualification can be a legal entitlement to practise a trade;
2. Qualification is seen as the knowledge, aptitudes and skills required to perform specific tasks attached to a particular work position.

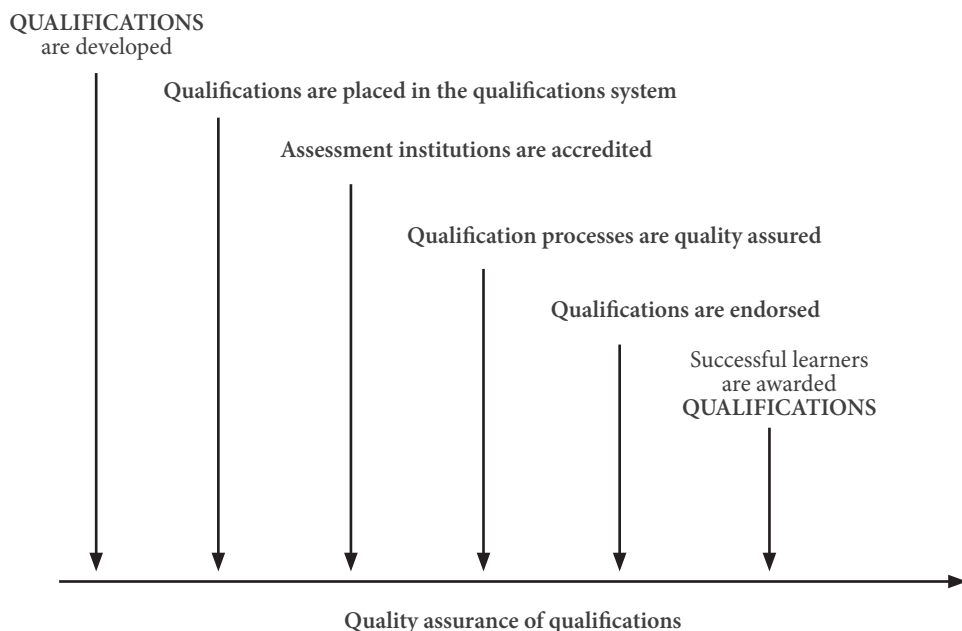
### **Recognition**

Recognition can be seen in the raised self-esteem of individuals and when it results in their progress into a new job, higher pay and/or increased social status.

<sup>2</sup> Adapted from CEDEFOP (2008, 2015). Eurydice, 2006; European Training Foundation, 1997; OECD, 2007; ILO, 1998.

The qualification process varies from setting to setting, but in most cases it includes the five elements as described above. These can be illustrated using the following figure<sup>3</sup>. In figure 1, the quality assurance of qualification process is shown as milestones in a path from the development of a qualification to the certification of learners.

Fig 1: stages of qualification and quality assurance



In fact, the qualification process extends beyond this final point in the pathway to the evaluation, review and revision of the qualification itself. Thus the whole journey is underpinned by quality assurance in all the organisations involved, whether their responsibilities are at policy and systems level or at operational and institutional level.

Qualifications require trust. All qualifications must be developed, used and evaluated in ways that engender a zone of trust around the qualification. This means all stakeholders with an interest in the qualification have the confidence to trust the standards on which the qualification is based, the assessment and validation processes applied and the ways certifications, diplomas and titles are issued. Without a zone of trust a qualification loses value.

<sup>3</sup> This diagram is inspired by the Manual of Procedures of the National Qualification Framework in Kosovo (under UNSCR 1244).

## Questions for discussion

The paper gives an overview of the quality assurance process of qualifications. From this broad perspective it seems that the quality assurance process is usually adapted to the context in which it is applied and is therefore almost amorphous in nature, it has both technical and socio-political dimensions. The improvement of quality assurance hinges on the resolution of a wide range of issues. With this improvement in mind some questions follow that helps the text to be read critically and to facilitate discussion.

*How are international/regional trends affecting the development of the qualification system/quality assurance system in countries?*

*Do policy-makers and qualification designers recognise the different structural and contextual features of assessment in general education and in TVET respectively?*

*How can it be guaranteed that perceptions of quality of a qualification does not depend on the route to that qualification?*

*How can countries facilitate the coordination of various quality assurance authorities and develop a country-wide approach to TVET?*

*How can industry and sector bodies be best engaged in the quality assurance of TVET qualifications?*

*How can TVET systems remain adaptable to the labour market given that many countries also develop standardised training materials and assessment tools?*

*How can countries develop quality assurance systems that apply to all types and levels of TVET provision?*

*How are NQFs serving quality assurance in TVET systems?*

*Is the form of assessment sufficiently matched to the function of a TVET qualification?*

*Are some key features of learning processes which are essential in TVET and essential to effective performance (competence) actually threatened by an over-emphasis on outcomes?*

*How can a better understanding of learning outcomes and TVET pedagogy facilitate improvement in quality assurance of TVET qualifications?*

*Is the manageability and cost of the assessment approaches appropriate to the TVET system?*

*Are incentives and drivers adequately considered in determining the form of assessment, certification and accompanying quality assurance in TVET?*

## CHAPTER 3

# TRENDS IN QUALIFICATIONS SYSTEMS

Qualifications systems may be considered to include all aspects of a country's activity that result in the recognition of learning<sup>4</sup>. These systems include the means of developing and operationalising national or regional policy on qualifications, institutional arrangements, quality assurance processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society.

Quality assurance aims at improving consistent use of effective and reliable processes and standards when assessing learning outcomes in TVET and is an integral part of qualification systems. It is therefore useful to look at the ways qualifications systems are changing in order to get a better idea of the influences that the broader context bring to quality assurance processes.

## Increasing internationalisation

Countries are increasingly looking outward to other countries or regions for good practices in developing quality assurance systems. There is now a greater awareness of the need for qualifications systems to have high international credibility as governments accept that qualifications play a part in facilitating competitiveness and economic growth. At the same time international companies and international organisations, including owners of international qualifications, are increasingly asking for transparency of national systems so that transnational business can be facilitated through recruitment of employees with requisite qualifications.

Even a qualification process/programme in a small town may appear to be independent of all but the most local of pressures but it is increasingly the case that qualifications and programmes relate to national qualification framework levels<sup>5</sup> and these provide a benchmark to people outside the country who seek mobility of skills, indications of standards and quality assurance. Indeed many qualifications systems have adopted international standards for quality assurance<sup>6</sup> and these impinge on local provision.

These pressures for international standards have resulted in the creation of international quality assurance frameworks and networks for recognition and evaluation of foreign qualifications<sup>7</sup>. Often based on higher education<sup>8</sup>, the frameworks have been adapted to a vocational setting or designed specifically

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4 OECD, 2008, *Qualifications Systems, Bridges to Lifelong learning*, Paris

5 UNESCO, 2015, *Global inventory of qualifications frameworks*

6 For example, EAS, INQAHE

7 For example, UK NARIC is the UK's National Agency responsible for providing information and opinion on academic, vocational and professional qualifications from across the world.

8 For example, ENQA, INCHAE

for TVET. The most significant developments in this area have been in Europe and in East Asia. The European quality assurance work has developed through a community of practice (EQAVET); this community has produced a generic model for quality assurance and its instruments in 2009, such as a quality framework and indicators for TVET systems. Similarly, the East Asia Summit has produced, in 2012, a new overarching framework of quality assurance.

There are also more direct and more tangible forces for internationalisation of qualifications systems. For instance, information and communication technologies (ITCs) have opened up the education and certification market to many more users including people in other countries. This is discussed later in this paper.

Internationalisation of trade has led to the need for international standards for both processes and products<sup>9</sup> and these cannot be ignored when national education and training systems are developed. For many years, at international level, the main professional trade bodies have seen the necessity to impose standards in their trades so that markets are opened up and efficiencies can be created, for example in aviation, logistics, maritime and welding. These international sectoral qualifications<sup>10</sup> are world standards in their own right and are sought after in many countries either through being part of national provision or as independent private provision.

The scale on international migration is rising as people seek to progress in work or study or to escape economic or social deprivation and conflict. Often migrants have little opportunity to use evidence of their knowledge, skills and other competencies<sup>11</sup>. This large-scale migration poses a serious challenge to recognition systems. Assessment, validation and qualification processes need to adapt to circumstances where requirements for formal evidence are not appropriate and new ways of more rapid appraisal and support are necessary for people to work at all and especially if they are to work to their true qualification level. The quality assurance processes need to reflect the need for assessment, validation and certification to have optimum openness and easy use whilst at the same time guaranteeing the status of national qualifications.

The internationalisation of qualifications systems draws attention to the unequal access to qualifications between countries and regions. In the more developed economies qualifications have established a strong position as a key to study and work. This could also be true for developing economies but the importance of informal economy is a factor that influences the value of qualifications. Thus the

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9 For example, ISO standards and health and safety standards

10 For example, Microsoft user qualifications, international welding qualifications

11 Migration and skills: the development agenda in ETF partner countries, ETF, 2015, P. 20

quality assurance process is seriously challenged to safeguard standards but at the same time optimise access to qualification for people in different circumstances.

## The rise of qualifications frameworks

Qualifications frameworks are classifications of qualifications in terms of levels of demand of the qualification on the learner. Sometimes further classification is included in terms types of qualifications and their attachment to specific education and training sectors. These frameworks can operate within a country (such as National Qualifications Framework, NQF) or across the countries in a region (such as Regional Qualifications Framework, RQF).

As a result of internationalisation, together with the importance of regional economic communities, has led to the development of RQFs. Currently UNESCO's Global Inventory describes seven such frameworks<sup>12</sup>. Linking to national qualifications systems to these regional frameworks is a mostly a voluntary process, however many countries see advantage in joining a regional qualifications framework. In many cases, countries already have other memoranda or agreements, bilateral and multilateral, for mobility of services and trade and the RQF is a formalisation of these arrangements. In theory RQFs are neutral entities. However, they often expect member countries to develop a NQF so that learning outcomes are used, to ensure that quality assurance processes are explicit, and to use a formal referencing process to link the levels in the NQF and the levels in the RQF. These processes are not neutral and impacts of RQFs are seen in national arrangements for certification, for example, within the quality assurance process, the independent verification of evidence for certification.

In the future the various RQFs may relate one to another. For instance, following the Recommendations of the Third International Congress organised in China in 2012, UNESCO launched recently an important initiative to explore the possibility of developing international guidelines on quality assurance for the recognition of qualifications, based on learning outcomes, and identify a set of world reference levels, to facilitate the international comparison and recognition of TVET qualifications<sup>13</sup>.

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12 The Association of Southeast Asian Nations Framework, the Caribbean Qualifications Framework, the European Qualifications Framework, the Gulf Qualifications Framework, the Pacific Qualifications Framework, the Southern African Development Community Qualifications Framework, the Transnational Qualifications Framework for the Virtual University of Small States of the Commonwealth.

13 J Keevy and C Borhene 2015, Level-setting and recognition of learning outcomes: The use of level descriptors in the twenty-first century, UNESCO

Many countries have developed NQFs, currently, more than 150 NQFs exist or are in development worldwide<sup>14</sup>. The first frameworks were developed to address specific challenges for linking, regulating or developing qualifications. The current, second generation of frameworks (from about 2000) are mainly concerned with improving quality and transparency in qualifications systems. In the last five years, we have seen a large expansion in creation of NQFs which aim to link qualifications within and between countries. The majority of countries developing national qualifications frameworks today are also involved in RQFs such as the ASEAN Qualifications Reference Framework (AQRF).

What is also new about the most recent NQFs is the interest of governments in developing them for a range of purposes that go beyond basic classification. Modern NQFs can justifiably be described as ‘instruments with a vision’ questioning current education and training practices and challenging existing professional and sectoral interests. Many new NQFs have a quality assurance function. Designing a NQF is thus something more than agreeing on a set of technical features and they demand attention to be paid to political, social and cultural implications that require full stakeholder involvement.

## Expansion of qualification systems

The experience of international qualifications bodies indicates that demand for qualifications is escalating, and the growth is probably independent of economic cycles and labour market demand. People want qualifications in order to gain competitive advantage during times of plenty and want them in order to better compete during times of financial stress.

International movement of labour is now common and increasing. Restrictions on labour movement across national boundaries increasingly include entry being contingent on professional qualification and/or satisfying language requirements.

Spurred by transnational surveys, domestic governments see increasing qualification rates as a measure of educational performance, and increasingly are using qualifications as a strategy for system improvement. International standards in areas such as law, communications, aircraft maintenance and resource extraction further increase demand for qualifications. In addition, work by OECD and the European Commission highlights the extent to which informal learning remains critical in labour markets, with a rise of experience (expressed in CVs) being important for progression and access to employment. At the same time, policy moves towards

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14 UNESCO, 2015, Global inventory of qualifications frameworks



formal recognition of informal learning are being seen as important for both social justice, economic efficiency and development.

The expansion of qualification use can generally offer greater permeability of learning and labour markets. However, imperfections and inequalities in access can enter such qualification arrangements for two reasons. Firstly, there is evidence that those most likely to be in receipt of continuing and further educational and training are those who already have attained a high level of initial qualification. Secondly recognition of informal learning is more accessible to those who are in situations where the knowledge and skills demanded in national standards can be readily acquired through experience – i.e. those already in rich and expansive work. This process of social concentration is offset by processes such as community-based certification arrangements, where curriculum vitae construction is supported through community organisations and where effort can be devoted to linking non-employment experience (e.g. managing household budgets) and voluntary activities to qualification based on employment standards. Targeted, supportive funding arrangements can also offset imperfections and inequalities by allowing access to learning opportunities e.g. night schools, community-based learning opportunities and so on. This funding may not solely be implemented as a direct subsidy to formal TVET. It may also be directed at supporting enterprise activities that then create or include learning and training opportunities.

With this expansion of qualification, it is also the case that the functions of qualifications are also expanding. A basic<sup>15</sup> list of common functions of qualifications is:

- ▶ to enhance economic, personal and social prospects;
- ▶ to signify the completion of stages of education and milestones within the system;
- ▶ to motivate learners;
- ▶ to tackle social exclusion;
- ▶ to promote lifelong learning;
- ▶ as evidence of fitness to progress in education;
- ▶ as evidence of the fitness to enter employment;
- ▶ as evidence of the fitness to enter a specific occupation /profession;

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15 Hart, John (2008). Report for the Scottish Qualifications Authority on portfolio assessment and certification. Glasgow: Scottish Qualifications Authority.

- ▶ as evidence of fitness to progress in employment (responsibility, seniority, pay);
- ▶ to structure the curriculum;
- ▶ to structure the content of national training programmes;
- ▶ for business planning /to structure workplace training and development;
- ▶ to measure institutional performance;
- ▶ as a basis for funding;
- ▶ for quality assurance, benchmarking, target setting.

However, Cedefop's 2010 report<sup>16</sup> - Changing Qualifications - identifies 40 different functions.

The implications for quality assurance processes of a broader and larger qualifications market are significant, for example the scale of operations for qualification design, delivery and quality assurance. Larger and more efficient systems are growing to deliver the qualifications needed.

## The growth in international sectoral qualifications

International bodies representing standards of work in a sector have produced sets of standards that form the basis of qualifications and certifications<sup>17</sup>. This field is vast so it may be useful to show the diversity of organisations working in this area<sup>18</sup>.

- ▶ International education centres - example: The American Hotel & Lodging Educational Institute that has more than 90 licensed affiliates in 54 countries
- ▶ International corporations– examples: Microsoft, Cisco
- ▶ International public institutions – example: The United Nations, with sub-groups like the International Maritime Organisation
- ▶ International private sectoral associations – example: The European Welding Federation.

These qualifications have existed for a long time and are now more numerous and more important than ever, acting as a 'gatekeeper' to work and operations in their specific sectors. These qualifications have often informed national provision but they also stand separately from it through developing specific delivery processes

<sup>16</sup> Cedefop 2010, Changing qualifications, p. 196

<sup>17</sup> Cedefop, 2012, *International Qualifications*, Thessaloniki

<sup>18</sup> adapted from the report of the EQF Advisory Group subgroup on international sectoral qualifications

and in particular their own qualification arrangements. Many NQFs are yet to incorporate international sectoral qualifications. A consequence of this is that the quality assurance processes that operate on international qualifications remain almost invisible to national qualifications authorities.

## The shift to the use of learning outcomes

There is a growing interest in describing learning and achievement in terms of what has been learned by individuals<sup>19</sup>. Learning outcomes are increasingly used in describing curricula, qualifications specifications, assessment processes and in NQF levels<sup>20</sup>. The goals of the learning are clearer, the expected outcomes of assessment are clearer and people are able to understand better how to plan their learning careers. Use of learning outcomes also makes assuring the quality of learning and assessment more effective.

Outcomes-based qualifications frameworks have been key in promoting the use of learning outcomes<sup>21</sup>. UNESCO's new education 2030 agenda<sup>22</sup> reinforces the attention to equity and quality and to improving learning outcomes in a lifelong learning perspective. In many countries NQFs serve as reference points for qualifications, the simple fact that NQF levels are expressed as learning outcomes is a signal that it is better if qualifications are themselves expressed as outcomes. Sometimes the NQFs have rules or criteria about how qualifications can be allocated to levels – these rules will often state that the qualification should be expressed in terms of learning outcomes. Whether the qualification is allocated a level voluntarily or through the use of criteria the NQF is acting as a catalyst for the use of learning outcomes. All the NQFs developed in Europe since the advent of the European Qualification Framework (EQF) have used level descriptors in the form of learning outcomes. A recent review of the use of level descriptors<sup>23</sup> brings together diverse and contemporary learning outcomes-based developments from across education,

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19 The Shift to Learning Outcomes. Cedefop Reference series; 72. Luxembourg: Office for Official Publications of the European Communities, 2009

20 There are other areas of value, for example the use of learning outcomes in occupational standards, job profiles, and recruiting and appraisal schemes. Learning outcomes are also valued in guidance settings for example in writing course details, job search details and job adverts. The same applies in the personal context, for example in writing CVs and describing job experience.

21 See The Shift to Learning Outcomes. Cedefop Reference series; 72. Luxembourg: Office for Official Publications of the European Communities, 2009

22 See [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/FFA\\_Complet\\_Web-ENG.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/FFA_Complet_Web-ENG.pdf)

23 J Keevy and C Borhene 2015, Level-setting and recognition of learning outcomes: The use of level descriptors in the twenty-first century, UNESCO

training and work on a global level and shows the importance of these shifts at international level.

Evidence suggests that extending the use of learning outcomes is not easy and there are serious barriers to expansion, not least the preparedness of teachers and assessors for the new approach. There are also philosophical objections to the learning outcomes approach. The first is that it is not possible to capture all kinds of learning in simple learning outcome statements and that this undermines the organic way knowledge has developed over the centuries. The second argument is that the context of learning is important – both in facilitating learning and demonstrating learning. For example, in apprenticeship training the time spent being immersed in a working environment is an important attribute itself and adds value to the demonstrated learning outcomes.

The impact of learning outcomes on quality assurance is likely to be significant. In general terms the object of quality assurance shifts from the curriculum and the teaching, to quality assurance of the learning that is enabled as a result of the curriculum and the teaching. The focus of assessment can shift from the general outcome of the learning experience by sampling the content of a syllabus to the measurement of specific learning outcomes through assessment criteria. This shift of emphasis has implications for teachers, assessors, curriculum designers, and makes the learning process and the assessment of learning more transparent, possibly easier to access and possibly more flexible in the way learning is facilitated. Quality assurance has to adapt to this shift of emphasis. It is possible that there is likely to be more objectivity in the quality process as it is based on standards that are clearer to everyone including the learner.

## Recognising a broader scope of learning

There has been a long-standing tendency to define the scope of learning in terms of formal education, particularly general education. This formal education is highly valued, and TVET has often been a poor relation in comparison to the perceived value and investment in general education. Notwithstanding that the volume and scope of learning gained outside formal general education is huge, there remains a reluctance in some countries to give fair credit (and certificate) to learning gained outside formal learning establishments. However, there is now a steady trend, at least at policy level, to recognise (and certify) learning from more varied sources including distance learning, learning in work, learning in communities and homes. More and more countries have procedures in place to allow these non-formal and informal learning experiences to be validated, to open up access to jobs and study, and to count towards credit and to full or partial qualifications. It is likely that about

5% of qualifications are awarded on the basis of some credit being made for learning gained outside formal learning settings<sup>24</sup>.

It is important to note that the process of certificating learning gained outside formal settings involves three preliminary stages<sup>25</sup> (i) identifying learning, (ii) documenting this learning against standards and (iii) independent assessment of the learning against the standards. Each of these stages can provide positive outcomes in their own right and should be taken into account in determining the scope of use of validation of non-formal and informal learning and the appropriate quality assurance measures.

## The expansion of remote certification of learning

TVET is dependent on experienced workers who are ready to teach, on specific materials with which skills can be learned and demonstrated, on experts ready to assess learning and institutions ready to validate learning and offer certificates, diplomas and titles that are trusted and valued. When any one of these elements is missing TVET becomes difficult to organise. Remote teaching, learning, assessment and certification can remediate some of these missing elements of TVET. Recently, the World Association of Chefs Societies (WACS) demonstrated how these missing elements could be addressed remotely<sup>26</sup>. The process is designed with quality assurance in mind, one of the key stages in the remote process is the quality assurance of the evidence by independent experts.

Many learning institutions are opening up to learners from other countries and such provision is now a commercial reality. These learning institutions have created mass open learning resources, largely made possible through ICTs. The certification of learning is commonly an important part of the offer of learning providers. These often well-known institutions gain kudos for the remote provision by virtue of the values associated with traditional provision. At the same time their traditional provision needs to be protected from threats and unintended consequences of providing remote provision. The certificate issued to a student should be the same for the same qualification regardless of the route to that qualification. Thus the quality assurance systems need to take into account enrolment procedures and remote assessment and moderation as well as the normal institutional quality assurance.

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24 based on average of figures for Scotland, Denmark, Australia and South Africa.

25 EU COM validation guidelines

26 see <https://www.worldchefs.org/Education/Global-Culinary-Certification>

There are concerns that learners seeking certification need assurance that the issuing body is a genuine provider of certificates with proper guarantees of quality in place. The number of cases of bogus organisations issuing fraudulent certificates from (apparently) reputable providing organisations is growing. Thus the quality assurance of these relatively new mass education and certification systems is extremely important for the protection of learners and to the providing institutions.

## Conclusion

This section outlined key trends shaping international debate on quality assurance of qualifications. The section highlighted the rising demand for qualifications and its structural nature. It also noted the increasing internationalisation of qualifications and the influence of regional economic integrations and more broadly globalisation on the way qualifications systems and related quality assurance arrangements are considered. The section also identified the growing diversity of TVET programmes and the wide range of learning settings including school-based, workplace and on-line delivery.

## CHAPTER 4

# THE FORMS OF TVET PRACTICES

In this section the focus is on the range of TVET practices that could lead to a qualification and could be the subject of quality assurance. There is no universal acceptance of what defines TVET. Unlike other sectors such as basic, primary, secondary and higher education (focused at university level), TVET provision can often range from mid secondary level to the highest levels of learning, includes formal/informal/non formal provision and allows for both vertical post school pathways as well as horizontal skills development pathways. UNESCO in its new Recommendation concerning TVET, considered TVET as:

...comprising education, training and skills development relating to a wide range of occupational fields, production, services and livelihoods. TVET, as part of lifelong learning, can take place at secondary, post-secondary and tertiary levels and includes work-based learning and continuing training and professional development that may lead to qualifications. TVET also includes a wide range of skills development opportunities attuned to national and local contexts. Learning to learn, the development of literacy and numeracy skills, transversal skills and citizenship skills are integral components of TVET<sup>27</sup>.

It is this working definition that is used in this paper.

Although there is significant variance across countries in TVET models and qualifications systems, there are some key defining characteristics. Across the literature there is a consistent thread about the relationship TVET has with the world of work and the range of stakeholders involved in the provision and in the quality assurance process. More broadly, TVET is considered to be critical to alleviating poverty, promoting peace, conserving the environment, improving the quality of life, achieving sustainable development and promoting social cohesion and equity.

## Systems and governance of TVET

The form of TVET in a country's qualifications system varies enormously. Some countries separate TVET into various subsectors, these lines of separation are not only made between initial vocational training and continuing education and training<sup>28</sup>, but between formal, informal and non-formal learning and a mix of

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27 UNESCO, Recommendation concerning TVET, forthcoming

28 Initial vocation training is focussed on general or vocational education and training, usually undertaken before entering the workforce and within the initial education system, usually before entering working life' (CEDEFOP 2011). Continuing vocational training includes education or training conducted after initial education and training and often after entry into the workforce (CEDEFOP 2011). CEDEFOP 2011, Glossary: Quality in education and training, European Centre for the Development of Vocational Training, Office of the European Union, Luxembourg.



delineations as to what is TVET<sup>29</sup>, In some countries, TVET is considered linked to only one ministry or mode of delivery and to the exclusion of other ministries or institutions that may be providing what would be considered TVET programmes.

The divisions within the broader TVET sector are often made along the lines of the governing or quality assuring authorities rather than any inherent difference in approach to TVET. In many countries TVET governance and quality assurance is spread across multiple agencies. A recent report by the ETF<sup>30</sup> notes that governance arrangements in TVET is fundamentally about power, relationships and accountability: Who has influence, who makes decisions, and how are those who have influence and make decisions held accountable?<sup>31</sup> The ETF report indicates that a country's governance model is strongly associated with the overall performance of TVET policies.

Current studies and initiatives in the ASEAN region<sup>32</sup> have highlighted the emerging tensions between various governing bodies in the TVET space. Some ASEAN countries have expressed these tensions as being one of the most significant barriers to effective implementation of a TVET system and to meeting the emerging needs of each country. The following issues have been identified:

- ▶ lack of effective cooperation between different administrative systems, ministries, departments and parties concerned with different education levels/sectors to ensure the quality of education;
- ▶ lack of mutual recognition between two qualification systems: educational and occupational; or
- ▶ harmonizing cross-sectoral regulation.

The division of TVET across governing or quality assurance agencies can be a barrier to TVET being able to meet its goals. In many developing countries a coherent and coordinated TVET system is not evident, nor is there a whole of country approach to TVET and how TVET is to achieve its goals.

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29 For example, skills/vocational/skills training/skills education/technical education

30 European Training Foundation 2013, Good multilevel governance for vocational education and training, European Training Foundation, Communication Department, Torino

31 Abrams et al., 2003 as cited in European Training Foundation 2013, Good multilevel governance for vocational education and training, European Training Foundation, Communication Department, Torino, p 6

32 World Bank Group HRD Korea project 2015, EAS TVET Quality Assurance project 2012-2015, ASEAN Qualifications Reference Framework 2010 - 2015

## Typology of TVET provision

The models of TVET provision vary across countries. TVET interventions could include:

- ▶ technical education, vocational education and vocational training (as defined earlier in this chapter);
- ▶ on the job training, apprenticeship training<sup>33</sup>;
- ▶ formal and non-formal learning arrangements;
- ▶ all modes of delivery including online, face-to-face, distance;
- ▶ all types of settings such as schools, colleges, apprenticeship training centres, worksites and private enterprises;
- ▶ all types of provider/regulator including public (e.g. government funded schools and training centres) and private (e.g. companies, churches, NGOs and private colleges);
- ▶ offerings at secondary and post-secondary levels;
- ▶ provision of initial training, continuing education and training and training for unemployed persons; and
- ▶ training delivered at any length of frequency and time<sup>34</sup>.

A current working document<sup>35</sup> by Inter-Agency Working Group on TVET outlines a typology of TVET provision in developing countries that is provided in table 2 below.

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33 Tripney, J, Hombrados, J, Newman, M, Hovish, K, Brown, C, Steinka-Fry, K and Wilkey, E 2012, Technical and Vocational Education and Training (TVET) interventions to improve the eligibility and employment of young people in low- and middle-income countries: A systematic review, The Campbell Collaboration, Oslo, Norway. define on the job training as ‘work based training that uses real jobs as a basis for instruction and for practical purposes’ and apprenticeship training as combining ‘on the job training for a highly skills craft or trade...with academic/theoretical instructions’ (p. 16).

34 Tripney, J, Hombrados, J, Newman, M, Hovish, K, Brown, C, Steinka-Fry, K and Wilkey, E 2012, Technical and Vocational Education and Training (TVET) interventions to improve the eligibility and employment of young people in low- and middle-income countries: A systematic review, The Campbell Collaboration, Oslo, Norway.

35 Proposed indicators for assessing technical and vocational education and training: Working Document, Inter-Agency Working Group on TVET indicators (2014)

Table 2: Typology of TVET provision<sup>36</sup>

Institution based training	Provided by the formal education system	Under the supervision of the ministry of education
		Outside the supervision of the ministry of education
	Provided outside the formal education system	Public
		Non-public For profit
		Not for profit
Workplace-based training	Pre-employment training	Modern apprenticeship
		Traditional apprenticeship
	In-service training	

Table 2 highlights the varied approaches to TVET and the potential for a broad range of TVET providers, but does not include education and training that is achieved through informal modalities, such as through social communities. In many countries, learning is achieved through family and the local community, such as youth learning how to weave fishing nets or carve and build wooden boats. In these instances, learning is often not recognised by the formal sector but is accepted by the community. In some communities there are learning centres focussing on numeracy and literacy as well as transferable skills<sup>37</sup>, and job-related life skills. Ideally, learning in these environments should link to and provide vertical pathways to formalised TVET provision and should be recognised as an important learning avenue and a focus of policy makers, however this is not always the case.

## Learning domains and the pedagogy of TVET

The key concepts associated with learning, the recognition of learning, as well as the level at which learning is certified are complex and for the most part, highly contextual. What is meant by “learning outcome”, “skill”, “competence”, or even “knowledge” in one country or region is often different, though related, to the use

<sup>36</sup> Proposed indicators for assessing technical and vocational education and training: Working Document, Inter-Agency Working Group on TVET indicators (2014)

<sup>37</sup> Sometimes referred to as generic, employability, 21st century, or transversal skills.

of the terms in another country or region<sup>38</sup>. This complexity permeates the language of qualifications frameworks and qualifications.

TVET assessment is generally moving towards using learning outcomes-based approaches and competency-based assessment. This trend has a direct effect on the choice of assessment methods with assessments of tasks and assignments coming to the fore. Generally speaking, the evidence for assessment can take more diverse forms than that for 'input' (teaching syllabus) based testing. Typically there are two forms of assessment methods utilised in a competency-based approach: objective testing and performance assessment. Objective testing generally involves paper-based or computer-based questioning, e.g. True/False, extended response, multiple choice items. Performance assessment generally require candidates to actively generate or create a response or product (e.g. build a house). The balance of these two assessments approaches with the assessment process varies according to the level of implementation and confidence in competency-based assessment in individual countries. Quality assurance of qualifications needs to include arrangements for authenticity, reliability and validity of these assessment methods in the same way as it does for other methods. There is another challenge, however. Whilst the usefulness of learning outcomes is generally appreciated, the acceptance of a competency-based approach is not universal and some professionals doubt that competency-based approaches can provide a full picture of the potential of learners. The quality assurance system is therefore under additional scrutiny to ensure that the status of qualifications based on mastery tests is as high as it can be.

In many countries TVET is defined by its competency-based approach to training and assessment; this appears especially so if TVET is derived or managed through ministries responsible for labour. In some countries the competency-based training and assessment approach clearly distinguishes TVET from the other education sectors. Nearly all SADC<sup>39</sup> and ASEAN countries are progressing a competency-based approach to TVET. There are many definitions of competence. A recent review<sup>40</sup> of the use of level descriptors in levelling learning outcomes explores the notion of competence and highlights the convergence and divergence in the international literature and the use of this notion in the context of reforming qualifications systems. The situation can get even more complex when Anglo-Saxon, French, Germanic and even Latin-American interpretations are included.

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38 J Keevy and C Borhene 2015, *Level-setting and recognition of learning outcomes: The use of level descriptors in the twenty-first century*, UNESCO

39 *Status of TVET in SADC Region*

40 J Keevy and C Borhene 2015, *Level-setting and recognition of learning outcomes: The use of level descriptors in the twenty-first century*

The ASEAN countries for example tend to rely or base their national definitions on the ILO definition<sup>41</sup> which is the:

relevant knowledge and skill applied to the standards of performance expected in the workplace. Includes the capacity to apply skills and knowledge to new tasks in a range of environments.

There are three main approaches to defining competence that in turn affects the pedagogical approaches to learning and assessment and how competencies are specified, these are<sup>42</sup>:

- ▶ task based or behaviourist approach which views competence as separate behaviours associated with the completion of particular tasks which in effect means that the tasks become the competencies;
- ▶ the notion that competence is about general personal attributes crucial to effective performance which therefore focuses on general attributes that are understood to underpin competent performance of a wide range of specific tasks; and,
- ▶ the notion of competence in terms of knowledge, abilities, skills and attitudes demonstrated through tasks simulated or workplace setting at an appropriate level of generality.

Any discussion related to pedagogical approaches in TVET needs to take into consideration the purposes of TVET, the approach to competence, as well as the mode and context of learning and assessment. In general, learning through practice (in work) is seen as the most common and prominent modality for TVET.

The scope or level of aggregation of descriptions of competence carries important consequences for quality assurance, table 3 illustrates this.

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41 International Labour Office (ILO) 2006, Guidelines for Development of Regional Model Competency Standards (RMCS), Geneva, Switzerland, p. 32

42 Hager, P 1993, 'Principles of competency based assessment', in Testing Times Conference Papers, National Centre for Vocational Education Research, Adelaide.

Table 3: The focus of performance-based assessments

Level	Focus
Generic	relating to skill components that are not expressed in the form of activities specific to a particular setting. For example, key skills in communication
Occupational	relating to description at the level of an occupation - the description engages with activities at a high level of generality, with the intention that it applies to a wide range of settings and to a wide range of specific ways of completing the activities - for example, a generic description of fault diagnosis in aircraft hydraulic systems
Task-specific but independent of specific jobs	relating to descriptions which give the detail of the task (e.g. constructing lead roofing) but which do not engage with the way that the task might be organised within a specific work system. This level is common in the development of national standards. Within this level there is a hierarchy of sub levels; for example, a standard can relate to inert gas welding, or deal with a lower level of aggregation: (i) argon welding; (ii) tungsten inert gas welding; (iii) oxy-acetylene welding
Job-specific, enterprise-specific	relating to descriptions of the way in which a task is undertaken in a specific work system - for example job descriptions, work analysis processes (for purposes of pay regulation, of reward systems and of management control)
Person-specific	relating to the way the tasks/the job is undertaken by a specific individual within a specific work system. It can also form the learner/worker contribution to appraisal systems, assessment and in preparing applications for jobs and for training/education programmes.

Confusion between these levels can have practical consequences: for example, job-specific descriptions (based on observation in very limited, specific circumstances) have been used for the purpose of development of national standards. This has resulted in partial descriptions that fail to apply across the occupational field as intended. Conversely, occupational-level descriptions have been used in an inappropriate way for analysis of jobs in particular work settings, thus failing to engage with the actual range of skills used in the specific context. This can limit the extent to which the analysis can help with detailed analysis such as fault finding and problem diagnosis. In failing to represent fully the range of skills used by workers, this problem can have a negative impact on pay and grading systems - for example, failing to recognise management and communication skills required in a specific work system.

Pitching standards descriptions at the level of ‘occupational competence’ has been highlighted as a significant benefit of certain qualifications<sup>43</sup>, particularly as a defence in respect of the putative narrow instrumentalism of vocational training. But both problems of ontology and practical problems flow from committing vocational qualifications to this level of description in operational standards. Simply because different performances in different occupational settings can be described using the same highly generic descriptions does not mean that a similar ‘underlying competence’ is responsible.

In respect of practice, as early as 1995, the Beaumont Review of NVQs in England highlighted difficulties experienced by trainers, teachers, learners/workers in applying a very generic description to the specifics of their situation. Associated with this, the review detected variable interpretation of the units by people in different settings, due to the ambiguity of the generic language. This has implications for quality assurance systems where devolved, performance-based assessment systems are used (in terms of the need for more intensive quality assurance and in terms of costs) and for the status given to the qualifications (where perceptions of undue variability in interpretation of the units in assessment processes can undermine status and credibility).

## Role of stakeholder involvement in TVET

The use and level of stakeholder involvement varies across countries. Industry or enterprise involvement is intrinsically linked to the purpose of TVET meeting current and future labour market demands and needs. Depending on the design of the TVET system, stakeholder engagement can include along with various key ministries, e.g. education and labour ministries plus other line ministries:

- ▶ Quality assurance agencies
- ▶ Industry groups or sector bodies
- ▶ Enterprises
- ▶ Trade unions
- ▶ Professional associations and licensing bodies
- ▶ Civil society and community groups
- ▶ Social communities

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<sup>43</sup> Jessup, G., (1991) Outcomes: NVQs and the Emerging Model of Education and Training. London: Falmer Press.

- ▶ Provider groups
- ▶ Student groups.

ASEAN countries involve industry or sector bodies to some degree in the development of achievement standards. However, in almost all instances the involvement is limited to consultations in the development process rather than the sector bodies or industry driving the process. Involving industry groups and sector bodies in other aspects of the learning and assessment process often lacks cohesion and is limited rather than at the core of all learning, assessment and certification processes. How countries fully engage industry and sector bodies relies heavily on the design of the TVET qualifications system and on multilevel governance design.

## Qualification process in TVET

Within the TVET qualifications systems awarding bodies are the entities that issue certificates, diplomas or titles that formally recognise the learning outcomes (such as the knowledge, skills and/or competences) of an individual, following an assessment and validation process<sup>44</sup>. TVET qualifications systems vary across countries; with essentially three main certification models. Table 4 below provides a brief summary of these three qualification models.

Table 4: Models of qualifications and their quality assurance<sup>45</sup>

Model	Quality assurance processes
Provider issues the qualification within a quality assurance system.	Provider based programmes are internally and/or externally quality assured. Provider meets relevant quality assurance standards.
Providers issue the qualification, but on behalf of and within quality assurance processes of the awarding body.	Awarding body licenses or accredits the provider to issue the qualification, which is subject to quality assurance processes.
Awarding body issues the qualification.	Independent awarding body issues the qualification on the basis of its own assessments or validated and moderated assessments of the providers.

<sup>44</sup> Adapted from CEDEFOP 2011, Glossary: Quality in education and training, European Centre for the Development of Vocational Training, Office of the European Union, Luxembourg.

<sup>45</sup> Adapted from Bateman, A, Keating, J, Gillis, S, Dyson, C, Burke, G & Coles, M 2012, Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework, Volume II, DEEWR, Canberra



In addition to formal certification of qualifications within a national qualifications framework and quality assurance system, qualifications can be achieved through other means. Enterprises may use qualification processes to demonstrate staff competencies, to develop job profiles, to inform human resource development and recruitment processes. For others, such as vendor certification (e.g. CISCO, Apple, Microsoft) and international certification e.g. International Maritime Organisation, the achievement of the certificate provides the graduates permission to work in specific job roles internationally.

## Conclusion

This section highlighted the diversity of TVET programmes across countries. It also looked at the concepts of learning outcomes and competence and how significantly these can affect the scope of qualifications.

## CHAPTER 5

# QUALITY ASSURANCE PROCESSES OF TVET QUALIFICATION

This section focuses on the range of quality assurance practices that could be implemented at international, national and awarding body and/or individual provider level related to TVET qualifications.

## What is quality assurance in TVET?

Quality assurance in TVET refers to planned and systematic processes designed to enhance confidence in the educational services, the outcomes achieved and the qualification granted<sup>46</sup>. Without quality assurance of the learning, assessment and qualification processes, the confidence and trust of stakeholders in TVET qualifications issued is at risk. Quality assurance processes focus not only on the consistency of the assessment and qualification process so that the qualifications issued have currency, but also focuses on ensuring that assessment meets the required standard raising the likelihood that qualifications are a valid and reliable testament to a learner's knowledge, skills and wider competences. As mentioned previously, the process of quality assurance of qualifications cannot be isolated and considered separately from the curriculum (taught and learned) and the assessment process that could include an array of methods and tools. The implementation of systematic quality assurance processes is paramount in any TVET qualifications system.

Recent empirical research<sup>47</sup> highlights some of the key features to assure the quality of the TVET qualifications process in terms of its validity, reliability, impartiality and transparency.

- ▶ addressing qualification as part of formal quality assurance mechanisms;
- ▶ providing clear reference points for assessment;
- ▶ providing information to stakeholders;
- ▶ selection requirements and training of assessors;
- ▶ defining quality of assessment methods and procedures;
- ▶ defining quality of verification and grading;
- ▶ implementing appeal procedures;
- ▶ conducting documentation, evaluation and monitoring of qualification procedures.

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46 Bateman, A, Keating, J and Vickers, A 2009, Comparative study of international quality assurance systems for VET, DEEWR Canberra

47 CEDEFOP 2015, Ensuring the quality of certification in vocational education and training

Quality assurance of TVET provision can be implemented at various levels including international initiatives, national approaches and at awarding body and/or individual provider level. In many respects these various levels are connected and quite often at the national and local level are interrelated.

## International/ regional level

Recently there have been specific developments in regional quality assurance frameworks - the key aims of a regional quality assurance framework are to develop mutual understanding amongst member countries. Specific key regional TVET quality assurance frameworks include:

- ▶ European Quality Assurance Reference Framework for VET;
- ▶ Pacific Quality Assurance Framework; and
- ▶ East Asia Summit TVET Quality Assurance Framework.

A regional quality assurance framework can:

- ▶ promote and monitor the improvement of a country's TVET systems;
- ▶ be a benchmark to help member countries to assess clearly and consistently whether the measures necessary for improving the quality of their TVET systems have been implemented and whether they need to be reviewed; and
- ▶ be a self-assessment instrument<sup>48</sup>.

The key purpose of the European Quality Assurance Reference Framework for VET is to serve as a reference instrument to promote and monitor continuous improvement of TVET systems<sup>49</sup>. The framework is based on the continuous improvement cycle<sup>50</sup> and includes: quality criteria; indicative descriptors for TVET system levels; indicative descriptors for TVET provider levels; and a reference set of quality indicators for assessing quality in TVET.

The Pacific's approach to quality assurance is part of a broader strategy, which includes a regional register of qualifications and occupational standards and a regional qualifications framework. The regional register provides for the listing of national qualifications that are quality assured by a quality assurance agency and are aligned to the regional qualifications framework. The aim of the regional quality

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48 Adapted from Bateman, A, Keating, J, Gillis, S, Dyson, C, Burke, G & Coles, M 2012, Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework, Volume II, Department of Education, Employment and Workplace Relations, Canberra

49 Official Journal of the European Union, 8/7/2009, p. 2.

50 Plan, implement, evaluate and review.

assurance framework is to promote the comparability of qualifications and for qualifications to meet agreed standards. The Pacific's approach to quality assurance includes quality assurance standards for agencies and minimum quality standards for training providers.

Currently under development and endorsement is the East Asia Summit TVET Quality Assurance Framework. This framework has the capacity to be applied at country level by relevant agencies in participating countries, and can also inform national requirements for providers. It includes a number of components but focuses on agency quality standards and quality indicators. This framework is included in the newly endorsed ASEAN Qualifications Reference Framework (2015) as one of the benchmarks of quality assurance that aims to assist countries in undertaking the referencing process.

Finally, the Interagency Group on Technical and Vocational Education and Training<sup>51</sup> developed the Proposed indicators for assessing technical and vocational education and training: Working Document (2014). These indicators are based on four key areas to monitor and evaluate TVET policies and reforms: finance, access and participation, quality and relevance. The aim of these indicators is to support countries to access their applicability and effectiveness of their TVET system.

In the broader TVET/higher education space other models of quality assurance frameworks related to agency associations are also in place, for example:

- ▶ European Association for Quality Assurance in Higher Education (ENQA)
- ▶ International Network for Quality Assurance Agencies in Higher Education (INQAAHE).

The European Association for Quality Assurance in Higher Education (ENQA) developed Standards and guidelines for quality assurance in the European Higher Education Area (ESG) that are the basis for agencies' membership to the association and relate to internal and external quality assurance as well as standards for

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51 The Interagency Group on Technical and Vocational Education and Training (IAG-TVET) has convened by UNESCO in 2008 to ensure a good coordination of activities by the key international organisations involved in the delivery of policy advice, programmes and research on TVET. It enhances knowledge-sharing and a common understanding of key issues. Ultimately, the group seeks to better leverage the work of each member organisation to help countries design and implement more effective TVET policies to improve productivity, economic prosperity, sustainable development and employment opportunities. The IAG-TVET comprises the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD) and the World Bank (WB). Regionally-based members include the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Commission (EC), the European Training Foundation (ETF) and the Islamic Development Bank (IDB).

agencies. The INQAAHE Guidelines of Good Practice (2007) also form the basis of membership for external quality assurance agencies and focus on agency standards.

All these frameworks aim to support the strengthening of a culture of quality assurance and improvement within TVET systems, to enhance mutual understanding of quality in qualifications across borders. These frameworks provide advice and exemplars for countries (and their agencies) to be able to not only monitor their TVET system but also to provide a common understanding of quality of TVET.

## National level

In many respects, much of literature related to quality assurance of qualifications focuses on a country's qualifications framework/system and a credit transfer system (if it is in place). However, these structures only function if they are linked and supported by systematised quality assurance processes.

Quality assurance within TVET generally focuses on:

- ▶ the TVET product through the approval processes of achievement standards<sup>52</sup>;
- ▶ the training providers through approval processes based upon quality standards or criteria;
- ▶ monitoring processes through the auditing (or other strategies) of provider processes and outcomes, including student learning and employment outcomes and student and user satisfaction levels;
- ▶ the TVET outcomes through control, supervision or monitoring of assessment and graduation procedures and outcomes;
- ▶ system wide evaluations of TVET quality; and
- ▶ the provision of public information on the performance of providers such as programme and unit completions, student and employer satisfaction<sup>53</sup>.

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52 Achievement standards in education and training are statements approved and formalised by a recognised agency or body, which defines the rules to follow in a given context or the results to be achieved. Achievement standards can take a variety of forms and include: competency, educational (e.g. curriculum), occupational, assessment, validation or certification standards. Adapted from Cedefop 2011.

53 Bateman, A, Gillis, S, Dyson, C, Burke, G & Coles, M 2012, Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework, Volume II, Department of Education, Employment and Workplace Relations, Canberra.

Countries allocate these functions differently, an efficient, cohesive and coordinated system with clear role description is desirable for TVET to be able to meet its goals. Initial analysis against the East Asia Summit TVET Quality Assurance Framework has been undertaken with eight countries<sup>54</sup>. The analysis indicates that most countries include within their qualifications systems the majority of the kinds of quality assurance listed above. However, these functions may be limited to only one governance agency (e.g. ministry responsible for education or for labour), could be subject to ad hoc implementation, be in the early stages of implementation, or could be limited to only formal public provision and not applied to all provision, e.g. private, enterprise or not for profit, dual system or apprenticeship.

In developing TVET systems, the focus of quality assurance is generally on institution-based learning and on learning associated with training for the formal labour market, with very little focus on the informal sector such as learning on the job or learning through experience. In most instances the quality assurance of learning in the informal sector is not evident, except for the validation of non-formal and informal learning processes. However, in many Asia-Pacific countries implementing validation of non-formal and informal learning processes are aspirational rather than reality; in essence it is limited.

## Quality standards

The need to articulate quality standards is emerging as a core building block of quality assurance. In general, quality standards are articulated in guidelines or policies (e.g. New Zealand, Singapore and Malaysia) that may or may not be linked to legislation, or are described in a legislative instrument (e.g. Australia).

Documentation of quality standards is achieved mainly through the development of common sets of benchmarks and expectations for the different inputs and outputs of education and training systems<sup>55</sup>. The benchmarks and expectations can relate to the relevant authority, the development of achievement standards, data standards, and the capacities and behaviour of TVET providers in the provision of TVET programmes.

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54 Bateman, A, Gillis, S, Dyson, C, Burke, G & Coles, M 2012, Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework, Volume II, Department of Education, Employment and Workplace Relations, Canberra. East Asia Summit Vocational Education and Training Quality Assurance Framework: Final report: Stage 2, 2015, Bateman, A & Dyson, C, Department of Education and Training, Canberra

55 Bateman, A, Gillis, S, Dyson, C, Burke, G & Coles, M 2012, Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework, Volume II, Department of Education, Employment and Workplace Relations, Canberra

Although quality standards generally relate to the performance of TVET providers they can also apply to the performance of quality assurance agencies. In Australia, for example, agency performance has been articulated in quality standards since the inception of the national quality training framework in 2001. Currently national agency standards are articulated in a legislative instrument. However, in many other countries, performance of quality assurance agencies (e.g. qualifications authorities, ministries) is embedded in decrees or regulation or in agreed key performance indicators within strategic plans.

In terms of quality standards from TVET providers, both Australia and New Zealand have well established and articulated standards. These standards are the result of extensive stakeholder consultation and have been modified and enhanced over time and generally take an outcomes based approach rather than a focus on inputs. Establishing provider quality standards has been a model replicated across a number of countries within the Asia-Pacific region such as Samoa and Fiji. Quality standards for TVET providers generally focus on core functions related to teaching, learning and assessment such as: quality of trainers and assessors, support to students, training materials and assessment tools, fit-for-purpose facilities and equipment, self-evaluation and continuous improvement, records management and reporting requirements.

## Approaches to quality assurance

For some countries with well-established quality assurance agencies, the approach to quality assurance is based on a coherent and systematised risk management approach. This means that quality assurance strategies are deployed based on the level of risk of the training provider. Most risk-based approaches include a risk rating being assigned to a training provider as a result of collated information (e.g. monitoring audit ratings, quality indicator data, compliance history, complaints) and relevant, proportionate compliance responses and/or incentives being applied accordingly.

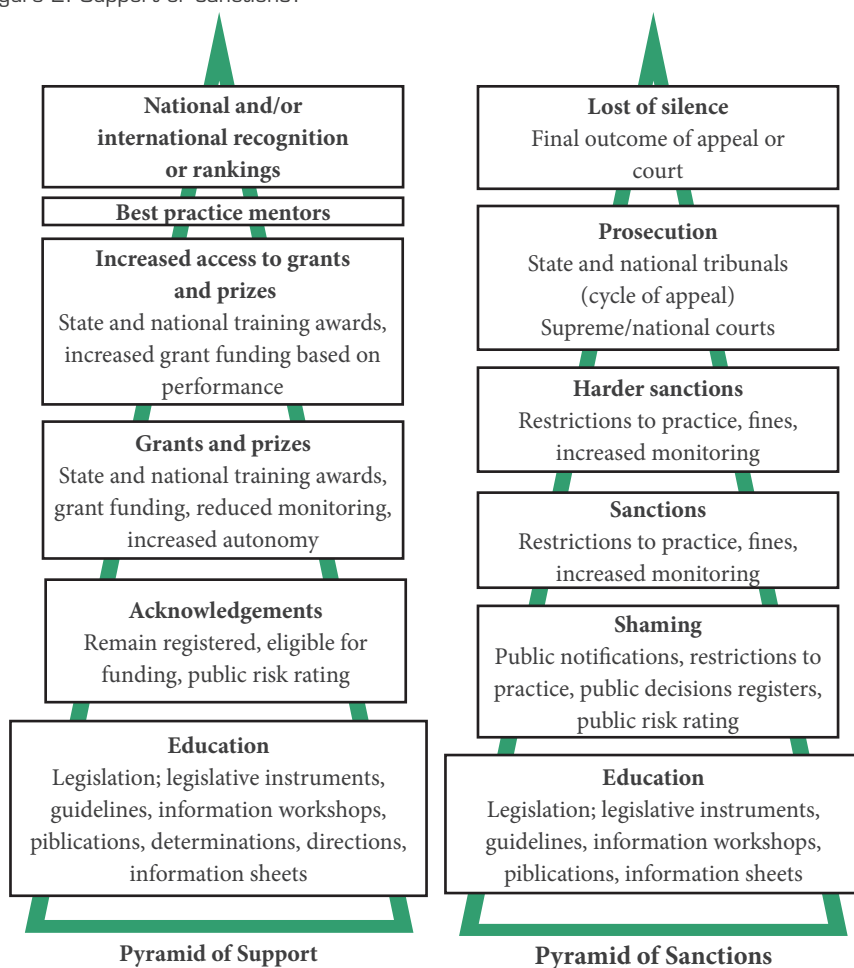
In many Asia-Pacific countries the approach to quality assurance is often limited to specific types of training provider (e.g. those administered by a ministry) and not applied to other sectors, e.g. private, not for profit. This is not necessarily based on a systematised approach to risk management, but could be a result of limited capacity or unclear political direction in a country (or authority) to be able to go beyond public provision and address the diverse range of and high numbers of non-public providers. Generally, the agency approach to managing provider performance is based on a compliance approach, with a strong focus on sanctions rather than support. However, some countries with well-established quality assurance systems,



have strengthened their support and incentives based approach by applying risk ratings and proportionate treatment.

Figure 2 outlines a hierarchy of support and sanctions that could be applied in an education and training setting. The pyramid of support outlines a range of strategies to support and encourage providers to meet quality standards and to provide quality services, such as reduced monitoring, increased autonomy, eligibility for funding, and ranking systems. On the other hand a sanction approach to quality assuring providers tend to focus the responsible agency on more punitive actions such as increased monitoring, public reporting of provider performance, fines, restrictions to practice, and closure.

Figure 2: Support or sanctions?<sup>56</sup>



56 Adapted from Gillis, S and Bateman, A, 2015, Assuring Quality and Comparability of VET assessments: Exploring the Role of Independent Validation June 2015, Department of Education and Training, Canberra, based on Braithwaite, J., (2010). The essence of responsive regulation. Fasken Lecture delivered at University of British Columbia.

## Provider level

At the TVET provider level there are two main complementary forces driving internal quality assurance; that which is required by the regulating agency (e.g. provider standards or criteria) and that which is focussed on evaluating whether the needs of industry and of the students are met.

A TVET provider's internal quality management system is often focussed on the inputs, such as taking a systematic approach to provision of training, assessment and certification of trainers and assessors. This generally includes developing training materials and assessment tools, purchasing equipment and ensuring access to fit-for purpose facilities, developing procedures and certificates for issuing qualifications and ensuring trainers and assessors meet internal or external requirements. However, an internal quality management should also focus on strong review and evaluation of outputs and outcomes. Almost always, high performing TVET providers implement quality management systems that include:

- ▶ strong and systematic data collection of key indicators, such as access and participation rates, retention and completion rates, transition or pathways rates, level of investment in trainer/assessor continuing professional development, share of companies providing apprenticeship and other types of workplace training
- ▶ feedback from employers and other stakeholders, focussing on satisfaction of employers with TVET graduates
- ▶ feedback from learners/candidates focusing on satisfaction of training and/or assessment services and preparedness for work
- ▶ students and graduates and destination analysis.
- ▶ These high-performance providers also often focus on continuing professional development of trainers and assessors.

The capacity for TVET providers to meet the expectations of relevant authorities can be limited. Support to providers in many respects is provided by ministries or responsible agencies through capacity development of trainers and provision of assessment guidelines, and exemplars. However, in TVET providers, effective quality assurance is affected by more mundane day-to-day issues that take precedence, such as large group sizes, limited facilities and equipment, minimal access to consumables, weak administrative systems, and lack of trained TVET trainers/assessors. Given competing demands on funds, many emerging TVET systems are reliant on donor support with a limited view of long-term sustainability.

## Employer and Learner/candidate level

Meeting the expectations of employers, learners/candidates and other stakeholders also underpins strong quality assurance arrangements of TVET provision. However, both employers and learners/candidates also play a critical role in the quality assurance of TVET.

For employers participation in quality assurance may be as previously mentioned through involvement in the development of standards, but also could be through: standards review processes, providing feedback to TVET providers on the preparedness for work of graduates, providing learning and assessment contexts for work simulations, providing access to equipment and specialist workers, providing advice on learning and assessment resources, and participating in evidence collection for assessment purposes.

For learners/candidates quality assurance of the TVET provision generally focusses on providing timely feedback about the education, training and assessment services received; this may include feedback on the quality of trainers/assessors and facilities, appropriateness of the learning and assessment, and of the providers role in ensuring graduate preparedness for work.

## Standards in education and training

Standards in education and training are statements approved and formalised by a recognised agency that defines the rules to follow in a given context or the results to be achieved. Standards can take a variety of forms and include: competency standards, educational (curriculum) standards, assessment standards, occupational or certification standards<sup>57</sup>. Given the desired links with industry, TVET is often strongly associated with utilising competency standards or occupational standards to inform training and assessment.

Many Asia Pacific countries have based their TVET systems on competencies; and directly link clusters of competencies to a qualification outcome. In many countries any redesign of their TVET qualifications system has meant the incremental development of competency standards or occupational standards<sup>58</sup>. In some Asia Pacific and Latin American countries, although there has been a history of

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57 Adapted from CEDEFOP 2011, Glossary: Quality in education and training, European Centre for the Development of Vocational Training, Office of the European Union, Luxembourg.

58 Note that these terms are often used interchangeably in the ASEAN countries; however, most view occupational standards as being informed groupings of competencies that reflect an occupation.

development of competency standards, there has until recently been no additional link of assessment outcomes to a qualification outcome<sup>59</sup>.

The process for development of competency standards in most Asia Pacific countries follow similar processes; including DACUM<sup>60</sup> processes, job task/occupational analysis (functional analysis), expert refinement and endorsement, with final endorsement undertaken by an authority (which in most ASEAN countries is a relevant ministry). These processes are documented either in formal directives or guidelines that are developed with the involvement of industry and enterprises.

A critical aspect in the development of competency standards or occupational standards is ensuring that they are fit for purpose, relevant and meet current and emerging labour market needs. In many Asia Pacific countries, the level of engagement of industry is limited, although there are some strong examples of established sector bodies driving the development of competency standards.

## Non formal and informal learning<sup>61</sup>

TVET learning in informal settings is not necessarily quality assured, as learning is achieved through an individual's daily activities (work, family or leisure) which might be unintentional from the learner perspective. As such the learning is not seen as organised or structured to achieve formal objectives. Learning in non-formal settings may however be quality assured depending on the design of the TVET system. Non formal learning is learning which is embedded in planned activities not explicitly designated as learning but is viewed as intentional from the learner's point of view. This learning may be achieved through work or community learning groups. In some TVET systems, learning in the workplace is structured to meet formal objectives and result in a qualification, and therefore is viewed as a formal learning and falls under the remit of formal quality assurance processes.

However, any validation of this learning for qualification purposes is usually quality assured as it results in the formal recognition of an individual's knowledge and skills.

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59 For Latin America, see for example: Arbizu Echavarri, F.M (2015). Marco Nacional de Cualificaciones Para Republica Dominicana, Bases. [http://www.oei.es/etp/Marco\\_Nacional\\_Cualificaciones\\_Bases\\_RepDominica.pdf](http://www.oei.es/etp/Marco_Nacional_Cualificaciones_Bases_RepDominica.pdf)

60 Developing A Curriculum

61 Validation of non-formal and informal learning are the processes generally described, although in many countries it is referred to as recognition of prior learning processes or accreditation of prior learning or Assessment of Prior Experiential Learning. It includes an assessment process to confirm that the learning gained in non-formal and informal settings meets a set of standards (e.g. occupational standards or educational standards). If the assessed learning is confirmed as meeting these standards the person can make them visible in a curriculum vitae or seek to have them recognised in a programme, qualification or certificate.

Much has been written about these processes however, the underlying principles of any process are those of equity and access to recognition of non-formal and informal learning. Key outcomes of these processes include assessment for qualification purposes, skills assessment for employment or occupational advancement, access or 'non-standard' admission to a higher level of education or training, credit recognition/credit transfer leading to an award and personal development.

The quality assurance processes applied to assessing, validating and certificating learning gained outside the formal system are essentially the same as those applied in the formal system of qualifications, and much of the discussion in this paper applies. However, there are three elements of validating these kinds of learning for qualifications that are distinctly different. Firstly, as the evidence of learning is likely to be more varied (in form, created over a longer time, less coherently organised, supported by third parties) the assessment of this evidence needs to be carried out with more attention paid to assessing the validity and authenticity of the evidence. The second quality assurance factor concerns the standards to which the evidence of learning is compared. These standards should be directly comparable, preferably identical, to the standards applied in the formal settings for the qualification. Care needs to be paid to ensuring these standards are comparable and they have been fairly interpreted. The third aspect of quality assurance that is distinct for certificating learning outside the formal sector concerns taking account of the candidates circumstances and the access they should have to reliable information, advice and guidance throughout the assessment process. The standards that they must meet, the ways their learning is evidenced, the assessment process and the way assessed evidence is validated should all be clear to the candidate if the outcome of the process is to be fair and trusted.

## The concept of 'pathways to qualification'

The development of outcomes-based qualifications enables teaching and learning to be separated from summative assessment, allowing learners to be assessed differently according to their learning pathway. For example, an increasing number of learners undertake adult education, on-line or work-based learning to acquire the competences needed to be awarded a qualification, and these routes require different assessment methods and tools. They need to depart from the traditional final exam to encompass new forms of assessment including practical assessment tasks requiring observation within a simulated or real context, evidence-accumulation (portfolio), evaluation of 'real life' practice and so on. Furthermore, because these more varied assessment methods are now being used to assess for outcomes-based qualifications, more attention is being paid to assessment standards – including

assessment criteria, procedures, guidelines and minimum requirements – in order to ensure the validity and reliability of assessments<sup>62</sup>.

Alongside the issues of access to learning, assessment and qualifications, the concept of ‘pathway’ enables more detailed analysis of qualification arrangements. In some national settings, strong underpinning theory and/or tradition can be associated with established pathways – such as the concept of ‘formation’ in France. The concept of ‘formation’ suggests the importance of an enduring set of experiences that include formal and informal elements. This is assumed in the German Dual System of apprenticeship, where formal standards focus on tangible skills and knowledge, whilst the stipulation to long-term participation in work activities during the training phase is assumed to enable and promote work process skills’ – disciplined behaviour, appropriate skills in communication and collaboration, adoption of professional values, and so on.

This concept of pathways is a powerful concept for explaining different arrays of routes and opportunities in different national settings, ranging from simple school-vocational training-employment routes, to more complex transfer from academic to vocational pathways, to complex combinations of periods of formal and informal learning. Some pathways are heavily regulated (architecture, accounting), whilst others may be no less persistent and well known to participants, but may be informal. Likewise, what may be a state funded element in one system, may be a state-supporting element in another and individually-funded in yet another national setting. In Germany effort has been devoted, over the past two decades, to increasing the facility for transferring from the vocational route to the academic route, at both undergraduate and master’s levels.

## Control in quality assurance systems

High trust, high validity qualification typically has relied on the identification and/or application of specific standards. Identified standards comprise of detailed, specified statements of expectation regarding performance, knowledge and understanding – often referred to as occupational standards, vocational standards or national standards. Applied standards need not be so explicitly stated, but can comprise of judgements by high trust, high status assessors (for example making judgements of competence in regulated professions). Both involve consolidation of power, where the standards are imposed on ‘candidates’ to determine competence and acceptable levels of performance. As stated above, such standards can be variably constituted – they can focus on different aspects of knowledge and performance, and this can

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62 ETF, 2015, Global Inventory of Regional and National Qualifications Frameworks

have an effect on who is deemed to meet the standard and who is not. Just as much as such standards can enable access to labour markets, can facilitate recognition and international movement, they represent a consolidation of power in the institutions that develop and implement those standards.

In some low discipline settings (such as nations with a record of maladministration - low discipline - in testing and assessment) use of well-organised, rigorously-implemented assessment can provide a high status 'passport' for learners able to secure qualifications, even when, and often because, that assessment has been developed and is administered from outside the jurisdiction.

Even within national settings, shifts in the locus of control can be illuminating. For example, the German Dual system, stresses on the systems and on employers have increased employer demands for more instrumental provision and certification, with learning less related to wider occupational competence and more related to the specific requirements of individual employers. This shifts power from the state (with a more widely defined set of learning objectives and requirements) to employers. Certification thus not only empowers learners (by recognising learning, by stimulating learning) but also cedes control to those agencies developing and implementing the assessments.

## The importance of data and indicators

Quality assurance in TVET is becoming elaborated by data from outside assessment – information on prior attainment of candidates, information on additional features of candidates (age, ethnicity, social background), information on centre (school) performance history, etc. However, this is only possible in systems that maintain relatively complex, linked national data. Even in nations that maintain such systems for general education, TVET typically suffers from a lack of availability of this kind of linked data. This is due in no small part to the lack of an individual candidate identifier, which would enable 'returning learners' to be identified, when they enter TVET, often after periods away from state-funded education.

The implications of using this diverse, dispersed and less constrained assessment affect not only the type of quality assurance possible, but also impact on the ability to assemble evidence on the dependability of the assessments. Assembly of evidence on the dependability is additional, problematic area. Knowledge on the dependability of workplace-based vocational assessments is not naturally available in the manner in which it is available in general education assessment. With workplace supervisors and trainers supervising one or a very low number of trainees, they frequently are making isolated assessment decisions, on an unpredictable basis, over a protracted

timeframe. These are conditions that are at huge distance from general education assessment and more formal testing. Such assessment has the potential for high validity<sup>63</sup> but – contrary to assumptions in outcomes-based assessment orthodoxy<sup>64</sup> – is at high risk of being compromised by lack of reliability. The conditions and form of the assessment thus render consistency data non-existent or in extremely short supply. Information on dependability of assessment tends to emerge from specific experimental studies or intensive research observation – there are few of such studies. The literature and accumulated data thus is thin<sup>65</sup>.

The diversity of workplace performance-focussed vocational assessment mean that points of comparison of data are few and hardly useable for deployment of many contemporary and standardised tools and approaches. If these limitations are combined with issues of poor intrinsic motivation amongst assessors (incentives and drivers, such as funding models, which encourage compromised assessment), then the conditions for dependable assessment are adverse.

In less-developed countries, the lack of regulation in training and the labour market poses a threat to validity and dependability of performance-based assessment. The threats not only derive from a lack of incentive to comply but in some settings, cultural practices antithetical to the restriction and compliance needed for high quality assessment.

In more-developed countries, lack of understanding of the complexity of relations between wage rates, labour market restriction and so on can lead to a disruption of relations which previously have been highly conducive to high quality TVET qualifications. Most prominent of these is a change in funding and accountability arrangements in TVET, which can invoke professional conflict in assessors – e.g. conflict between seeking enhanced results for a training institution on the one hand, and high dependability in the assessment on the other.

Remedies to the problems caused by these features and conditions do exist. Principal forms of remedy are as follows.

- ▶ Develop a culture where practitioners feel that they are ‘guardians’ or ‘gatekeepers’ to the profession, and are highly reluctant to let non-competent trainees past the threshold of the profession.

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63 Statz C 2011 (Please ask Tim Oates to complete these) – i think these are Tim’s – i have added what i could.

64 Jessup op cit - Jessup, G., (1991) Outcomes: NVQs and the Emerging Model of Education and Training. London: Falmer Press.

65 Visscher AJ, 2009, Improving Quality Assurance in European Vocational Education and Training : Factors Influencing the Use of Quality Assurance Findings. Dordrecht, Netherlands: Springer, 2009



- ▶ Trainee pay rates and qualified worker rates need to be held as an incentive to qualification, giving an incentive to employers and trainers and assessors to ensure that skills and knowledge are in place when qualification takes place, and the worker demands the higher wage rate.
- ▶ Training of assessors needs to instil not only the right actions in assessment but also a sense of the moral and professional values of good practice in assessment.

## Conclusion

This section considered a set of technical considerations and principles for quality assurance of TVET qualifications. Quality assurance should be seen as diverse and broad – from design of assessment (including concepts of competence and learning outcomes) through specific measures, to overall evaluation activity, including consideration of long-term indicators. Attention paid to assessment design, the training and professionalization of assessors, management of incentives, and a quality assurance based on monitoring data from a mix of assessment approaches offers a viable development and implementation strategy.

## CHAPTER 6

# FACTORS INFLUENCING QUALITY ASSURANCE PROCESSES IN TVET

Developing quality assurance in TVET is more than just a technical process. Political, economic, social, cultural and financial considerations, as well as institutional structures and legal frameworks shape the criteria and processes that underpin TVET quality assurance. For quality assurance of TVET qualifications to operate well it needs to be fit for purpose and this is achievable only by adapting procedures to regional, national, and local contexts. The influences on the design of the quality assurance processes of TVET qualifications are discussed in this section.

## Political considerations

National and regional policies shape TVET and have a direct effect on the qualification system, for example these policies determine whether the national approach is centralised (single qualification bodies) or devolved to sectoral agencies or to providing institutions. The policies can shape whether quality assurance is 'front loaded' so that investment of effort and resources focuses on teachers, trainers, assessors and provider practices. Or if they are 'end loading' or outcome based approaches whereby the quality assurance of the qualification process uses standardised tests that are set, assessed and moderated centrally. In between these two approaches are many hybrid approaches such as sampling of quality of assessed work, inspections of provision and national reviews of practices.

In many countries the qualification system plays a key role in social functioning and policies for social engagement may lead to qualification processes being designed to be as open and accessible as possible. For example the South African Qualification Authority developed a recognition of prior learning system leading to a qualification with a purpose to develop equitable education and training system<sup>66</sup>. Policies for immigration and the movement of people for work sometimes require that qualifications and qualification processes and recognition arrangements are sensitive to procedures in a region and this can have a bearing on the procedures used.

## Legal considerations

Closely linked to national policies is the way legal provisions are drawn up. The status of qualifications is often seen and something that requires protection in law. Where national standards and procedures are not followed the law can set out the sanctions that can be applied to institutions and people that operate outside the law. This can have two effects on quality assurance procedures. The first is

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<sup>66</sup> See: [http://www.saqa.org.za/docs/pol/2002/rpl\\_sanqf.pdf](http://www.saqa.org.za/docs/pol/2002/rpl_sanqf.pdf)

that actual practice of quality assurance can be tested in the courts for fairness and reasonable equitable practice. The second effect is that the quality assurance procedures themselves become defined in law. This could mean that they are written in general terms because if they were detailed they might be difficult to adapt to new circumstances. Thus, above and beyond national policies, the legal framework in a country can have a direct bearing on the ways quality assurance of qualifications is conducted and on the institutions responsible for quality assurance.

## Economic considerations

Education policies are clearly an important influence on quality assurance but in the case of TVET the policies for the economy are also of prime importance. People aiming for TVET qualifications expect to get a job and recruiters in businesses expect that applicants with relevant TVET qualifications can do the job (or at least learn how to do it very quickly). This is why the labour market can shape TVET provision. But the labour market is generally dynamic and if there are many job vacancies in a sector there may be pressure for employers to recruit people who have weak or partial qualification. The labour market may even act as a magnet for people in the middle or towards the end of training to leave their programmes prematurely. Whilst none of this weakens the quality of the qualification process it has a direct effect on the status of a qualification. Where there few jobs in a sector the tendency will be for qualifications to have added status and the quality assurance of the qualification process may be inadvertently tightened as only the best candidates are rewarded with jobs.

Economic considerations include the weight of the informal economy. In Africa, the majority of workers in micro and small enterprises learn their trade on the job in the informal sector rather than in the formal TVET sector. In some countries, the informal sector accounts for more than 80% of all skills training<sup>67</sup>. In Ghana<sup>68</sup>, for example, 85% to 90% of skilled workers learnt their trade in the informal economy, while in Morocco, the percentage is 80.3% and only 4.5% of skilled employees attended any formal TVET institution. In the case of Zimbabwe, the majority of young people working in the informal sector acquired their technical and entrepreneurial skills outside the formal skills training system<sup>69</sup>. Traditional

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67 ILO (2007). The Informal Economy in Africa: Promoting transition to formality, challenges and strategies. See: [http://www.ilo.org/wcmsp5/groups/public/@ed\\_emp/@emp\\_policy/documents/publication/wcms\\_127814.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_emp/@emp_policy/documents/publication/wcms_127814.pdf)

68 Afeti, G. & Adubra A. L., 2012, Lifelong Technical and Vocational Skills development for Sustainable Socioeconomic Growth in Africa: Association for the Development of Education in Africa: Burkina Faso.

69 For broad discussion regarding the role of informal sector in skills development, See: [http://www.adeanet.org/portalv2/en/system/files/adea\\_tvsd\\_paradigm\\_shift\\_paper.pdf](http://www.adeanet.org/portalv2/en/system/files/adea_tvsd_paradigm_shift_paper.pdf)

apprenticeships are by far the most frequent form of skills training in Africa for the informal sector, with a concentration in West and Central Africa<sup>70</sup>. As noted by ILO and World Bank<sup>71</sup>, informal apprenticeship systems exist in some countries as diverse as Indonesia, Turkey and Egypt and are the result of the multiplicity of micro, small and medium-sized businesses covering every trade.

Policy-makers in several countries with a large informal sector are becoming increasingly aware of the insufficient recognition of existing skills and informal learning, which prevents labour mobility<sup>72</sup>. Governments recognize that these shortcomings lead to a serious wastage of skills in the economy. As a result, in many countries qualifications reforms have been specifically designed to address some of these challenges in informal sector skills development.

## Stakeholder considerations

As described earlier, the level of stakeholder engagement, particularly employers and sectoral organisations has a direct bearing on quality assurance processes. Not only does the involvement of key stakeholders offer immediate quality assurance in the sense that they represent the demand side for qualifications and this have a vested interest in quality, there is also the fact that they seek labour market relevance of programmes and qualifications as well as efficiencies in the system that creates them. Without the direct involvement of stakeholder groups there is a possibility that the quality assurance system remains unhealthily introverted and exclusive. Sometimes this range of social partners can be very wide and include leaders of community groups, voluntary organisations, learning organisations and religious groups as well as the core membership of government, employers and trade unions. The ways social partnership operates in a country has a direct bearing on the shape of acceptable quality assurance processes.

Industry groups or sector bodies play a major role in TVET quality assurance and qualification processes. In some countries, industry groups or sector bodies have a formal role for industry including setting examinations, assessment of outcomes and the development and review of achievement standards. The German dual system is as an example of formal and strong involvement of industry in the development of vocational regulations, the development of curriculum, developing and holding

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70 Adams & al. 2013

71 See: [http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro\\_new\\_delhi/documents/publication/wcms\\_234728.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro_new_delhi/documents/publication/wcms_234728.pdf)

72 Singh, M., 2015, Global perspectives on recognising non-formal and informal learning. Springer.

examinations, certifying skills of trainers, and monitoring the performance of training conducted in enterprises<sup>73</sup>.

## Financial considerations

Costs of quality assurance are mostly seen as a necessary burden on TVET systems that are usually designed to optimise the volume of training. Fundamentally, learning is considered the priority (and deserving of maximum investment). This simplistic view is sustainable in small education and training systems where work opportunities are tightly bound to training opportunities through a static labour market. The view is unsustainable in any sizable operation where there is free movement of people and a dynamic labour market. In these systems financing quality assurance of qualifications is influenced by the choice between central governance arrangements and the extent to which devolved governance arrangements are defensible. The resources available can therefore be a direct influence on the system that can be used and its effective operation.

The effect of scale of operations is an important influence of quality assurance practice: multiple, a quasi-regulated local approach to certification of achievement is likely to demand greater financial support than a central testing and assessment system. The latter requiring a single quality assurance system.

## The costs of quality assurance

Who carries the cost for high quality?

In developing economies, with limited financial resources there is often a dependence on donor funding to support quality of TVET provision. For many countries, at a national level the development and establishment of an NQF provides for a greater focus on quality assurance. However, implementation of the NQF and of associated quality assurance functions takes longer to achieve. Significant effort is undertaken in the development of achievement standards (e.g. competencies, curriculum), and for some there is the pursuit of standardised training and assessment materials. Obtaining a critical mass of approved providers and approved achievement standards can take a significant amount of time and effort. National agencies are often faced with the need for capacity development of their own staff but also of programme developers and TVET providers so that expected quality standards can be met. In many countries, there are fledgling data standards and data collection

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<sup>73</sup> Misko J, 2015, Developing, approving and maintaining qualifications: selected international approaches. Adelaide, South Australia: NCVET, 2015

efforts, but often agencies are faced with inconsistent or poor integrity of data to inform decisions. Many TVET providers are facing the costs of providing adequate equipment, trained assessors, simple standardised assessment tools, consumables, and basic data systems for record retention and reporting. All this on a shoestring budget.

In developed economies the investment level associated with qualifications is increasing. Paper-based systems of assessment are moving to high-intensity digital arrangements – for marking examinations, for monitoring marking and assessment, for enquiries and registration, for assessment itself. A tendency towards increased regulation is leading to escalating cost regarding reporting, system monitoring, and system improvement. Delivery of on-line assessment requires substantial IT development and is cost-intensive to maintain – somewhat in contrast to established paper-based systems. There are higher expectations regarding research and statistical monitoring, these processes require not only appropriate IT systems to be in place but also require sophisticated analysts to interpret outcomes and apply solutions. In vocational assessment, use of on-screen assessment and simulation has placed significant upwards cost on assessment. As with practical assessment in general examinations and workplace assessment, quality assurance refinement and monitoring of practical performance assessment has not experienced significantly increased cost, except where the sampling and documentation load has increased, leading to bureaucratic demands on assessors. The large IT infrastructure costs associated with increased quality assurance and efficiency in paper-based examinations affects vocational qualifications which are based on assessments, such as optically-marked multiple-choice questions.

The development of automated, on-demand multiple-choice papers that are not delivered on-line invokes high start-up costs regarding item-bank creation – item development, item calibration and scale construction, paper construction process development, system development, and continuing evaluation and standardization.

Quality assurance of qualifications is becoming increasingly elaborated (on-screen marking, real-time statistical monitoring etc.) and this is invoking considerable cost. Such provisions are encouraged and required through increased regulation, which creates additional costs resulting from necessary reporting, monitoring and liaison activity of national and professional regulators. Introduction of high level quality assurance measures have in some settings invoked very high compliance costs – so high that organisations have closed and merged, being unable to recover costs through restructuring of qualifications prices. Only where such costs result in higher efficiency in social or labour market processes are the costs of regulation justifiable, and only where the cost increases are not terminally disruptive of qualifications processes.

Quality assurance, which requires multiple assessment using different modes and higher scrutiny of performance assessment, carries a direct and significant increase in costs. The improvement in assessment quality may not be welcomed by candidates since discrimination in final assessment would increase, likely leading to higher ‘not competent’ judgements. However, the signalling into learning that this represents, plus the formative function of higher quality information from a higher density of continuous assessment could be both motivating and more effective for candidate learning. The high assessment costs may thus be tolerated by candidates since more effective acquisition of skills and knowledge would be a possible consequence.

Table 5 summarises the main costs of conducting quality assurance of qualifications.

Table 5: Costs involved in quality assurance

Area of cost	Costs arise from:
Central administration	Informing policymakers, implementing legal requirements, implementing national standardised assessments, issuing qualifications, operating a monitoring of the whole qualifications system, research
Setting and maintaining national standards	Consulting with business interests, updating standards, ensuring transparency, and providing databases
Implementing quality assurance procedures of TVET providers	Assessor and quality assurance training, internal verification/audit
Operating assessment facilities	Expert assessors/moderators, coordinators across institutions
Training of teachers and assessors	Specialist qualification for those carrying out assessments
Materials for assessment	Costs of the materials that learners will need to demonstrate their learning, for example consumables such as timber, piping, or foodstuffs

Funding of quality assurance needs to be independent of vested interests in the qualifications outcome. National governments, businesses and individuals pay for quality assurance, directly or indirectly. Governments often focus the national responsibility for the quality assurance of TVET provision in one or more competent agencies, such as qualification agencies or audit agencies. Agencies may be fully funded by government, or agencies require payment for various services. Businesses may fund quality assurance of TVET through training levies and incentive schemes. In some quality assurance systems, the financing is supported by a levy



on the qualification issued. In other words, there is a step towards self-financing systems. The money raised through such approaches is used to develop the quality assurance system more generally. The use of levies may be a disincentive for learners and providers to use central systems and may influence the choice of learning programmes which could have a direct effect on the quality of TVET qualifications.

## Institutional structures

One of the most powerful shaping forces on a quality assurance system is the existing institutional infrastructure in the country. For example, if there is a tradition of semi-autonomous providers playing a key role in quality assurance then this network of providers is likely to form the basis of the national system. Where no such network exists, or where provision is of variable quality, a central national quality assurance system is more likely to be favoured. Under some circumstances the assessment and qualification function may be operated independently of TVET providers in a locality. Clearly where this is the case the quality assurance process will be more uniform than in a devolved system. It is also likely that the ways general schools, specialist schools, tertiary organisations and higher education centres will have traditional ways of operating quality assurance. These are also determinants of local practice.

Increasingly countries and learning institutions develop central information systems that include learner records and profiles of achievement. Where these exist they inevitably make assumptions about the authenticity, validity and reliability of the data that they use. Whilst in theory the information system remains a servant of the qualification process – communicating procedures and processes to learners and assessors and receiving and organising data about achievement – in practice the quality system can be modified according to the needs of other information systems. As information systems grow and link with other information systems they become less adaptable themselves to local circumstances and this can mean that the quality assurance systems on which they depend are also more difficult to change. The same is true when commercial information systems are used – the degree of freedom to adapt a quality assurance system may become more limited.

## Conclusion

In this section it has been argued that quality assurance systems are inevitably shaped by the context in which they operate. The range of factors with potential influence is wide and they themselves are not static, they are changing in response to social, economic and cultural pressures. As a consequence, quality assurance systems must always be seen as in a kind of dynamic equilibrium in which they are applied.

## CHAPTER 7

# ASSESSMENT ARRANGEMENTS

This section documents the range of assessment approaches that are used in TVET, and classifies them by type. This is important both for validity – matching assessment techniques to the specific things being assessed, the dependability of the qualification, as well as practical issues such as cost and manageability. The section also emphasises the importance of clarity in the constructs being assessed and focuses on the extent to which the dependability of TVET assessment is affected not only by technical characteristics of the assessment approaches, but also by contextual factors – with profound implications for quality assurance.

Assessment methodologies vary across countries. Some countries legally regulate the application of certain methods, other rather provide a framework that comprises general methodological principles. Within a competency based assessment approach candidates could be required to: do, say, write or create something as a demonstration of their skills, knowledge and application, e.g. building a roof.<sup>74</sup> Skills demonstrations, simulations, portfolio, project presentations, fabrication of work pieces, role-plays, theoretical and practical tests are common assessment methods. These are used as part of two basic approaches:

- ▶ candidates are assessed during their programme and there is no final assessment; or
- ▶ candidates are assessed in a final assessment that may or may not include an examination.

It is often the case that these two approaches are combined though use of a mix of assessment methods for example, combination of a written examination plus practical skills assessment.

The selection of assessment methods is dependent on fitness for purpose in relation to the skills and knowledge to be applied as specified in the competencies. However, in many cases, the selection of assessment methods is also dependent on historical precedence, personal preference of the assessor, stakeholder perceptions, time and financial constraints, and access to suitable resources (e.g. facilities, equipment and consumables for performance assessments such as wood, nails, food ingredients).

How countries approach the development of assessment tools varies according to the design of the TVET qualifications systems. In the unified TVET system in Australia, providers are required to develop their own assessment tools for

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74 Gillis, S, Bateman, A and Clayton, B 2009, Implementation Guide: Validation and Moderation, National Quality Council, Commonwealth of Australia; Griffin, P. (2014). Assessment for Teaching, Cambridge University Press, New York (p. 17)

the purpose of determining competence<sup>75</sup>. However, for example in England awarding bodies develop standardised procedures and assessment tools to be used their assessment centres (such as a school or training centre) to administer the standardised assessments.

In some ASEAN and SADC countries the model of utilising assessment centres to separate the learning from the assessment is seen as desirable. However, in most instances developing standardised assessment tasks has not been implemented due to capacity constraints, and some are utilising exemplars or guidelines to support assessment providers.

All models of quality assurance involve issues of quality in each of the following assessment elements:

- ▶ Assessment design
- ▶ Rubrics and protocol design
- ▶ Information and training
- ▶ Administration
- ▶ Judgement/scoring
- ▶ Recording
- ▶ Result interpretation
- ▶ Evaluation

The precise issues and approaches differ according to assessment type, and can be affected by the context in which the assessment is administered. ‘Assessment design’ is a crucial, and sometimes underdeveloped, element of any qualification and of quality assurance; design includes the purpose of the assessment and the function of the qualification; and particularly the ‘construct focus’ – the specific knowledge, skills and understanding that is to be measured/evidenced and certificated.

## Context of assessment

The context of the assessment needs to be analysed for ‘high discipline/low discipline’ features and assessment arrangements chosen accordingly. The term ‘discipline’ is used in the sense: ‘the motivation by assessors to self-regulate their assessment’. In other words, and impetus towards quality’.

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<sup>75</sup> It is these assessment tasks and outcomes which are a focus of quality external audit by the regulator.

### **Table 6: Definitions of high and low discipline settings**

A high discipline setting is characterized by assessors who see themselves as guardians of entry to the specific profession, who actively oppose admission of candidates who do not actually possess the necessary skills, knowledge and understanding. They actively monitor their own assessments for errors of commission or omission; seek feedback, advice and professional development; and are alert to any failings in the assessments of others. They are highly intolerant of any assessor who breaches regulations or who works against the spirit of the qualification. It is characterized by candidates who respect the need for formal assessment and understand its role; who strive to meet or exceed the standard required; and who do not seek to subvert the formal requirements of the assessment by cheating, substitution of material or identity, or seek undue support.

A low discipline setting is characterized by assessors who do not identify with the qualification and who do not see themselves as protecting the standards implied in or embodied in the assessments. They are not concerned about breaching the letter or spirit of regulations; and they are not alert to the issue of other assessors breaching the assessment regulations, and tolerate such breaches. They are more driven by 'local' incentives and drivers than the values associated with the function of the qualification in society and the economy. It is characterized by candidates who find assessment irrelevant and burdensome; who see 'minimum standard' and instrumentalism in the learning as the means to qualification. They have no compunction regarding cheating, identity substitution or other forms of subversion of the authenticity of the assessment.

A shift in incentives and drivers can shift a jurisdiction from high to lower discipline – for example, the introduction of higher stakes into university admissions in Sweden created the conditions for substantial 'grade drift'<sup>76</sup> in Swedish teacher-assessed school assessments<sup>77</sup>, over a relatively short timeframe.

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76 According to Oxford Index 'grade drift' is the process whereby jobs may be regraded, and so migrate up a graded pay structure, without any significant change in their content. As a consequence, jobholders will receive a higher rate of pay without assuming any additional or more demanding job functions. See: <http://oxfordindex.oup.com/view/10.1093/oi/authority.20110803095902447>

77 Wikstrom C 2005, Grade inflation and school competition; an empirical analysis based on Swedish upper secondary schools, *Economics of Education Review*, ISSN 0272-7757, Vol. 24, no 3, pp. 309-322

Certain forms of assessment are likely to be prone to higher or lower risk in the different ‘high discipline/low discipline’ settings, and different specific quality assurance mechanisms deployed to increase dependability. For example, in a jurisdiction anxious to contain costs of assessment, a greater emphasis on knowledge-based testing, under controlled conditions (for example in assessment centres) can be used to counteract the impact of general low discipline. Since knowledge is not identical to performance but correlates with performance, such testing can be used as a quality assurance mechanism – data from well-designed, secure, knowledge-based testing can be used to triangulate the claims in less secure, but potentially more authentic, performance-based assessment (Table 7).

**Objective response items:** Where candidates are required to provide a highly defined response, such as adding a line to a diagram, completing a number sequence, completing a statement.

**Multiple-choice items:** A specific form of objective response item, where the candidates’ responses are constrained to a given list of alternatives, selecting the response which best completes a statement or answers a question.

**Short answer items:** Where candidates have to provide succinct, specific responses to questions, but where the marking scheme allows some variation in those responses.

**Extended response items:** Where candidates have to create a given amount of text and/or working, and which allow candidates to organise their responses and present material in an original way.

**Coursework/controlled assessment and teacher assessment:** Where candidates produce written reports or complete structured activities that are typically marked by teachers and tutors who are also responsible for delivering the learning programmes in which the assessment is located.

**Performance assessment:** Where performances in work tasks, or activities such as laboratory work are observed and scored/rated by a teacher or qualified assessor. Assessment in work contexts typically is guided by occupational standards.

**Evidence accumulation:** Where candidates are responsible (with appropriate levels of support) for gathering evidence of performance in a range of activities and for assembling this evidence into a portfolio/record of evidence. This is then scored/rated by teachers or qualified assessors and subject to external moderation/verification.

Where performance-based assessment is an essential part of qualification arrangements, the high discipline/low discipline distinction can again be used to understand different approaches to managing assessment and thus to quality assurance. During the late 1990s, South Africa was developing approaches to wide and rapid implementation of outcomes-based assessment in vocational qualifications, using an outcomes-based model. One option for achieving a lower quality assurance load in performance-based assessment was to develop a small number of highly professionalized workplace assessors, using wage incentives, recognition incentives and other incentives to ensure that these assessors had a vested interest in establishing and protecting the standards demanded in the new qualifications. This also was to provide a means of identifying the cohort assessors with precision, allowing messaging, feedback and staff development to be efficiently targeted and managed. In the event, the nation chose to proliferate assessors, on the basis that rapid volume increase was a pre-requisite of policy. The outcome was substantial risk regarding quality and confidence; a lower-than-expected sense of dependability was indeed the outcome of the enacted strategy. The alternative was of course untested, and thus one cannot assume that the alternative would necessarily have produced a better outcome. However, comparative evidence (e.g. Dual System nations) would suggest that this approach would have held lower risk and greater promise.

The loop of producer-consumer is important. In systems in which the administrator of assessment also uses assessments produced by others – as in the Swiss and German Dual Systems - there is an immediate incentive towards quality. Where high levels of labour protection exist, there are powerful incentives to depend on, and produce, dependable assessments<sup>78</sup>. This is not arguing for high levels of labour protection as a sole precondition for dependable assessment. Rather, it is arguing that the form of development of the labour market and its associated culture needs to be taken into account when examining options for the form of quality assurance necessary.

The ‘expected level of dependability’ is important. If candidates are only expected to work in local economies, in relatively unprotected occupations, employer economic need may be met by relatively undependable assessment, with employers able to use qualifications for ‘loose signalling’ of qualification, and able to rapidly discard employees who do not meet expectation. Such arrangements, however, have clear inefficiencies for employers and give poor protection to workers. It may offer a certain level of benefit over a system with no formal system of qualification, but is

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78 Deissinger, T and Hellwig, S 2005, Structures and functions of competence-based education and training (CBET): A comparative perspective, InWEnt, Mannheim.

economically and socially relatively immature. By contrast, a system that aims for high international mobility, a link with high value production and social protection of individual interests, 'high dependability' is a pre-requisite of arrangements.

Different functions carry different imperatives regarding quality assurance. For example, using qualifications as a stimulant to shift the focus of learning programmes may not require qualifications to be assessed with a level of precision which is required by using them for consumer protection regarding licence to practice.

It is important also to consider two additional features of TVET qualifications. The first is the different relations that qualifications can obtain in the different forms of TVET. These power relations can affect quality assurance interests. In both general education and in TVET there are relations between:

- ▶ the provider of the learning process – school, college, university, employer
- ▶ the developer/provider of qualifications – State, assessment agency, employer, provider
- ▶ the users of qualifications – State, employer, agency etc.
- ▶ the candidate/student/learner
- ▶ any 'guardians' of the student such as parents, social partners
- ▶ the funder of the qualification
- ▶ subject/sector interests - subject associations, professional bodies

The second additional feature to consider is the changing nature of markets. TVET systems traditionally are construed as identical with national arrangements. Increasingly this is not the case (see chapter 3). Increasing internationalization of markets is leading to, and is driven by, international standards – for example in aircraft maintenance; in communications; in energy production. International corporations cross national demarcations and increasingly demand that the same standards are achieved in industrial production, and thus the same standards are realized in skill supply through TVET, irrespective of the agencies funding and or controlling that supply. Patterns of control and requirement in quality assurance for TVET is thus not always uniquely identical with national patterns of control.

## International assessment standards

Assessment in TVET is highly diverse, and the different forms naturally can carry, and be supported by, different forms of quality assurance. Different international standards exist regarding the characterization of the different forms of assessment



and the criteria which should be applied to their development, administration and evaluation, for example the APA Standards<sup>79</sup>, the Cambridge Approach<sup>80</sup> and UNESCO criteria (Latin Laboratory for Assessment of the quality of education). There are three typical development and management models for assessments (Table 8).

Table 8: Development and management models of assessment

### **1 Banked items:**

This can be characterised as a ‘data accumulation’ model. Items are designed, validated and pretested, the pretest data and the item then can be placed in an active ‘item bank’. These can then be deployed and re-deployed in secure tests; including administration in automated, on-screen tests. A key aspect of such an approach is linking items to specific skills, knowledge and/or understanding and placing items on specific measurement scales associated with these constructs. Overexposure and materials becoming out of date are key threats to validity in this model.

### **2 Awarding-based assessments:**

This can be characterised as a ‘review and award’ model. Items typically are not subjected to pre-testing, and the total score in an examination or examination component is scrutinised in awarding processes, principally designed to align the standard in any session with the standard applied in earlier sessions. Internal quality assurance processes operate on marking and awarding, using data derived from the awarding session, previous sessions and other bodies of data such as prior attainment of candidates. Endorsement of the award is an important post-award process, leading to a qualification.

### **3 Performance-based assessments:**

This can be characterised as an evaluation model. Assessment is based on simulated or naturally occurring activities that allow assessment against stated standards or assessment objectives. Samples of evidence or assessment decisions can be subjected to external moderation. The emphasis on performance in naturally occurring activities or simulations approximating to naturally occurring activities tends to involve relatively open and complex assessment tasks/opportunities in which assessors have to make judgements based on the stated standards. Variability in the interpretation of the standards and the openness/complexity of the elements in the tasks are key threats to validity in this model.

79 AERA 2015, Standards for Educational and Psychological Testing, American Educational Research Association

80 Cambridge Assessment 2009, The Cambridge Approach

A specific qualification typically includes rules or regulations on how the different assessment 'components' can be used and combined, in order to trigger successful completion. The combination of outcomes from the component assessments thus also carries implications for quality assurance, in order to ensure that these rules have been followed. This requires a sensitive approach to the design and deployment of quality assurance, which must match the different forms of assessment and the contexts in which they are used, as well as apply to the way in which the outcomes are combined for 'final' qualification.

## Purposes and focus of quality assurance of assessment

Quality assurance probes assessment and collects distinctive data on different kinds of detection mechanisms (Table 9).

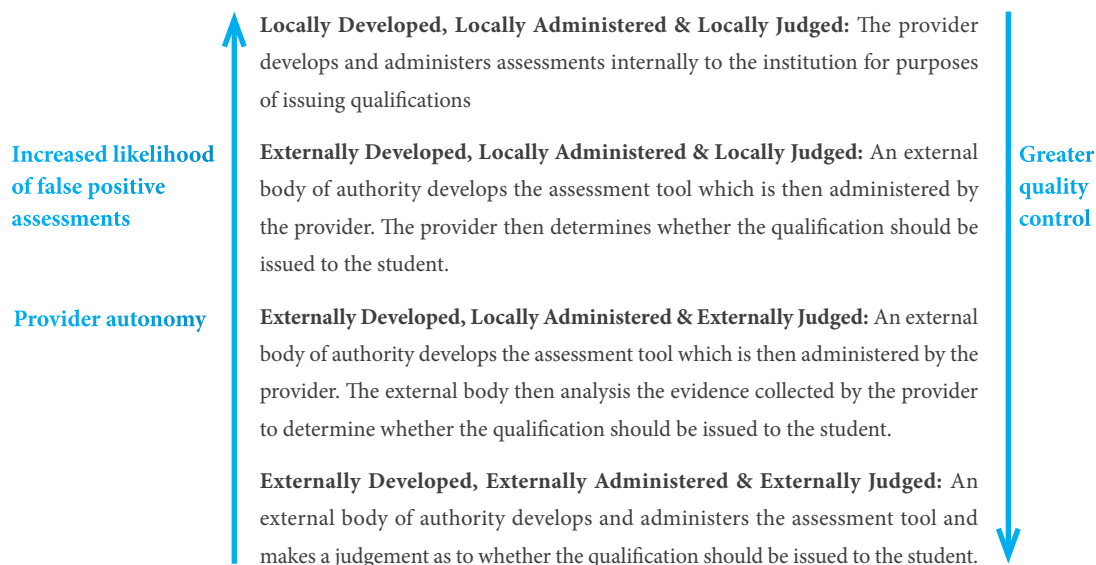
Table 9: Data categories of quality assurance detection mechanisms

- 1** Detection of features of the assessment itself (design, format etc.) that result in bias, poor discrimination, lack of validity, etc. The focus of quality assurance can be the performance of single administration of an assessment, and/or accumulation of data over time regarding the performance of different groups or classes of candidate.
- 2** Detection of errors and other problems in the administration of the assessment including deliberate maladministration. The focus of quality assurance is on determining whether administration protocols have been followed, including whether the operation of on-line assessment has corresponded to protocols.
- 3** Detection of lack of dependability caused by bias, inefficiency, leniency/harshness, or erratic assessment by the person making judgements. The focus of quality assurance is the assessor making judgements (markers in education-based assessment, work-based assessors in vocational contexts), including training of assessors, real-time monitoring of performance, and managed adjustment of the scoring.
- 4** Detection of lack of dependability deriving from any or all of the elements of assessment system, including interpretation of data. The focus of quality assurance is on gathering data and information from all stages and aspects of the assessment in order to establish overall assessment accuracy, fairness and dependability.

Different forms of assessment locate control of the assessment in different ‘levels’ in the system. In category 1 in Table 8, control is heavily oriented to assessment agencies, with strong ‘front-loading’ of quality issues – effort devoted to design of high quality items and high quality validation processes, prior to administration. By contrast, although category 4 also includes key elements of design – the construction and framing of the standards by which the assessment will be conducted, the protocols for administration etc., the assessment decisions and evidence gathering is highly devolved, representing a very different distribution and locus of control to category 1. In addition, if quality assurance has to be ramped up or intensified in response to emerging problems (such as undue variation in assessor judgements in different settings, or the incidence of maladministration), this also can shift the locus of control and relationships of trust in the system.

In regards to the locus of control, Figure 3 presents a range of options for the development and administration of assessments in an attempt to increase the likelihood that a correct judgement would be made, with external assessments at the most rigorous end of the scale. It can be seen in figure 3 that as rigour increases, provider<sup>81</sup> autonomy reduces and the likelihood of false positive assessments also reduces.

Figure 3: The relationship between locus of control for assessment and likelihood of false positive assessment<sup>82</sup>.



81 The term ‘provider’ has been used here to refer to the institution/organisation who undertakes the assessment.

82 Shelley Gillis & Andrea Bateman, 2015, Assuring Quality and Comparability of VET assessments: Exploring the Role of Independent Validation, Department of Education and Training, Canberra.

## The importance of 'coherence' in quality assurance

Quality assurance of TVET qualifications should be seen as an end-to-end process which applies to the conception and formation of qualifications as well as the practical administration of assessment on the ground. This spans a long time frame and many steps in the processes of designing, developing, implementing and monitoring the qualification. Problems in administration can originate from issues in the design of a qualification – both in terms of its content and its form, while some of the best-designed assessments can be distorted through poor administration.

Qualifications must be fit for purpose – they should be dependable on specific things that someone knows, understands and can do, and they should be fit for uses such as in recruitment and selection and pay determination<sup>83</sup>. This demands discipline in:

- ▶ determining the construct base – e.g. what is assessed
- ▶ adopting appropriate structural form – e.g. the assessment method(s)
- ▶ implementing administrative regulations and controlling enactment – e.g. control and quality in the assessment, including monitoring and evaluation

Fitness for purpose in vocational qualifications is heavily dependent on the link between the content/construct base of a qualification and the labour market requirements – in the short and long term – which can be obtained in the setting in which the qualification is to be used. Broader social functions (social integration; financial probity, etc.) and personal/private functions (career advancement; international mobility) are not absent from vocational qualifications, but tend to be lesser functions than the principal function of development of skills, knowledge and understanding which links to specific occupational requirements.

## Conclusion

This section highlighted the diversity of assessment arrangements within and across-countries. It presented three typical development and management models of assessment and highlighted the kinds of detections that quality assurance of assessment set out to achieve. The need to take care of fitness for purpose of quality assurance and the need to see quality assurance as an end-to-end process is also described.

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83 Cambridge Assessment 2009

## CHAPTER 8

# THE MAIN POINTS OF DISCUSSION INVOLVED IN QUALITY ASSURING TVET QUALIFICATION

Quality assurance of TVET qualification is evolving in many countries. Often this evolution is related to other reforms in TVET systems such as: development of national qualification frameworks and moves towards a learning outcomes approach; reforms of governance and involvement of social partners and other stakeholders; shifts towards more autonomy of TVET providers; and increasing attention to work-based learning. Therefore, quality assurance arrangements of the qualification process have to be considered in the wider context of TVET policies and its articulation with other policies such as education and employment. In other words, the quality assurance system needs to take account of the whole TVET qualification system, ensuring that it is:

- ▶ fit for purpose:
  - a. the construct base of the qualification process and its link to its use,
  - b. it has equity of access, does not discriminate between users on any grounds other than performance,
  - c. acknowledges the various learning modalities (e.g. formal, non-formal and informal) as being equally important in a TVET system;
- ▶ includes knowledge gathering by monitoring the processes and informing continuous improvement of the qualification process;
- ▶ is watchful for the nature and scale of potential failing and the (remedial) quality assurance techniques that might be required;
- ▶ is aware of the pressures acting on all actors in the development, administration, and use of the qualification so that the process runs smoothly and fairly;
- ▶ is building high trust through mechanisms that can lead to high quality and enhancing society (access, equity) and the labour market (return, currency)

The discussion in this paper notes that;

- ▶ there is an increasing demand for qualifications which impacts on the need for effective quality assurance in TVET qualifications;
- ▶ the function(s) of specific qualifications should be clearly defined, and matched to form(s) of assessment and accompanying quality assurance;
- ▶ contextual issues – culture, funding, labour market incentives, accountability - strongly affect the dependability of assessment in TVET;
- ▶ changes in assessment and certification and in quality assurance can affect the locus of control;

- ▶ there are distinctive pathways to gaining a qualification, with many opening access to learning and assessment, but inequalities in access should be subject to continuous scrutiny;
- ▶ new methods of quality assurance, such as statistical monitoring, are being developed around the world

The report also identifies some issues (Table 10) that may need to be addressed if quality assurance in TVET is to be efficient, effective and equitable.

Table 10: Consideration for improving quality assurance of TVET qualifications

Issue	Amplification
Qualification (associated terms: certification; learning outcome; qualification framework)	Within many countries there is often no common definition of TVET. The separation of non-formal and informal learning from formal learning and formal qualification may be a damaging viewpoint when the focus should be on the assessment of outcomes.
Lack of awareness of the contexts in which TVET operates	The context of learning and assessment are highly determining of quality issues and pressures on quality, particularly at institution level.  The internationalisation of TVET qualifications is increasingly important.  Drivers and incentives should be the subject of enquiry and policy action.
Limited resources for quality assurance	There is often a lack of expertise and resources to develop effective systems  An effective system requires capacity development at all levels of the TVET system. For example, teachers may need training in the use of formative assessment, school officials may need to upgrade their skills in managing data, and TVET institutions leaders – who often focus mainly on administrative tasks – may need to reinforce their leadership skills. In addition, a centralised effort may be needed to develop a knowledge base, tools and guidelines to assist quality assurance activities.
A partial view of quality assurance of qualifications	Quality assurance should be seen as diverse and broad – from design of assessment (including concepts of competence) through specific active quality assurance, to overall evaluation activity, including consideration of long term indicators such as return rates and currency.
Limited involvement of Stakeholders	The role of industry is necessary.  The role of communities is also important in developing countries, particularly in remote and rural areas

Institutional arrangements that challenge the effectiveness of quality assurance	Governance of TVET is often fragmented and therefore lacks cohesion and affects the realisation of the potential of TVET.
Assessment methods that are not fit for purpose	Mixed methods are important for quality assurance, for validity of assessment judgements, and for confidence by industry in the assessment judgement.
Inadequate assessor training	There is a need for developing the disciplined professional assessor and understanding the drivers on assessor performance
Real and perceived weaknesses in performance based assessments	There is need for more evidence of how to make objective testing a valid measure for predicting workplace performance.  Equally, more evidence is needed of ways to make performance-based assessment valid and reliable  Appreciating that skills based performance assessment needs to effectively involve formal assessment tools.
Poor use of labour market data	Monitoring and evaluation activities of qualification processes are not systematically used to review TVET and to improve the way learning outcomes are used

## Options for further developing quality assurance of TVET qualifications

Table 9 above raises a common issue, namely in what ways could general features of TVET quality assurance be improved?

The following offers broad recommendations to improve quality assurance of TVET qualifications:

1. Review the whole qualification process and aim to optimise the validity, reliability, impartiality and transparency of the system. This includes reviewing assessment methods, materials and tools, ensuring that the results of assessment are consistent across time, location, institution, and assessor. In addition, review the general results of qualification and establish that they offer no grounds for claims of bias, especially in terms of race, gender, and age. The whole national approach to TVET assessment and qualification should be clear to all with an interest in the qualification.
2. Promote the use of learning outcomes in the qualification process. Support teachers and other curriculum developers describing them, and support assessors in transforming them into specific assessment criteria.



3. Develop an assessor qualification for all who assess TVET learning, make it appropriate for both teachers and work supervisors. In addition, attention should be given to drivers and incentives operating on assessors.
4. Balance centralised approaches to governance and local autonomy. Both approaches have their advantages and disadvantages and striking a right balance means taking full account of local contextual factors and consulting with stakeholders, and sharing responsibility for quality assurance amongst all main stakeholders. Having struck a balance – ensure that the system operates in a consistent and coherent way.
5. Strengthen the involvement of labour market stakeholders in qualification and relevant quality assurance processes.
6. Pay attention to statistics, use labour market data to inform TVET qualifications so that candidates, TVET providers and system managers benefit from feedback of qualification use and currency. Develop a range of indicators and show how these aspects might be measured. Ensure good data collection that will strengthen evaluation and review in the qualification process.