

Ensuring Quality Assurance in Technical and Vocational Education and Training

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Abstract

Recent digital revolution is rapidly transforming the world of work and the skills profiles of many occupations. Major forces driving changes in the world of work include globalization, rapid advances in information and communications technology, changes in financial markets, new business strategies, new management practices and new forms of work. The uncertainty emerging from the fast changing environment, technological development has increased ethical and social responsibility. TVET was often a second choice of the students and was disregarded as a significant player in academic orientation in some years back. Now, that statement has been slowly discarded since awareness increased and through quality in education it is proved that TVET are the best providers of knowledgeable and skilled workers in the 21st century. Quality assurance in TVET is a concept that is concerned with high performance in entire academic process involving activities such as teaching, learning, infrastructure, students' behavior and so on. The TEVT sector and its policy makers respond rapidly to the changing scenario. Good quality education is very necessary in the total development of the student, which ensures proper development, job prospects and the realization of academic goals and objectives. There are varied factors working against the realization of quality TVET. Practical partnerships between public and private actors will have an increasingly important role to play in the delivery of TVET programs so that the fresh TVET graduates have to be world class and the education quality has to maintain of global standards. This paper outlines and discusses the relevancy and quality assurance need in TEVT to meet the requirements in the coming future.

Keywords: *TVET, quality assurance, standards, qualifications*

Background

Technical and Vocational Education and Training (TVET) is concerned with the acquisition of knowledge and skills for the

world of work. It is used as a comprehensive term referring to those aspects of the educational process involving in addition to

general education, the study of technologies, practical skills, knowledge and attitudes related to world of work (Maclean & Wilson, 2009). The skills associated with continuously learning and creativity dealing with ambiguity is increasingly becoming important. TVET is also a vital tool for achieving the agenda 2030 development goals. Sustainable Development Goal (SDG) 4 emphasizes the need for inclusive, relevant and quality education so that the young people should be equipped with skills, knowledge competences and values to break cycles of poverty contributing in socio-economic development. Assuring quality in education has indeed become a top priority for providers and is currently one of the most critical elements in the development of and education system (Morris, 2013). Quality assurance for TVET is quite a prominent area all over the world because of the expansion of the global competitive marketplace. International practices towards greater quality focus served to maintain professionalism, enhance stakeholder confidence, and enable personnel in the sector to adapt to the ever changing global environment. As an example, the Australian quality training framework (ATQF) was established in 2001 as a body for providing minimum quality standards for the registration of training organizations in Australia. Since 2007, it has introduced additional criteria called “excellence criteria” in a new concept called continuous improvement or reflective practice which is outcome focused, nationally consistent,

streamlined and transparent (Agbola & Lambert, 2010).

Multilateral and Bilateral organizations working in TVET sectors such as the Asian Development Bank (ADB), the World Bank (WB), the European Union (EU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labor Organization (ILO), the Swiss Development Co-operation (SDC) and others have strongly expressed interest in quality assurance in TVET system. UNESCO has focused and emphasized the need to improve the quality of education in its Education for All 2012 Global Monitoring Report of (UNESCO, 2012). International Network for Quality Assurance Agencies in Higher Education (INQAAHE) which collects and disseminates information on developing practices on the assessment and maintenance of quality in education providing uniformity of quality internationally (Morris, 2013). Technical and Vocational Education and Training (TVET) is gaining popularity in Nepal in recent years. As a result, there has been massive expansion of TEVT institutions and provisions along with the diversification of programs. Expansion of TVET programs intensified after introduction of TVET in community schools as a separate stream. Growing expansion of TVET institutions and programs in recent years also raised the concerns of quality. Strengthening of Quality Assurance (QA) system in TVET to ensure the TVET institutions meet minimum quality standards defined nationally (Sharma, 2019). In light of those facts that

the world is becoming more inclusive and interdependent, it is evident that a clear provision of quality assurance in Nepal's TVET system is a critical necessity in order to meet the demands of learners and the world marketplace.

Understanding Quality

A number of different definitions used for quality, which generally refer to the degree to which outcomes are achieved against desired benchmarks rather than to an absolute value. Quality is also 'situational and time-based'. Quality as contained in Oxford Advanced Learner's Dictionary (2010), means the standard of something when it is compared to other things like it; How good or bad something is. Quality is used on every commodity e.g. quality health, education, infrastructures, etc. The Business Dictionary defines quality in manufacturing as being 'free from defects, deficiencies, and significant variations'. The Business Excellence Organisation makes a distinction between the quality concepts which focus on 'tangible products' and those which focus on intangible service delivery (Misko, 2015). The Health Foundation in the United Kingdom views quality as a 'degree of excellence in health care'. A quality health care service is identified as being safe, effective, person-centred, timely, efficient and equitable. In context of TVET quality can be defined as the level of excellence in training delivered by public and private training and assessment providers. It necessarily includes both quality management concepts as well as regulatory frameworks.

In recent decades organisations have focused on quality and quality management as a business concept that can be used to guide and evaluate organisational effectiveness. Quality frameworks have become important to at all level government agencies and enterprises as well as to private enterprise. Governments are eager to ensure that there is adequate accountability for the funding allocated to the provision of public services and products, while private enterprise is keen to make sure that products or services meet the needs of clients, return a profit and are delivered in accordance with government regulations.

In the education and training sector quality is important for securing client (employers and learners) and stakeholder (governments and industry) trust in the ability of the system to deliver relevant learning outcomes. This is especially critical as systems become more flexible in what and how educational program/training is delivered and accessed (Pepper, 2016). With learners obtaining qualifications for the knowledge, skills and competencies they acquire in a range of formal. The effective and efficient regulation of education/training is central to the integrity of TVET systems and to the qualifications they offer and deliver.

Quality Assurance

In education, meeting the needs of stakeholders and for fostering innovation and improvements through quality assurance is emphasized (Navaratnam & O'Connor, 1993). World is changing at high

rate. Without innovations and inventions educational institutions will lag behind. The introduction of the new digital technologies in education brought rapid changes socially, culturally and technologically. UNESCO defines quality assurance in TVET as the processes and procedures ensuring that qualifications in terms of competences and ability, assessment and program delivery meet certain standards (UNESCO, 2018a). Quality assurance comprises the processes of ensuring that specified standards and requirements for TVET provision, curriculum design and development, learning, TVET management, accreditation, assessment and the recording of achievements are met. Quality assurance as applied in education refer to all forms of internal and external quality monitoring, evaluation or review or the systematic review of educational programs to ensure that acceptable standards of education, scholarship and infrastructure are being maintained (Hamminck, 2017).

Many countries have a growing shortage of skilled workers to meet the requirements of enterprises and to serve communities' needs. For instance, the UK is experiencing declining levels of participation in courses for the advanced technical skills required for its economic activities (Wolf, 2016). German enterprises are experiencing difficulties securing adequate numbers of quality candidates for apprenticeships. This has led to competition amongst companies to secure such apprentices. In country studies from a current UNESCO project shows that there is a growing concern across countries with

both developing and advanced industrial economies and long struggle to attract young people to the manufacturing sector that sustains its economy. Young people and their parents increasingly prefer higher education over TVET as an educational pathway. This preference extends even to those university programs that have no direct employment outcomes and, potentially, quite limited prospects of employment upon graduation (UNESCO, 2018b).

Quality in educational programs only can meet the needs of the industries/communities and that is determined by the governments, industry's, enterprises and communities view, support, fund, participation and engage with programs. To understand TVET quality assurance it is important to consider what we mean by 'quality'. A common understanding of quality is 'being of value' and this makes quality relative: of what value; value for whom and value for what? There is no global, absolute, objective measure for quality rather it is something agreed upon by communities. In education, there is no exact formula or a unified model for a standard TVET quality assurance system though, specific elements of quality can be defined and targeted. The stage of development and maturity of TVET systems differs from country to country. Most of the countries national TVET systems originated having operated under different government ministries or departments and different sets of qualifications and quality assurance arrangements. The form in which countries develop their quality assurance systems

for education and training depends on the specific country contexts. Generally this include traditions and governance culture, the extent to which general education, TVET and higher education, the existence and strength of apprenticeship systems, the integration of workplace experience in TVET (industry partnership) and the specific geo economic contexts (Oluwasola & Ogbuanya, 2015).

TVET was often judge as a place for those who only fated to do boring and dirty jobs resulted from their poor academic achievement. A key and growing concern is that in an era of growing aspiration, this image has negative impacts on young people's and their parents' interest and participation because TVET is often viewed as a second choice or last resort. The so judgmental assumption has been long mingling in the orthodox view of education landscape and it made the heart of those who: run it, in it, feel it, felt so crush and hindered. Those statements has been slowly discarded since many are aware that TVET are the best providers of knowledgeable and skilled workers in the 21st century TVET is often disregard as a significant player in academic orientation (Ghneim, 2018).

Within the education system the meaning of TVET quality can be quite different from that within the employment system. TVET might be of the highest quality at a certain moment in time but a sudden change in labor market needs can render its outputs, at least temporarily, worthless as regards employability. A component of quality management that is 'focused on providing

confidence that quality requirements will be fulfilled' In relation to education and training services, quality assurance involves planning, implementation, education and training evaluation, reporting, and quality improvement, implemented to ensure that education and training (content of programs, curricula, assessment and validation of learning outcomes, etc.) meet the quality requirements expected by stakeholders (Coles & Bateman, 2017). The aim of quality assurance in TVET is to support processes and procedures that ensure good TVET. As described by Cole 'Good TVET' has five key features:

- responds to labor market, societal and individual needs;
- leads to nationally, or even internationally, recognized qualifications or credentials;
- provides access to decent jobs and sustainable employment;
- is attractive, inclusive and accessible, i.e. all citizens have access to VET;
- fosters capabilities that enable progression to further learning.

The application of quality assurance is critical to the future of technical and vocational education because training must be geared to the needs of individual workplaces and the graduates who seek to work in them. Employers want quality graduates. Industry sets the standards for occupational skills of various levels and types of jobs based on which curriculum standards and testing standards are set (UNESCO, 2018b)

Quality assurance is fundamental to qualifications because trust and transparency in qualifications are a requisite for the comparability and recognition of qualifications at both the national and international levels. To ensure the validity and trustworthiness of qualifications and certificates, the qualifying and certification process needs to be underpinned by reliable and standardized quality assurance arrangements and mechanisms. Quality in TVET requires its attendants employability and meeting both students and employers demand. Responsibility that increased clarity, collaboration between school and working life, and work place learning will lead to an emerged quality should be shared between the student, the school, and the industry (Jayalatha, 2017).

Why focus on TVET quality?

Quality assurance refers to planned and systematic processes that provide confidence in education and training services provided by TVET institutions. The notion of quality can be viewed from various perspectives. The British Standards Institution (BSI) has defined quality as “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs. Market relevant curriculum, qualified teachers with high motivation, adaption of adult teaching methods, availability of infrastructures, teaching materials and proper evaluation of students etc. like standards can support to assure quality and function properly in the TVET

program. The assessment of quality teaching is an on-going, multi-dimensional process which should be based on process and product. Events have shown that countries and individuals are not able to harness human and non-human resources efficiently towards the realization of specific socio-economic and technological goals which brings us to the fact that there is need for ensuring quality TVET program. Successful implementation of any education program and the effectiveness in achievement of set goals depend very much on adequate materials and resources available. The input on individuals and institutions of learning, can determine to a large extent the realization of the philosophy of TVET (Idialu, 2013).

(Navaratnam & O'Connor, 1993) agree that quality vocational education is important to industry because employers see a skilled workforce as fundamental to getting and maintaining a competitive advantage. They assert that: industries want students who can understand their work, their product or their services, be creative and adaptable, and capable of becoming multi-skilled. Industries demand that vocational graduates possess vocational knowledge, skills and attitudes that are central to industrial innovation and practice (Navaratnam, 1991). Industry needs relevant and high quality vocational education based on recent technologies. Quality of vocational education is important to both government and the general public. In most emerging economies, educators and industry operate in different worlds and often have little contact with each other.

Sometime, TVET uses curriculum created by academics with little or no understanding of industry requirements or local needs. The TVET institutions are needed to strengthen links with industries to improve networking between academia and industries to create a better understanding of each other's needs and to identify how they can be met through the industry programs. The domestic industries should have link with the industries abroad to enhance indigenous standard. The TVET institutions will have the link with their home industries to determine their standard and to develop their own curriculum (Raihan, 2014).

A study of Nigerian TVET quality reveals that there is a gap in timely revision of TVET curriculum, gross inadequate strategies in recruitment of staff, lack in supervision of program, provision of facilities, provision of scholarship and knowledge and updating program like seminar, conference, workshop and interaction programs with the industries and their association (Ogbuanya & Oluwasola, 2015).

Some of the educationists also have identified five different approaches to define quality in terms of exceptional, consistency, fitness for purpose, value for money, and transformative. High quality programs provide strong links between institutions and industries leading to better employability of graduates make TVET more attractive and give status. Similarly, quality assurance frameworks serve as a common reference to ensure consistency amongst different actors at all levels (Reinsch, 2009). The process and

procedures followed in quality assurance systems have transparent to ensure mutual understanding and trust between different actors. It supports in building better industry and labor market orientation and the trainers, assessors and other QA related personnel are well-qualified and familiar with workplace practices and the facilities and technologies utilized reflect industry requirements and technologies (Holland, 1992).

Different quality assurance mechanisms for TVET are established and practiced. Different systems apply different combinations of these principles depending on the specific country context. Quality assurance systems commonly vary around the principles. As per the need of the TVET system systematic professional development of trainers / instructors / teachers, assessors and verifiers, keeping pace with technological advancements and use technology appropriate, encouraging continuing TVET and lifelong learning, delivering a TVET demand approach, development and management of a robust evidence based Competency Assurance Management System (CAMS) with a view to set a traditional criteria for management of quality assurance of the TVET system, change the mindset of parents, the community and stakeholders about vocational education being second choice to academic education and implementation of the vocational disciplines through respective academic subjects at universities etc. are some of the factors assuring quality in TVET (OECD, 2013).

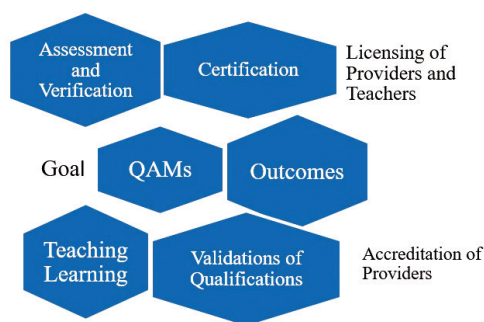
Ensuring Quality in TVET

Technical and Vocational Education and Training sector requires systematic approaches to measuring the quality of systems and institutions has become widespread. In some countries traditional systems of inspection continue to be the mechanisms for ensuring that institutions deliver quality training. In others the application of quality standards (developed by government regulators and commercial quality and accreditation organisations) are used as criteria or benchmarks against which organisations are formally audited, to gain, maintain or renew registration or accreditation (Murray, 2013). The effective and efficient regulation of education and training is central to the integrity of TVET systems and to the qualifications they offer and deliver.

Effective regulation ensures that the providers of training have appropriate and adequate processes and physical and human resources in place to deliver the required and relevant skills and knowledge; it also promotes continuous improvement practices and provides confidence for industry in relation to the skills graduates possess. An efficient and streamlined regulatory system and one not overly burdensome encourages compliance and quality of provision. Efficient regulation is also underpinned by a risk-based approach to quality assurance, which encourages the pursuit of excellence and self-compliance (Misko, 2015). As practiced in different countries, there needs

a strong quality assurance and management system which can preserve the integrity of nationally recognized qualifications. Well-recognized and trusted qualifications can support labour market efficiency by providing ‘effective signals’ to the labour market about the knowledge and skills an individual has acquired, which helps employers and graduates to have confidence in the quality of the qualifications.

Figure-1: *Quality Assurance Management*



Assuring the quality and relevance of TVET has become an increasingly challenging task, which has to comply with changing labor market’s requirements and needs. If TVET does not lead to satisfactory outcomes, everyone loses. TVET quality, therefore, is of common interest and this is what motivates cooperation and concerted efforts of all concerned in the field of quality assurance in TVET (Sharma, 2019b). In today’s fast changing environment, new innovative approaches to performance monitoring, measurement of quality or output-based policies, such as competency

based education and training (CBET) and assessment are applied to assure the required quality in terms of competency achievement. The aim of quality assurance in TVET is to support processes and procedures that ensure good TVET.

Conclusion

The issue of quality technical and vocational education and training (TVET) as tool for self-reliance is a fact that cannot be discarded or over emphasized. The revelation from the study shows the quality of students admitted to technical colleges. The quality of students and their background is a determinant factor of how well the students will perform. Technical schools as an institution that provides craftsmen and women for the general society has some inadequacies. As revealed from the study, problems relating to diversifying instructional methods to creating enough practical periods for necessary skill acquisition as strong bane for quality training are against the requirement of UNESCO that special efforts should be made to ensure that National Technical and Vocational Education seeks to meet international standards. Again, to meet the twenty-first century demand, UNESCO advocates for learner-centered innovative and flexible approaches to all programs including curriculum re-orientation. Low performance of the Instructors/trainers, insufficient facilities and inadequate availability instructional material will make the training institution laboratory different from expected industrial setting. Quality assurance whether external

or internal and irrespective of how quality is defined requires established benchmarks against which qualifications, courses and providers can be assessed. In TVET this includes several activities, starting from the self-assessment of the institution and finishing with the use of the outputs of the assessment. A quality TVET is supported by three key pillars: ensuring access to quality teachers; providing use of quality learning tools and professional development; and the establishment of safe and supportive quality learning environments. Through the analysis of the students, school, instructional materials and government have been identified as necessity for attaining quality TVET program that can cater for economic growth of the nation and the wellbeing of the country through self-reliance. Based on the studies, the following recommendations are therefore made.

- Career guidance and counseling sessions should be organized for the students in the school level to support students in career assessment.
- The federal as well as provincial government must prioritize adequate time planning and review of TVET curriculum to make it more relevant to the labor market.
- Qualified and competent staff must be developed and employed for the quality TVET.
- TVET Fund must be established and mobilized on need based.

- Adequate facilities of the TVET institutions must be ensured for the effective implementation of TVET programs based on the curriculum.
- Motivational programs should be planned and implemented to retain TVET staff.
- A good package should be provided for TVET teachers which must be subject for upward review periodically.
- CTEVT should have an effective quality assurance unit to ensure quality assurance of the TVET institutions both in the public and private sector to produce tangible evidence concerning the quality and standard of education and training programs.

The national body, responsible for standardizing and controlling the quality of TEVT is the CTEVT and being legally mandated institution responsible for quality assurance in Nepal. All TVET institutions and programs are to be brought under the quality assurance mechanism to ensure all are operated maintaining quality standards prescribed by CTEVT. CTEVT as a policy making agency should not implement the TVET programs itself. With the increasing realization that TVET programs are of paramount importance in the social, educational, and economic scene, more and more emphasis is being placed in quality control and quality assurance. In addition, investment from government or from people in TVET is significantly higher. Utility and return of the investment would be higher if TVET institution prepares students of

superior quality capable enough to compete for the job in the labor market. The time has come when national responsible body authorized for quality assurance takes a public stand for integrity of action.

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