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Transversal Skills in TVET: Policy Implications



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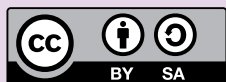
Transversal Skills in TVET: Policy Implications

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Preface to the Series

The Asia-Pacific Education System Review Series is published by the Education Policy and Reform (EPR) Unit of the UNESCO Asia and Pacific Regional Bureau for Education (UNESCO Bangkok). The series aims to summarise what is known, based on research, about selected contemporary policy issues relating to the national education systems of countries in the Asia-Pacific region.

The series provides practice-oriented guidance for those engaged in the review of education policy and systems as well as in the implementation of reforms related to the specific topics that the booklets address.

The booklets are designed to serve as rapid and credible reference material for education policy-makers, planners and managers, offering busy readers: (a) an overview and quick analysis of pertinent education issues; (b) a choice of approaches and options to address these issues, based on experiences of countries in the region; and (c) a set of recommendations, guiding questions or issues to consider when preparing a sector or sub-sector review and reform.



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List of Abbreviations

ACSF	Australian Core Skills Framework, Australia
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ATC21	Assessment and Teaching of 21st Century Skills, Australia
BDTVEC	Brunei Darussalam Technical and Vocational Education Council
CDC	Career Development Competency
CSfW	Core Skills for Work, Australia
EC	European Commission
EFA	Education for All
EPR	Education Policy and Reform (Unit)
EPSO	European Skills/Competencies, Qualifications and Occupations
ERI-Net	Education Research Institutes Networks in the Asia-Pacific
GMR	Global Monitoring Report
ICT	Information and Communication Technology
ITSS	Industrial Training on Soft Skills, Malaysia
K-CESA	Korean Collegiate Essential Skills Assessment, Republic of Korea
KNCS	Korean National Competency Standards, Republic of Korea
MoE	Ministry of Education
MoHE	Ministry of Higher Education
MQF	Malaysia Qualifications Framework
MRA	Mutual Recognition Agreements
OECD	Organisation for Economic Co-operation and Development
PROG	Progress Report on Generic Skills, Japan

P21	Partnership for 21 st Century Skills, United States of America
RCP	Regional Cooperation Platform
RTO	Registered Training Organizations, Australia
SEAMEO	Southeast Asian Ministers of Education Organization
STI	Science, Technology and Innovation, Japan
TLLM	Teach Less, Learn More, Singapore
TVET	Technical and Vocational Education and Training
VAC	Vocational Action Competence, Germany
VBC	Vocational Basic Competency, Republic of Korea
VBCAT	Vocational Basic Competence Assessment Test, Republic of Korea
VOCTECH	SEAMEO Regional Centre for Vocational and Technical Education and Training
VTE	Vocational Teacher Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund



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The booklet is the synthesis of a collaborative research on the topic and is primarily based on 13 country studies prepared by the following experts and researchers:

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Foreword

The focus of this eighth booklet in the Asia-Pacific Education System Review Series is on ‘transversal skills’ in Technical and Vocational Education and Training (TVET). But what, one might ask, are transversal skills and why are they important in TVET? From the educational perspective, transversal skills are those that go beyond foundational and occupation-specific skills and can give TVET graduates a comparative advantage when looking for employment. From the labour market perspective, these are skills that are increasingly in high demand by employers because they can allow workers to better cope with daily challenges in rapidly changing and sophisticated workplaces.

Transversal skills are, however, nothing new. People have been changing work environments and coping with numerous challenges in their workplaces for centuries. Nowadays, however, regional and global competition, compounded by rapid changes, is making it harder to find and maintain gainful employment. To meet the challenges resulting from economic, demographic, technological and environmental changes, skills development across the Asia-Pacific region needs a fundamental rethink. Such a rethink is critical to continued growth and development.

To facilitate this ‘rethink’, this booklet serves as a background document for policymakers and educators. We hope that it will both enable and encourage them to seek further information and make informed decisions on policies that can ensure that the benefits of transversal skills in TVET systems are realized and thereby support young people in developing their full potential through skills development for the world of work.



Gwang-Jo Kim
Director
UNESCO Bangkok

Section 1:

Introduction

“The training of the past, too long inadequate even for the purposes of the past, will not serve in preparing youngsters of today to meet new conditions – above all, conditions which none of us can clearly foresee. It is one thing to provide a simple skill that can be applied to a given situation, it is quite another thing to prepare young people to meet an unknown world, to solve unforeseeable problems, and to adapt their skills, their intelligence, and their knowledge to new situations that are developing with lightning speed.” Eleanor Roosevelt (Tomorrow is Now, 1963)

The Asia-Pacific region is changing. These changes have many underpinnings some of which include demographic, economic, technological and environmental factors. For countries in the region to cope with these changes and compete regionally and globally, they need to address emerging skill needs taking into account their respective economic strengths and potential.

Employer surveys indicate that occupation-specific skills are no longer sufficient for workers to meet the needs of national labour markets (OECD, 2013). In addition to basic and specialized knowledge and skills, workers are nowadays expected to have an additional set of skills – referred to here as ‘transversal skills’ – that go beyond their occupation. This should not be interpreted as to imply that employability is based solely on these skills but rather that they complement the ‘conventional’ knowledge and skills, thus strengthening individual capacity and employability. These skills are not new but are arguably needed now more than ever given the rapidly changing realities in the Asia-Pacific region.

Therefore, adequate workplace preparation is necessary in both pre- and in-service training, as well as through career development outside of work and through opportunities for lifelong learning. Developing students’ ability of learning to learn is in fact one crucial part of transversal skills. It can facilitate transition from school to work as well as youth and adult re-entry into education (work-to-school transition). TVET students need to learn both inside and outside the workplace, and recognize their need for further education and training. This is particularly the case in the Asia-Pacific where TVET is often provided

in non-formal and informal ways suggesting that skills development and recognition need to be flexible and adaptable. At the same time, TVET teacher requirements and training must be designed in a way that prepares vocational teachers to support students in developing skills that will ensure their employability in the future.

Given the purpose and limited bounds of this booklet, this study focuses solely on skills development in pre-service formal TVET settings across different educational levels, since it is sometimes difficult to pin TVET down to one single education type or level. It is hoped that this collaborative study will make a valuable contribution to increasing understanding of challenges related to transversal skills, give a preliminary picture of transversal skills training in TVET in Asia-Pacific and advance the debate on the promotion of this skills set among policy-makers and other TVET stakeholders in the region.

Methodology

This regional study is a first step in exploring transversal skills in TVET in the Asia-Pacific. It is based on select examples from thirteen country reports¹ that examine transversal skills in policies and practices. The study does not consider each country case in depth but rather gives a regional picture of transversal skills in TVET. All country reports have followed a set framework describing the need for transversal skills, outlining some existing definitions and providing guiding questions. The study limitations have resulted from diverse socio-economic country contexts and limited research bounds. Participating researchers had the opportunity to present and exchange on their findings at the UNESCO-RCP research workshop that took place on 26 October 2013 in Shanghai, China.

The current study takes a brief look at different understandings and definitions of transversal skills, regional changes underlying the need for their development, and goes on to explore the extent to which they are integrated in national TVET policies and how they are implemented in TVET delivery and vocational teacher training. Further research could continue exploring the divergence and convergence of national definitions, constructing a shared conceptual structure to advance the regional discussions, exploring the assessment of transversal skills and tracking exposure to learning opportunities across all skill domains.

1 Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Indonesia, Japan, Malaysia, Mongolia, Republic of Korea, Sri Lanka, Thailand, Viet Nam.

Section 2:

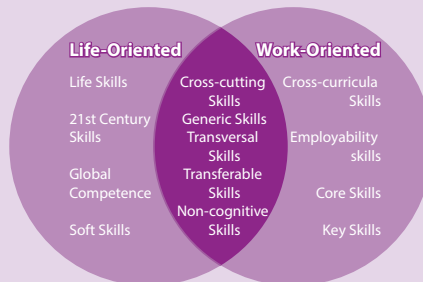
Transversal Skills: A Variety of Understandings

What are Transversal Skills?

There are different understandings and conceptualizations of transversal skills across countries but in general, transversal skills refer to a number of important competencies that can be learned and that everyone requires to successfully adapt to changes and to lead meaningful and productive lives. Discussions are ongoing with regard to competencies² that fall under the umbrella of transversal skills and terminology used to refer to them. (See Box 1)

Box 1: Some Common Terms Used to Refer to Transversal Skills

The terms listed in the graph are sometimes used interchangeably but their respective focus tends to differ. The graph presents one possible categorisation of some common terms used to refer to transversal skills.



In addition, there is a range of concepts that have been developed at national and regional levels related to the concept of transversal skills. Some well-developed education and training systems have established robust frameworks for transversal skills – i.e. Core Skills for Work Framework in Australia, and Vocational Action Competence (VAC) in Germany. At the regional level, ASEAN Qualifications Reference Framework is being developed in Southeast Asia, while the European Skills/Competencies, Qualifications and Occupations (EP SQ) framework identifies and categorizes skills for workers in the European Union. UNESCO is currently working towards reviewing and establishing learning descriptors at the global level. In this process, the task force on the recognition of qualifications and quality assurance will be established to provide a draft definition of world reference levels of learning outcomes by September 2015.

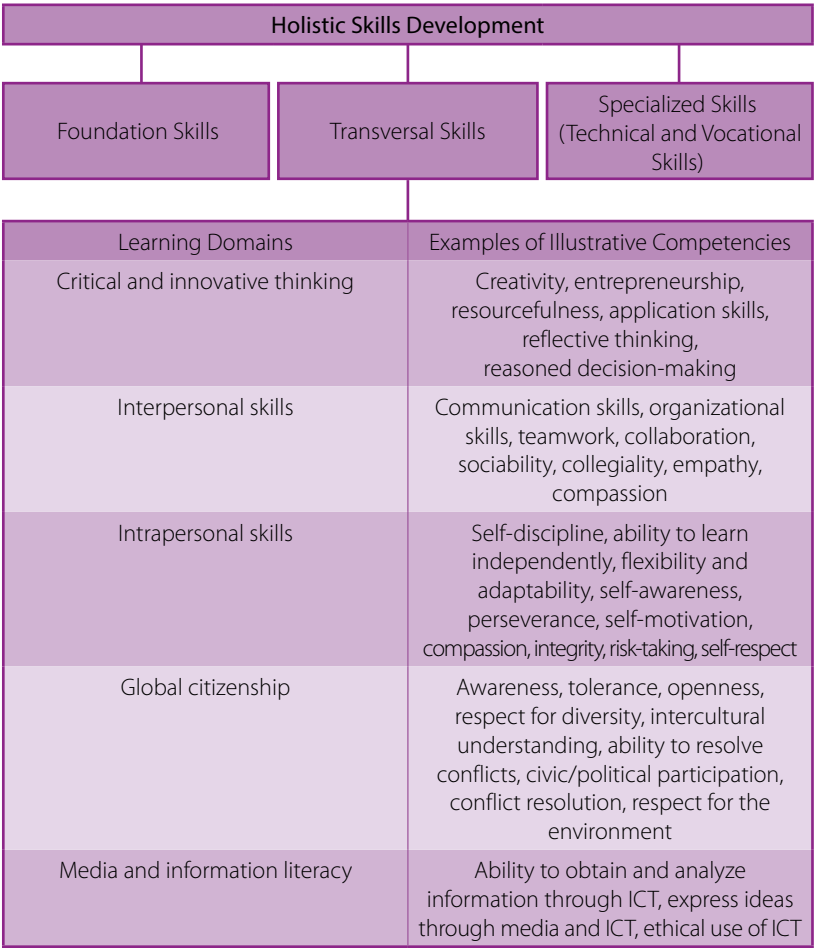
² 'Competencies' are often used interchangeably with the terms 'skills', 'attitudes' and 'values'.

This study uses the term ‘transversal skills’, which can be understood in the same way as ‘transferable skills’ as coined by the Education for All Global Monitoring Report (EFA GMR) 2012. The Report defines three types of skills, (1) foundation skills, (2) transferable skills and (3) technical and vocational skills, all of which are required for youth to access gainful employment. It refers to foundation skills, at their most fundamental, as “literacy and numeracy skills necessary for getting work that pays enough to meet daily needs”; transferable skills as “a broad range of skills that can be transferred and adapted to different work needs and environments”, and technical and vocational skills that can be considered “specific technical know-how” (UNESCO, 2012, p. 171-172) Although the Report focuses on disadvantaged youth and does not analyse transversal skills in depth, its definition will be used in this study and also as basis for further discussion. Given its basic form, the definition has been chosen as a reference for comparing existing relevant national and regional definitions and concepts.

In fact, efforts to define and deploy transversal skills are still ongoing across all levels and streams of education including at national, regional and international levels. Based on the concepts proposed in various related initiatives, including ATC21S, P21 and the EFA GMR (2012), the ERI-Net³ research programme has developed a conceptual framework (see Table 1) that goes deeper into defining transversal skills. According to the framework, transversal skills encompass five learning domains – critical and innovative thinking, interpersonal skills, intrapersonal skills, global citizenship, and media and information literacy, which together with foundation and specialised skills all need to be considered for a holistic development of the individual.

3 Education Research Institutes Networks in the Asia-Pacific (ERI-Net) was established by UNESCO Bangkok (Asia and Pacific Regional Bureau for Education) in 2009 to facilitate regional collaboration among education research institutions (including universities and think-tanks) in education policy issues relevant to the region. For more information, please visit: <http://www.unescobkk.org/education/epr/epr-partnerships/eri-net/>

Table 1: Conceptual Framework of Transversal Skills Developed by ERI-Net



Note: 'Transversal Skills' in this framework refers to 'transversal skills and competencies'

Source: Adapted from ERI-Net Research Programme 2013

The interplay of learning domains and the focus of illustrative competencies in Table 1 may depend on the context and occupation in which they are employed. It is generally understood that different occupations may require a distinctive blend of competencies and that even within occupations, different roles will require varying competencies. Individuals have to learn to adapt, combine and apply

them in different contexts. The challenge, therefore, is to establish the focus and intensity of illustrative competencies for different types and levels of TVET. The Global Framework of Learning Domains (UNESCO and Brookings Institute, 2013) is one example of efforts to define learning outcomes by education level. The Framework sets forth seven learning domains for different levels of basic education. Similar efforts are needed to define learning domains and outcomes for different TVET levels.

In fact, researchers have been examining transversal skills for many years but many areas still continue unexplored. Similarly, some existing research is opposing or inconclusive. Among existing literature, there is considerable agreement on the positive effects of transversal skills on important life outcomes. Some evidence (Carneiro et. al., 2007) suggests that transversal skills can be developed from early childhood and that parents and the social environment play a crucial role in developing these skills. In fact, transversal and foundation skills are both shaped early in the lifecycle and have an important impact on social and economic success in later life (Ramos, et. al., 2013). The degree to which transversal skills can be shaped and further developed in later life is, however, more difficult to appraise and remains an area for further exploration. Nonetheless, as with all kind of skills, schooling is thought to still play an important role in developing transversal skills for work and life.

The challenge surrounding transversal skills is compounded by different perspectives from which these skills can be viewed and analysed. A survey by the European Commission (2011) found that companies, educators and the public sector have differing views on some aspects of transversal skills:

“Companies perceive nearly all skills as transferable [...] and distinguish skills with high and low transferability very clearly [...]. Most frequently, [the public sector perceives skills] as a synonym for specific skills connected with performing a particular job [...] and transferable skills as the ones applicable in different occupations [...]. Educators also separate specific skills connected with specific occupations, and transversal skills (or generic) skills that are applicable in more occupations and where connected with both soft skills and generally applicable hard skills” (EC, 2011, p.6).

For TVET to equip learners with adequate competencies, there is need for all stakeholders to be involved in discussions on concepts, policies and implementation of transversal skills in light of changing national, regional and global contexts. Some regional developments that shape these contexts and have a significant impact on skill requirements are discussed in the following section.

Regional Outlook: Why Transversal Skills?

The Asia-Pacific is facing a number of socio-economic changes and emerging challenges, some of which are shared international challenges and some of which are more pronounced in the region. These multi-faceted challenges are forcing policy makers to reconsider their skills development policies and the role that TVET plays in advancing national economic prosperity and social wellbeing in the future. The following section will outline some of the most important regional trends, all of which are interlinked and interdependent, and examine the implications these challenges have on education and training systems in terms of transversal skills development.

• Demographic dynamics

One of these challenges are demographic shifts that are increasingly shaping the region. While the Asia-Pacific has a particularly large youth population, regional diversity makes the population landscape more complex. Some countries have a ‘youth bulge’ and face particular challenges in providing adequate education and jobs for young people while others face ‘population pillars’ that are likely to result in ageing populations and related challenges in providing for the elderly. Moreover, people are increasingly mobile within and across countries in the region, which makes demographic composition more diversified and compels education and training systems to address diverse learning needs and aspirations of populations. These well-known demographic realities place increasing pressure on national labour markets to both provide jobs for a large number of young people and training systems to meet the demands of the labour markets by skilling and reskilling youth and adults for existing and future jobs. Increasingly, developing TVET is recognised as an adequate response to meeting these demands in many countries of the region. However, training systems are yet to adequately prepare youth and adults for the

needs and requirements of the labour market and equip them with the requisite skill sets for changing economic realities within and beyond national boundaries.

• *Economic changes*

Moreover, the Asia-Pacific region plays and will continue to play an important role in an increasingly globalised economy. However, when looking at regional economies, one is confronted with a diverse and complex picture of well-advanced, middle and low-income economies. These diverse economies are collaborating through several channels including the Association of Southeast Asian Nations (ASEAN) whose member states, following their shared desire to reap the benefits of regional economic cooperation, have agreed to establish the ASEAN Economic Community (AEC) in 2015. One of the five core elements of AEC 2015 will be the “free flow of skilled labour” to be facilitated by Mutual Recognition Agreements (MRA) for selected occupations.⁴ Hence, there is growing recognition that the promotion of transversal skills could increase the benefits expected from intensified labour mobility. Adequately skilled workers will be in high demand and could significantly influence foreign investment decisions in the region. By developing the right skills sets in students, countries can also expand their areas of economic niche. For this to happen, however, countries need to strengthen alignment between TVET policies, curriculum, teaching practices and assessment, and eventually increase the relevance of education and training to national labour market needs. Developing the appropriate skill sets through TVET is fundamental to ensure an adequate match between labour market needs and demands, and that benefits of regional integration are exploited.

• *Technological advances*

The need for transversal skills is also fueled by technology that has shaped and continues shaping our lives and workplaces. An increasing

4 According to the ASEAN Blueprint, the AEC “shall comprise of five core elements: (i) free flow of goods; (ii) free flow of services; (iii) free flow of investment; (iv) free flow of capital; and (v) free flow of skilled labour” (2008, p.6). The major instrument facilitating the free flow of skilled labour, through mutual recognition of qualifications, will be the Mutual Recognition Agreements (MRA) for architectural services, accountancy services, surveying qualifications, medical practitioners by 2008, and dental practitioners by 2009. It should be noted, however, that the AEC Blueprint does not make provisions for unskilled workers who make up the majority of migrants in ASEAN (Orbeta, 2013).

shift away from an agriculture-based economy toward a more service-based economy has been taking place across the region. These shifts are accelerating and will have a significant impact on employment figures in high, medium and low-skilled occupations. Since greater technological innovation is associated with increasing demand for skilled workers (Almeida, 2010), the demand for such workers in many middle-income countries of the region is increasing. Underlying this skill demand is the significant dependence on technology in the modern workplace:

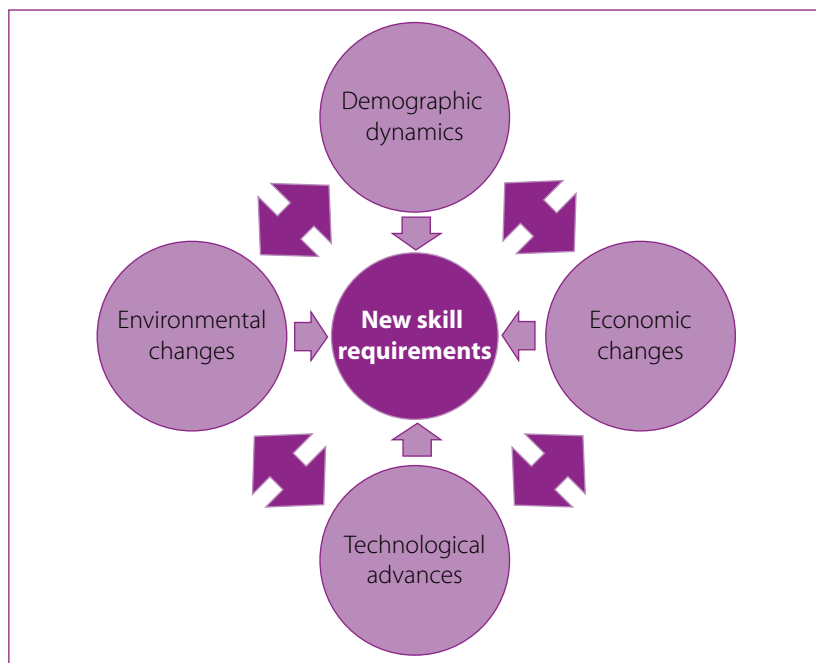
“In services, data analysis, and engineering positions, for example, most workers clearly need to be technologically savvy, [...]. Even a worker on a modern production line might need to use several computers and other complication machinery just on his portion of the line” (Stanford University, 2013).

Additionally, technology is contributing to the creation of significant amounts of data and information that need to be interpreted. Nowadays, workers need not only to be technology savvy but also data literate to operate effectively in most workplaces.

• **Environmental changes**

In addition to technological advances, environmental changes create the need for workers equipped with transversal skills. In recent years, the Asia-Pacific region has experienced some of the most devastating climate related-disasters. There is evidence that environmental disasters are occurring more frequently and with greater intensity, with South, Southeast and East Asia at greatest risk (ADB, 2012). Since climate change is believed to be largely associated with the development choice of economic growth, many economies in the region are striving to become ‘greener’. This also has a direct impact on expectations around TVET, which should provide an adequately-skilled workforce that is able to adapt to changing realities in the workplace and have the ability to understand sustainability as a broader concept. Nowadays, workers are not only expected to understand issues of sustainability in the workplace, they should also be prepared for new industries and employment opportunities which all require more than simply occupation-specific skills.

Figure 1: Development Changes Impacting on Skill Requirements in Workplaces



These challenges and ensuing pressures both independently and when combined, and when set against the shortcomings of TVET systems, result in skill mismatches of detriment to economies across the region. It is true that skills are not the only requirement for economic growth and greater productivity but investing in skills development pays important dividends. While these regional developments and growing pressures may be recognised by policy makers, this chapter draws attention to their combined impact on skill requirements for TVET graduates. As previously discussed, transversal skills play an important role not only in up-skilling, but also in 'right skilling' of TVET graduates. The real challenge is to adapt TVET policies to these growing pressures and to ensure that reforms are applied and implemented in practice.

Section 3:

Regional Perspectives on Transversal Skills: Policy Matters

Diverse Understandings

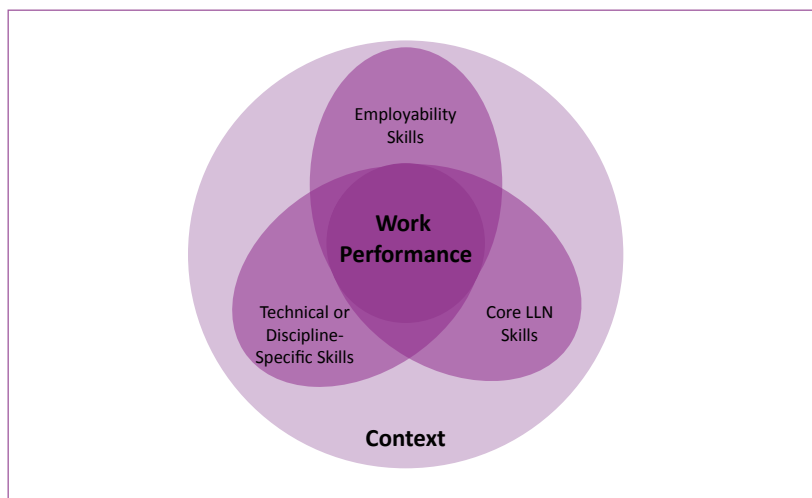
There is emerging agreement that transversal skills play an important role in the workplace and that this development should be reflected in TVET. While the extent to which transversal skills are integrated in TVET varies, reference to transversal skills can be found in policy frameworks across the region. In some countries they are included in laws and/or regulations, as target goals in policies or as action plans for implementation. There are a few countries that have yet to develop transversal skills in their policies and/or action plans. Despite some differences in terminology, broad trends can be identified when looking at national definitions and references to transversal skills.

In Australia, discussions on transversal skills have been taking place for a number of years across all educational sectors. The language used to describe transversal skills, however, appears to have evolved over time through policy shifts and research developments. Overall, it appears that the topic of transversal skills is located in a complex environment of sometimes competing policy initiatives. Currently, transversal skills in TVET are referred to as 'employability skills'. As illustrated in Figure 1, there are three sets of inter-related skills, as well as a range of features, expectations and requirements of the surrounding context, which contribute to work performance. The Core Skills for Work (CSfW) Developmental Framework encompasses both employability skills and aspects of the context which impact upon an individual's ability to meet workplace demands. Technical or discipline specific skills are detailed in Training Packages⁵ and school and higher education curricula, while the core language, literacy and numeracy (LLN) skills of reading, writing, oral communication, numeracy and learning are addressed in the Australian Core Skills Framework (ACSF)⁶.

5 A training package is a set of nationally endorsed standards and qualifications for recognising and assessing people's skills in a specific industry, industry sector or enterprise (National Skills Standards Council, 2014). For more information, please visit: <http://www.nssc.natese.gov.au>

6 For more information on the Australian Core Skills Framework, please visit: <http://www.innovation.gov.au/skills/LiteracyAndNumeracy/AustralianCoreSkillsFramework/Pages/default.aspx>

Figure 2: Employability Skills in Context, Australia



Source: Department of Education, Employment and Workplace Relations (DEEWR), 2012

In Brunei Darussalam, transversal skills in TVET are referred to as 'life skills'. The Guide on Life Skills Implementation and General Teaching Practice (2012) issued by the Brunei Darussalam Technical and Vocational Education Council (BDTVEC) states that "life skills are defined as personal management and social skills which are necessary for adequate functioning on an independent basis" (p. 2). Life skills are considered as general and work skills applicable and transversal in different vocational and social environment. For example, communication skills are needed in all social interactions but at the same time, they are essential in any working environment. Life skills consist of eight components as well as a number of attitudes and values. (See Table 2)

Table 2: Life Skills in Brunei Darussalam

Life Skills	
Skills	Attitudes and Values
• Self-management • Planning and organizing • Communication • Working with others • Problem solving • Initiative and enterprising • Applying numeracy, design and technology skills • Learning	• Balance • Care and Concern • Competition • Cooperation • Empathy • Independence • Integrity • Mutual respect • Patriotism • Piety • Self-confidence • Self-esteem • Self-reliance • Sensitivity • Tolerance • Vigilance

Source: Paryono, SEAMEO Regional Centre for Vocational and Technical Education and Training (SEAMEO VOCTECH)

In China, there is no framework for transversal skills in TVET but instead, at the end of the 1990s, the Ministry of Education (MoE) issued the Reform Educational Systems and Promote Education for All plan which emphasizes that vocational education should not only teach students essential knowledge but also foster their transversal skills to cope with societal changes. In 2010, MoE issued the Secondary Vocational Education Reform and Innovation Action Plan which establishes standards and detailed regulations for vocational reform. The Plan emphasizes that vocational education should enhance students' comprehensive competencies and lifelong development, and match work and professional standards. In September 2013, MoE issued the secondary vocational teacher standard which emphasizes that vocational education should follow a student-centred philosophy in which teachers foster students' professional interests, confidence, initiative and creativity. Vocational training should, therefore, integrate in-school and work-based learning and combine the teaching of practical and lifelong learning skills. Teachers are also encouraged to pay attention to comprehensive competencies such as innovation, practical skills and self-regulated learning skills.

In Indonesia, transversal skills are referred to as 'life skills' and focus on TVET at primary and secondary levels. The government regulation on education standards (PP 19/2005) states that life skills education (Pendidikan Kecakapan Hidup) should take place in lower, as well as upper secondary education, including vocational education. According to the regulation, life skills education should include the teaching of personal, social, academic and vocational competencies. It further states that life skills education can be integrated in either, or each, of the five learning content groups which are defined as: (a) religion and morality; (b) citizenship and personality; (c) science and technology, (d) aesthetics, and (e) body, sports and health. The term 'life skills', however, does not appear in Permendiknas 23/2006, the ministerial regulation on competency standards for graduates of primary and secondary education. Instead, this regulation defines a list of 23 competencies to be acquired by students at primary and secondary level, including TVET. (See Box 2)

Box 2: Competencies Required in Primary and Secondary Education (including TVET) in Indonesia

- (1) Behave in accordance with the religious teachings relevant to the development of adolescents;
- (2) develop to the highest degree possible using own potential, and reduce personal shortcomings;
- (3) show a self-confident attitude and assume responsibility for your behavior, actions and work;
- (4) participate in the enforcement of social rules;
- (5) appreciate religious diversity, nation, tribe, race, and socio-economic groups at the global level;
- (6) build and apply information and knowledge logically, and in a creative and innovative way;
- (7) demonstrate logical, critical, creative and innovative thinking in decision-making;
- (8) demonstrate the ability to develop a culture of learning for self-empowerment;
- (9) demonstrate sportsmanship and a competitive attitude to achieving best results;
- (10) demonstrate the ability to analyze and solve complex problems;
- (11) demonstrate the ability to analyze natural and social phenomena;
- (12) use environmental resources productively and responsibly;
- (13) participate democratically in the life of the society, nation and state in the framework of the State of the Republic of Indonesia;
- (14) express yourself through arts and cultural activities;
- (15) appreciate works of art and culture;
- (16) produce creative work, both as an individual and in a group;
- (17) maintain personal health and safety, physical fitness, as well as a clean environment;
- (18) communicate verbally and in writing in an effective and polite manner;
- (19) understand own and others' rights and obligations in the community;
- (20) accept differences and be empathic towards others;
- (21) show the ability to read and write a text systematically and aesthetically;
- (22) demonstrate the ability to listen, read, write and speak in Indonesian and English languages;
- (23) master professional and entrepreneurial competencies to meet labour market demands, as well as to be able to continue with higher education according to the respective vocation.

Source: Setiawan, A., Kurnia, D., Dittrich, J., Indonesia University of Education and Triyono, B. Yogyakarta State University

The ministerial regulation on competency standards for graduates of the same education levels (Permendikbud 54/2013) further defines life skills for graduates of upper secondary education (including TVET) under three headings - attitude, knowledge, and skills. (See Table 3)

Table 3: Competency Standards in for Graduates of Upper Secondary Level (including TVET) in Indonesia

Dimension	Abilities
Attitudes	Behave in faithful, noble, confident, responsible and educated manner in social and natural environments. Behave as a respected national in a globalised world.
Knowledge	Have factual, conceptual, procedural and meta-cognitive knowledge in science, technology, art and culture. Show insights into humanity, the nation, the state and civilisation and with respect to causes and impact of different phenomena.
Skills	Have the ability to think and act effectively and and show creativity in abstract and concrete ways.

Source: Setiawan, A., Kurnia, D., Dittrich, J., Indonesia University of Education and Triyono, B. Yogyakarta State University

The ministerial regulation on the basic structure of the curriculum for primary and secondary education (Permendikbud 70/2013) splits the dimension of attitudes into spiritual and social competencies, leaving the other two unchanged, but naming all of them ‘core competencies’ (kompetensi inti). The descriptions of these competencies are slightly more elaborate than those given in the table above but are quite similar in nature. In addition, the regulation lists, for each learning subject and for each grade from 10 to 12, a number of basic competencies (kompetensi dasar) which can be placed under the umbrella term ‘transversal skills’.

In Japan, transversal skills have become a key concept that emphasizes skills required in today’s work place and appear to have taken the central place in Japan in the process of formulating national policies, notably the latest National Science and Technology Basic Plan. This five-year basic plan, which covers the period from 2011 to 2015 and was adopted by the cabinet in August 2011, incorporated the immediate needs after the Great East Japan Earthquake which took place on 11 March 2011. The Plan establishes four pillars as core areas of action. First, it intends to realize “sustainable growth and societal development for the future”

where Science, Technology and Innovation (STI) will be strategically promoted aiming at reconstruction and revival from natural disasters. Second, it responds to “priority issues for Japan”. These include a safe and high-quality life, industry competitiveness, the resolution of global problems, promoting fundamental R&D, and common bases for science and technology. Third, it enhances “basic research and human resource development”. Fourth, it develops and implements “policy created together with society” (Government of Japan 2011).

Here, the expression used in relation to transversal skills is “to develop human resources that can be actively involved in a variety of places” as one of primary areas for the third pillar stated above. This is further elaborated as the following three concrete measures:

- Drastic enhancement of graduate school education;
- Support for doctoral course students, and diversification of career paths and;
- Development and vocational training of engineers.

Within this framework set out by the Basic Plan, the White Paper on Science and Technology (2012) points out skills that are required of human resources who promote STI. These include: (1) problem-solving that stretches beyond one’s area of expertise; (2) understanding elements of problem-solving (3) ability to identify hidden problems and take initiative to tackle them and (4) ability to identify hidden problems and take initiative to tackle them; and the ability to work with people in different fields with the purpose of finding solutions. These competencies boil down to the need for transversal skills that can be applied in various social contexts, not merely technical skills required for research and development.

In Malaysia, the Education Act 1996 (Act 550) covers all forms of education, including TVET. The sub-section 35(2) states that “technical education covers the provision of (a) skills training; (b) talent training related to a specific job; (c) training for the upgrading of existing skills; and (d) other technical or vocational training that is approved by the Ministry of Education” (MoE, 1996, p. 26). It does not, however, refer explicitly to transversal skills. Skills that could fall under this category are, however, one important element that must be embedded in the curricula of all programmes offered by higher learning institutions. Tertiary education institutions adopt and adapt the learning outcome domains of the Malaysia Qualifications Framework (MQF). (See Box 3)

Box 3: Learning Outcome Domains in Malaysia

- Knowledge;
- Practical skills;
- Social skills and responsibilities;
- Values, attitudes and professionalism;
- Communication, leadership and team skills;
- Problem-solving and scientific skills;
- Information management and lifelong learning skills; and
- Managerial and entrepreneurial skills.

Source: Yunos, M. J.; Mohamad, M; Mohamad, M. M; Sulaiman, N. L; Sern L. C., Universiti Tun Hussein Onn Malaysia (UTHM)

Transversal skills in the Republic of Korea are understood as (1) Vocational Basic Competencies (VBC) and (2) Career Development Competencies (CDC). VBC (see Table 4) is contained in the Korean National Competency Standards (KNCS) and is composed of ten skills, which are further sub-divided into high, medium and low skill levels. KNCS, which can be compared to the Australian Core Skills for Work Developmental Framework, is aimed at TVET institutions, such as vocational high schools and vocational training centres. On the other hand CDC (see Table 5), focuses on lifelong career development for students of all disciplines and at all stages of education.

Table 4: Vocational Basic Competencies (VBC) as defined in Korean National Competency Standards (KNCS)

Units	Sub-Units
Communication skills	Document literacy, documentation skills, listening skills, language skills (including basic language skills)
Resource management capabilities	Ability to manage time and resources (including human resources and budgets)
Problem-solving skills	Thinking, problem-solving skills
Information skills	Computer literacy, information-processing capabilities

Ability to understand organizational structures	Ability to make sense of international trends, ability to understand organizational systems, management skills, ability to understand business
Numeracy	Basic math skills, basic statistical skills, analytical skills, ability to read charts
Self-development capability	Self-awareness, self-management skills, career development skills
Interpersonal skills	Teamwork skills, leadership skills, conflict management skills, negotiation skills, customer service skills
Technical skills	Technology literacy, technology selection skills, ability to apply technical skills
Professional ethics	Work ethics, community ethics

Table 5: Career Development Competency (CDC) in the Republic of Korea

Units	Sub-Units
Self-understanding and social skills	Self-understanding/self-management skills, social competence (communication skills, interpersonal skills)
Understanding of the world of work	Understanding of the world of work, work ethics
Career exploration skills	Ability to seek out educational opportunities, ability to seek out employment
Career design and preparation skills	Ability to plan ones career, ability to prepare for a planned career

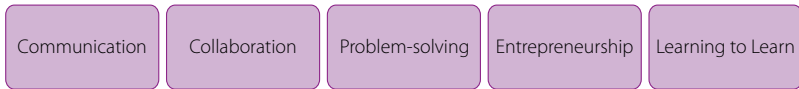
In Viet Nam there is no clear definition or framework for transversal skills. Instead, the Law on Education (2005) defines the objectives of TVET as training potential workers to be equipped with knowledge and skills at different levels, as well as moral values, professional ethics, discipline, awareness, attitudes that support industrialized work and physical health. TVET should, therefore, provide workers with employability/self-employability skills or the ability to continue studying to gain further qualifications and, thereby, meet the needs of national socio-economic development, defence and security. The Law on Vocational Training (2006) defines TVET as training in production and service provision.

Thus, the objective of TVET is to train the workforce in practical skills commensurate to their qualifications. Students are expected to be able to demonstrate a sense of ethics and a positive attitude, maintain a professional working style and discipline with the aim of becoming employed/self-employed or pursuing further education that meets the national objectives of industrialization and modernization. Additionally, there are several circulars issued by the Ministry of Labour, Invalids and Social Affairs that make references to competencies which could fall under the umbrella of transversal skills.

Emerging Trends

When reading these country cases, it is clear that the incorporation of transversal skills in TVET is occurring at a varied pace and in varied ways. Regionally and within countries, there is no clear-cut agreement on the definition or understanding of the scope of transversal skills for TVET. Indeed, the concept is more elaborate and more explored in some countries over others. While some countries have developed, and are now implementing and refining the concept, others are only beginning to examine and develop this new skill dimension at policy levels and pilot it in educational practices. This regional diversity should not be considered a weakness or obstacle but rather a strength and opportunity in devising and promoting transversal skills for different needs and aspirations. A first analysis of country experiences, which form the basis for this study, reveal some competencies that fall under the transversal skills umbrella and are common to most, if not all, countries in the region. (See Figure 2)

Figure 3: Transversal Skills Found in the Majority of Examined National Policy Documents



In addition, a broader analysis has identified the following emerging trends of transversal skills in TVET. (See Box 4)

Box 4: Emerging Trends of Transversal Skills in TVET

- Transversal skills encompass work-related competencies and those relevant in any life situation;
- Traditions, beliefs and values play an important role in skills development in most societies in the region;
- In many countries, transversal skills are currently being discussed as a general concept focusing on general or higher education;
- In some countries, progress on national frameworks for transversal skills is hampered by the absence of university faculties conducting research in TVET to determine their extent for the national context;
- Some countries have adapted Australia's model to their own needs and requirements; while others have used the Education for All (EFA) concept as a basis for defining transversal skills in their policies;
- In the absence of national frameworks, international skills projects shape the development of transversal skills.

In general, it can be said that transversal skills have been included in policies across the region for many years now. However, there is no shared regional understanding and often, only limited national understanding of skill sets for the world of work. These skills seem to have been accepted as part of TVET for many years now but their implementation still remains patchy. The following section provides a regional picture of transversal skills in TVET, as well as TVET teacher training in the Asia-Pacific.

Section 4:

Regional Perspectives on Transversal Skills: From Policy to Practice⁷

Implementation of Transversal Skills in TVET

As a result of what often appears to be vague policy guidelines, implementation of transversal skills in TVET leaves room for improvement. There are several region-specific factors that result in a top-down approach to the implementation of transversal skills in TVET, including the prevalence of centralized systems dictating implementation and a lack of capacity at local/institution level. In this context, there is a call for policies that provide clear direction and guide TVET practitioners in implementing adequate skills training. Despite some promising trends in teaching practices toward a more student-centred approach, there is strong perception that improvement in policy design can have a positive impact on the implementation of transversal skills in the teaching and learning process, which is often further hampered by inadequate or outdated pedagogies and assessment, poorly adapted learning environments and the blurring of lines between TVET and other educational streams. The following section looks at some key issues that need to be considered for improved learning outcomes in transversal skills.

Reality check: integrating transversal skills into TVET pedagogies

One of the initial considerations in teaching transversal skills in TVET is how best to incorporate them into the curriculum. While there is no 'one one-size-fit-all' guide to this, there are many ways of incorporating these skills into teaching practices. There are several practical approaches to teaching transversal skills in TVET ranging from, at one end, integrating them into separate theoretical subjects to, at the other end, teaching them as partially or fully integrated into practical subjects. There are advantages and disadvantages of these different approaches ranging from more or less work authentic, more or less costly and easier to more difficult to adapt for teachers and students, among others. The

⁷ The findings in Section 4 have been largely informed by discussions at the UNESCO-RCP meeting on transversal skills in TVET which took place on 26th October 2013 in Shanghai, China.

integrative approach is often referred to as “infusion model” which can benefit from inter-disciplinary dialogue among teachers or lecturers to maintain shared understandings of transversal skills and provide for exchange on effective pedagogies.

Box 5: Example of the “Infusion” Model in Viet Nam

The Hung Yen University of Technology and Education incorporates transversal skills into specific subjects of selected programmes. In the teaching process, lecturers give students time to self-study and read extensively on a topic. Teaching methods used are flexible and emphasize a positive approach. In doing, they may train students some basic transversal skills such as time management and the ability to prioritize.

Source: Giang, N. T.; Van T. H.; Nguyen, T.; Namdinh University of Technology Education (NUTE)

On the other hand, the “diffusion” model (see Box 6) requires an inter-disciplinary effort in defining the scope and content of the separate theoretical subject. This approach also has advantages and disadvantages which tend to be opposite to those of the “infusion model”. These two models can also be merged into a model that combines both integrating transversal skills into existing subjects or courses and offering stand-alone practical subjects. Given the diverse nature of TVET, additional considerations are needed when deciding on the appropriate approach for different TVET levels. Therefore, TVET curricula need to allow enough flexibility for these considerations.

Box 6: Example of the “Diffusion” Model in Malaysia

At Malaysian polytechnics, the Industrial Training on Soft Skills (ITSS) module incorporates a mixture of theory and practice through class activities and project assignments. Industrial training, which commences after the completion of the soft module, is the real-world context in which students are expected to apply the transversal skills. In this stand-alone module, students are exposed to theoretical underpinnings of transversal skills, prior to their practical training, through a variety of class activities and real-work situations.

Source: Yunos, M. J.; Mohamad, M.; Mohamad, M. M.; Sulaiman, N. L.; Sern L. C., Universiti Tun Hussein Onn Malaysia (UTHM)

Alternatively, courses on transversal skills can offered as extra-curricular activities in TVET. Carefully planned projects that incorporate transversal skills training can support the holistic development of TVET students outside teaching and training, e.g. activities such as debates, charity

bazars and drama classes can increase teamwork, communication and entrepreneurial skills. In general, a mixture of all approaches (see Box 7), that allows students to repeatedly practice their transversal skills and apply them in different contexts, can yield the best results.

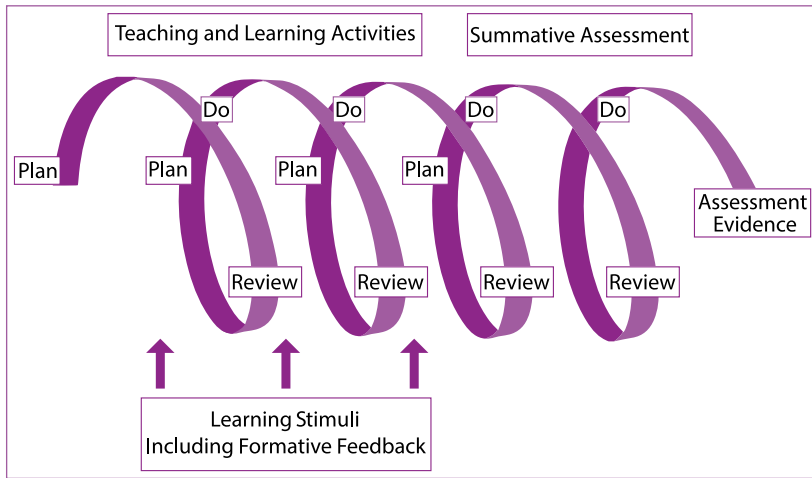
Box 7: Example of Developing Students' Transversal Skills in a Japanese Technical Secondary School

The Hiroshima Prefectural – Hiroshima Technical High School invites special visiting lecturers from industry sectors who combine teaching and practical work in a one-day programme. The industries require students with nationally accredited qualifications such as lathing proficiency and electrical skills but increasingly also basic transversal skills, such as normative consciousness, devotion and teamwork. To learn these skills students form teams of 5 to 10 members and plan, cooperate, communicate, produce, present, answer questions, and thus develop thinking, judging, and presentation skills. The school emphasizes academic, practical, as well as transversal skills, among others. It consults students and parents, and recommends students to relevant job posting in private firms.

Source: Yoshida, K; Center for the Study of International Cooperation in Education, Hiroshima University

Experiential learning approaches are arguably more effective at developing transversal skills than more didactic approaches. The classic model of experiential learning is Kolb's Learning Cycle (1984). Based on Kolb's diagram, the spiral model of learning and assessment (see Figure 3) is one approach to developing transversal skills in successive episodes of learning. Thereby, students 'plan, do and review' a learning activity while the teacher facilitates their learning by providing a realistic context, stimulus, material, encouragement and formative feedback. Towards the end of a learning and assessment spiral, transversal skills are assessed for summative purposes. Assessment needs to be valid evaluating the desired transversal skill outputs of the learning activity. The most valid form of assessment evidence may thus result from a further independent iteration of the learning and assessment spiral but in a novel context to which the skills learned need to be transferred.

Figure 4: Spiral Model of Learning and Assessment



Source: Robinson, N. and Vickers, S., VTCT

Making space for transversal skills in TVET: conducive learning environments

Given that teaching transversal skills can be more resource and time-consuming, TVET teaching spaces will need to be adapted based on carefully thought out plans. In fact, TVET provision is already more costly than general education. Smart choices therefore need to be made in respect to the appropriate teaching approach of transversal skills. If fostering transversal skills should be based on technology, adequate facilities will need to be put in place. Time allocation and group sizes, as well as availability of public utilities (i.e. electricity) also need to be taken into account. While there is no 'one-size-fits-all' approach to making learning spaces adequate for the teaching of transversal skills, to prevent unnecessary delays and setbacks, school spaces, facilities and equipment need to be considered before implementing transversal skills training.

Besides physical facilities, space for transversal skills needs to be made in curriculums and lesson plans. Transversal skills need to form a clear part of learning objectives to allow necessary learning and teaching time for these skills in practice. In 2006, the Ministry of Education (MoE) in Singapore introduced the Teach Less, Learn More (TLLM) initiative whereby curriculum content was reduced with one clear aim: to leave

teachers more scope for innovation in their teaching and to reduce curriculum load on students. “Evaluation of the TLLM effort has shown that teachers are now more able to customise the curriculum, apply a variety of pedagogies, and use more varied modes of assessment” (MoE, 2010). In addition to government-led interventions, developing transversal skills needs to be considered an important part of TVET curriculum by the school leadership. School leadership can then support implementation by well-trained TVET teachers and mandate implementation to ensure it is consistently applied.

Blurring lines between general education and TVET: transversal skills at different levels

In some countries, there is an increasingly blurring line between TVET and secondary education, as well as higher education. As a result, it is difficult to pin down discussions on transversal skills to one education level. Some countries in Asia-Pacific have opted to introduce TVET at the secondary level as a way to increase attractiveness, access and consequently enrolment rates in TVET. In general, vocationalised secondary education is based on “a curriculum which remains overwhelmingly general or ‘academic’ in nature, but which includes vocational or practical subjects as a minor portion of the students’ timetable during the secondary school course. Closely related terms are ‘diversified curriculum’, ‘work orientation’, ‘practical subjects’ in secondary schools and ‘pre-vocational education’” (Laglo, 2005, p. 3). Besides a mixed-curriculum, joint delivery, offering skills training and general education at the same school premises, as well as the introduction of technical and vocational high schools is becoming more common in the region.

At tertiary level, blurring of lines is occurring as a result of massification of higher education which is the outcome of the economic ‘pull’ of higher-level qualifications and the ‘push’ into education from a lack of available jobs. To ensure access, equity and quality of higher education, many education systems in the region have been moving towards ‘institutional differentiation’. “Differentiation is described as the process through which new entities in a system emerge” (Gamble, 2013, p. 210). Opponents of this approach argue that instead of diversifying the system, massification results in institutional divergence. For example, academic universities may display a ‘vocational drift’ by adopting

more applied programmes while technical universities may display an 'academic drift' by broadening their programme and research focus, as well as admission criteria. In fact, vocationalisation seems to occur at different educational levels as demonstrated in the case of the Republic of Korea. (See Box 8)

Box 8: Vocationalisation in the Republic of Korea

The vocational education policy focuses on vocational high schools, and in particular on technical high schools. Given recent economic changes, the role of vocational high schools has changed. The number of vocational high schools and their students has sharply decreased. More than 60 per cent of vocational high school graduates are nowadays going on to university rather than into employment. As a result of expanded university education, vocational skills development in higher education has increased. In addition, basic vocational education, such as career education at primary level has been put into focus. That is, the concept of vocational education in the Republic of Korea has been expanded from vocational high schools to primary and general higher education.

Source: Jin, M; Korea Research Institute for Vocational Education and Training (KRIVET)

This blurring of boundaries between traditional TVET and other education types at different levels has to be considered when developing policies and implementing skills training. Given the regional diversity, teaching transversal skills will require a different focus and intensity depending on the specificity of TVET in a given education system.

Making it count: measurement and assessment of transversal skills in TVET

Today's TVET systems rely on assessment to determine learning outcomes and admissions. If transversal skills are to be given sufficient attention in pedagogies, adequate assessment methods will have to be developed. In the Asia-Pacific, assessment plays an important role in measuring achievement as well as in awareness-raising and benchmarking. However, transversal skills are not only more difficult to teach and learn but also to measure and assess. The challenge of finding adequate measurement and assessment methods is closely linked to the difficulty of defining transversal skills. Given the myriad of interpretations, conceptualizations and models, different assessments methods are being implemented at different levels and by different stakeholders, both public and private, across the region. For example,

the Ministry of Education (MoE) in the Republic of Korea decided to adopt the Vocational Basic Competence Assessment Test (VBCAT) (See Table 6). The test is composed of two elements: vocational basic competencies and vocation-specific competency. By 2015, MoE will administer this test as a pilot. It is not yet clear if VBCAT will be maintained as an assessment tool for vocational high schools after 2015.

Table 6: Composition of Vocational Basic Competency Assessment Tests (VBCAT) in the Republic of Korea

Division	Domain	Content
Vocational Basic Competencies	Communication skills (Korean)	Problems to assess reading and listening skills in the work place
	Communication skills (English)	Problems to assess English reading skills and listening skills in a simple situation
	Mathematical literacy	Problems to assess the ability to utilize mathematical knowledge in a work situation
Vocational Specific Competency	Problem-solving skills	Problems to assess problem- solving skills required in vocational fields (agricultural, industrial, business, home-economics, maritime and fisheries sector)

Source: Jin, M; Korea Research Institute for Vocational Education and Training (KRIVET)

With regards to assessment of transversal skills, there are several key issues that need to be considered. Firstly, assessing transversal skills in TVET should not be about selecting the best students. Setting appropriate achievement levels can ensure that all students attain the adequate level of transversal skills for a qualification that will allow them to work in their chosen occupation. Achievement levels need to be set based on industry participation and should be reviewed regularly. Secondly, teaching transversal skills in a particular work-related context does not guarantee that students will be able to apply them in other work situations. Communicating with a customer might need different emphasis than communicating effectively with a supervisor. Therefore, transversal skills need to be taught and assessed in various contexts to ensure students can apply them in practice. Thirdly, a well-functioning, credible assessment system can only be created if students' assessment records are stored and made accessible to relevant stakeholders.

Having students retake tests to assess their transversal skills when, for instance, changing schools, can create frustration and cynicism about the system at personal level and cause wastage of resources at system level. Finally, given that assessing transversal skills can be more complex than that of foundation skills (literacy and numeracy) and occupation-specific skills, there is concern regarding the fairness of assessors and assessment methods. To ensure credibility of results, teachers need to be adequately prepared to monitor and assess their students' performance. Triangulation of assessment material and employment of external assessors can ensure credibility of results

Teaching the Teachers: Transversal Skills in Vocational Teacher Education (VTE)

Many challenges for transversal skills in TVET can be said to originate in pre-service vocational teacher education (VTE). In addition, many TVET teachers who themselves have been trained in the 'chalk-and-talk' method require adequate re-training and continuous in-service training. This will allow them to develop both a requisite understanding and the necessary skills to successfully impart transversal skills.

Meeting this requirement is compounded by the fact that many TVET teachers in Asia-Pacific are university graduates with little, if any, industry experience. In some countries, TVET teachers of general subjects hold university degrees while specialized TVET teachers are not required to hold a higher-level qualification in their specialization. To improve the quality of TVET teachers, emphasis is thus shifting to the relationship between three foundational dimensions: formal subject or technical knowledge, pedagogical expertise, including their ability to impart transversal skills, and practical workplace experience (Gamble, 2013). These three dimensions are considered important for developing the TVET teachers' ability to teach in a holistic way, or in other words, to train students' minds, hands and hearts in an integrated manner focusing on learning outcomes.

In reality, this integrated manner is still far from a common practice in the Asia-Pacific region. Even in the most developed countries of the Asia-Pacific region, TVET teachers need to be trained and re-trained to incorporate transversal skills into their work practices. This adds to the continuous challenge of improving TVET teacher training with respect

to industry-relevance, ICT skills and sustainability. Some good practices can be found across the region but in many cases they focus on general education and do not extend to TVET teachers. Despite great emphasis on skills development in the region, TVET teachers are still to benefit from greater attention to their training and a particular attention to their preparation in imparting transversal skills.

Incorporating transversal skills in TVET teacher policies and teaching requirements

In many countries of the region, TVET teachers may lack the awareness, understanding and ability to teach transversal skills in practice. This is partly due to poor TVET teacher policies and requirements for TVET teacher qualifications. A well-developed, systemic approach to guiding TVET teachers in imparting transversal skills can help to ensure that these skills are given adequate priority and teaching time. It can also contribute to assuring that transversal skills in TVET are taught across the country. Since conflict of responsibility in teaching transversal skill can be attributed to the cross-cutting nature of these skills, policy guidelines can help determine the responsibility for teaching transversal skills between ‘general’ and vocational/technical teachers. In the Republic of Korea, where TVET focuses on vocational high schools, responsibility to teach vocational basic competence (VBC) is not clear-cut. (See Box 9) In fact, depending on the approach to teaching transversal skills, e.g. integrated in theoretical courses or fully/partially incorporated in practical courses, the responsibility for imparting transversal skills will be different.

Box 9: Example of Teacher Disagreement on Responsibility of Teaching Transversal Skills in TVET, Republic of Korea

There is a ‘ping-pong game’ among teachers responsible for VBC. For example, Korean language teachers insist that communication skills for work should be taught by ‘job-specific’ teachers because they are related to the workplace, while job specific teachers argue that Korean language teachers should focus on these skills as they are mainly related to language skills.

Source: Jin, M; Korea Research Institute for Vocational Education and Training (KRIVET)

For policies and reforms that focus on transversal skills in TVET teacher education to be fully understood and owned, TVET teachers need to be involved in their preparation. Stakeholder involvement, from both

public and private sectors, is a crucial ingredient in a participatory approach to reforming TVET. Given the reality of frequently changing decision makers and divided ministerial responsibility for TVET in many countries of the Asia-Pacific, sustainable reforms through stakeholder participation, are yet to be fully realised. Nevertheless, it is crucial that TVET teacher policies are defined and teaching requirements incorporate transversal skill as a fundamental component. To this end, there is need for clarity TVET teacher responsibilities at different levels and the qualifications they need to hold. Despite ongoing discussions on the effectiveness of the 'embedding process', Australia's Certificate IV in Training and Assessment (see Box 10) can serve as a useful example of a teaching qualification that includes transversal skills.

Box 10: Australian TVET Teaching Qualification Incorporating Transversal Skills

Teachers and trainers working in the VET system who deliver nationally accredited training must have, as a minimum qualification, the Certificate IV in Training and Assessment (TAE4110 2012). This minimum requirement is expressed in legislation that surrounds the registration and accreditation of Registered Training Organizations (RTO) that deliver nationally accredited training. This qualification includes a list of employability skills, industry/enterprise requirements and competencies that focus on the technical and vocational aspects of the qualification (training packages).

Note: TVET in Australia is limited to Vocational Education and Training (VET) and TVET teachers and trainers are referred to as VET practitioners.

Source: Brennan, R. Charles Sturt University; Hodge, S. Griffith University; Bowden, A. Australian Vocational Education and Training Research Association

Support in implementing policies and teaching requirements into TVET practice

A significant challenge is how to ensure TVET policy guidelines and teaching requirements are implemented in practice. TVET teachers often feel comfortable with traditional teaching and resist changing their pedagogical practices to foster students' transversal skills. To help them adjust to change, school-governing boards should take a lead by focusing their attention on the following components: (1) teacher training, (2) selection criteria, (3) training material, and (4) awareness raising among all school staff.

Undoubtedly, strengthening the knowledge and skills of vocational teachers is fundamental to ensuring that they are able to develop and apply innovative teaching methods. TVET teacher training on transversal skills should be incorporated into both pre-service and in-service TVET teacher training. Additionally, mentoring and guidance on transversal skills and incentives should be considered to increase TVET teacher motivation and their sense of ownership. In fact, professional development and career advancement can serve as positive incentives for TVET teachers to incorporate transversal skills into their teaching practices. TVET institutes should serve as learning organizations where TVET teachers have access to support and learning opportunities and where time is allocated to out-of-school training, teacher exchange or 'shadowing' experiences.

Besides adequately preparing vocational teachers for teaching transversal skills, it is desirable to select teachers with the right personal qualities for imparting such skills. Teaching by example is one of the most effective methods for the teaching of transversal skills. If teachers are excellent communicators, their students are more likely to pick up these skills. If punctuality is to be learned, teachers themselves have to arrive to class on time.

In addition, developing adequate teaching material will facilitate the teaching of transversal skills in TVET. Giving teachers ideas for student-centred activities that are engaging and challenging can make teaching transversal skills both easier and more enjoyable. Teaching material can take different shapes and forms, both technology-based and non-technology based applications.

To ensure that transversal skills receive adequate attention in teaching practices, all school staff need to be aware of their importance for today's TVET graduates. Pedagogies fostering transversal skills tend to require more time and resources. Particularly stand-alone courses on transversal skills might suffer from the perception that other practical subjects are more important and should consequently be given more attention. Therefore, it is important that all school staff are included in awareness raising and training in transversal skills, even if to a lesser extent than TVET teachers. This approach can significantly improve planning and implementation of transversal skills courses in TVET.



Section 5:

Key Findings and Issues for Further Consideration

Challenges in Implementing Transversal Skills in TVET Practice

It is well recognized that policy and practice are interlinked. The implications of this, however, are particularly important for the teaching and learning of transversal skills in TVET. There are several factors including facilities, curricula, pedagogies and assessment that all influence effective and efficient policy implementation. TVET teachers play an important, if not the most critical, role in fostering transversal skills in their students. It seems, however, that TVET teachers struggle at times with incorporating transversal skills in teaching practices which can be attributed to several factors including the following:

Disagreement on responsibility for imparting transversal skills in TVET

In some vocational and technical schools, there can be disagreement between teachers of 'general' and technical subjects as to who should be tasked with imparting transversal skills. In several countries, TVET can also be found at different levels and in different educational streams. The demarcation of general and vocational education is increasingly blurred which further confounds the question of responsibility for teaching transversal skills.

Rigid and heavy curricula that impede innovative teaching approaches

In some countries, rigid curricula and/or government regulations on curriculum implementation often prevent TVET teachers from incorporating innovative teaching practices that are usually more flexible and require more time and resources.

Lack of capacity to develop and/or apply innovative teaching methods

TVET teachers are at times unclear about teaching methods that are conducive to developing transversal skills in students. There is a vague notion that student-centred teaching is the right direction to pursue, however, teachers may need support in developing teaching methods that foster a skill set commensurate with both national development objectives and occupational needs.

Lack of adequate assessment methods

Given the predominant culture of exams for assessment in the Asia-Pacific region, transversal skills will not be the focus of current pedagogies unless they are measured, in one way or another, in assessment practices. However, these are largely undeveloped. Developing adequate assessment methods can also be beneficial for awareness raising, comparison and benchmarking.

Issues for Policy Consideration

Policy guidelines on transversal skills in TVET

A clear definition and guidance on transversal skills in TVET at the policy level will facilitate implementation. However, defining transversal skills will require the involvement of all relevant TVET stakeholders to ensure effective implementation.

Evidence on transversal skills in TVET

Employer surveys and further research on transversal skills in TVET at national, regional and international levels will strengthen evidence-based TVET reforms. Reforms need to be accompanied by effective investment into national TVET systems because innovative teaching methods that foster the development of transversal skills in TVET tend to require greater resources. Eventually, TVET policies and practice need to be aligned to ensure desired reform outcomes.

Adequate TVET teacher preparation

TVET teacher capacities need to be developed through pre- and in-service training, as well as out-of-school training and retraining opportunities. A functioning teacher support system is crucial for ensuring teacher preparedness. TVET teachers need to understand the need for and the nature of transversal skills to be able to apply them in teaching practices. For that purpose, innovative teaching methods need to be developed and promoted to allow for effective incorporation of transversal skills in teaching practices. Furthermore, TVET teachers should be incentivized to apply innovative teaching methods that foster transversal skills in TVET. Incentives could encourage TVET teachers to take responsibility and design their lessons in a way that involves innovative teaching.

Integration of transversal skills in TVET curricula

Transversal skills need to form an integral part of national TVET curricula that are developed through an integrative effort between general and vocational teachers. Curricula frameworks need to be updated and adjusted to labour market demands. Guidance and assistance need to be offered in countries where TVET providers develop their own TVET curricula. To make them comprehensive, understood and endorsed, all relevant TVET stakeholders should be involved in the development process.

Assessment of transversal skills in TVET

Appropriate, context-specific ways of measuring transversal skills need to be developed. Occupation-specific assessment frameworks that allow for context-related adjustments will guide TVET providers in assessing transversal skills. In addition, sharing and dissemination of good teaching and assessment practices of transversal skills can be enhanced through international cooperation.

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Transversal Skills in TVET: Policy Implications

The booklet was prepared in the framework of a regional study conducted by UNESCO Bangkok in collaboration with the Regional Collaboration Platform (RCP) and is based on thirteen country reports from the Asia-Pacific region. It is an attempt to advance the debate on transversal skills and focus it specifically on TVET.

The booklet analyzes the extent to which transversal skills are integrated in TVET policies and implemented in practice. It examines different definitions of transversal skills in the region and establishes key issues to be considered for improving teaching and learning of these skills in TVET.



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