

The Skill and Competency of Technical and Vocational Education and Training (TVET) Personnel for the Development and Implementation of a National Teacher Standard in TVET in Malaysia

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ABSTRACT

This study centred on the implementation of a national core standard for Technical and Vocational Education and Training (TVET) personnel, especially teachers, in Malaysian TVET institutions. The descriptive and open-ended survey method was adopted for the study and the structured interview was used to collect data from respondents in Malaysia. The findings show that the major competencies of the TVET Teacher Standard comes from a comprehensive certification called the Vocational Training Operation (VTO) which was created specifically for TVET teachers. This certificate is offered by the Ministry of Human Resources. The competency standard embedded in this certification is studied. However, certain issues need to be taken into account to propose this certification as a requirement for a TVET teacher. This effort must be aligned with the Malaysian Teacher Standard for non-TVET programmes. It is recommended that the government, TVET institutions and other stakeholders give greater recognition to the national core standard for TVET teachers as the main criterion for selecting qualified and capable TVET teachers.

Keywords: National core standard, Technical and Vocational Education and Training (TVET) personnel, TVET teacher, Vocational Training Operation (VTO)

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INTRODUCTION

A teaching standard is understood as normative or evaluative based on which of the actions of teachers as professionals are appraised in determining their performance. Underpinning this idea of a teaching standard in the literature on teacher education is the

idea of teacher competence (Goh, Saad, & Wong, 2012). Research in teacher education has shown that teacher competence is a prerequisite to effective teaching and learning because of its relationship to student learning outcomes, be it academic or otherwise. The Malaysian Teaching Standard (MTS) is based on this assumption, that is, that improving teacher competence will ensure a high standard of education is achieved not only academically but also in other areas of development. The question is whether improving teaching competence alone is enough to achieve educational excellence. More importantly, is it right to expect that teachers' competency will create world-class students. This question forms the backdrop of this paper and lies behind the concerns raised through critical observation of the MTS framework.

The Malaysian Teaching Standard (MTS) 2016 identifies three major components: (1) Professional teaching; (2) Knowledge and understanding; and (3) Teaching and learning skills. In Standard 1, three domains prevail: the personal, professional and social. The core values of Standard 1 are based on: (1) The seven-culture dimension in teachers' training institutions in Malaysia (IPGM); (2) Teaching profession ethics; (3) Good values in the school curriculum; (4) Main values in public service and society; (5) Main principles of work ethics; (6) The 12 pillars (*Tonggak 12*) Individual communities and (7) Main principle of the work, ethic

and nationality endorsed by the Ministry of Education, Malaysia.

By practising all domains in the Standard Practice of Teaching Professionalism, teachers will have goals, objectives and clear educational vision, have strong ideals and be capable of making changes and can be proactive and strive to improve their own ability, commitment, initiative and personal responsibility in displaying superior and high performance in their duties. Teachers will also be able to identify the level of professional competence in the practice of the teaching professionalism, knowledge and understanding, as well as teaching and learning skills, and use this level for guidance. As for Standard 2, a teacher must be knowledgeable in the objectives of the education, subject content, Information and Communication Technology (ICT), teaching strategies and assessment. By mastering knowledge and understanding, teachers can build confidence and improve performance of professional duties to maintain effectiveness. The implementation of knowledge and understanding of the standard will ensure the professional quality of teachers remains at a high level and stays relevant to developments in education. Standard 3 covers the aspects of teaching preparation, skill to deliver teaching and learning, assessment skills to increase student achievement and class management skills. By mastering the skills to plan, implement, monitor, assess and evaluate and with good classroom management,

teachers can produce efficient teaching and learning. An added benefit is that the classroom environment will also be fulfilled. An enhancement to this standard could be made by more emphasis on skills and vocational training for Technical and Vocational Education and Training (TVET) teachers.

The purpose of this study was to assess the practices of the Malaysian education system in developing and implementing the national core standard for TVET personnel, especially for teachers. This study also sought to identify the development and implementation of the Malaysian national TVET personnel core standard.

The following are the research questions that were addressed in this study:

1. What is the status of development and implementation of national core standards in Malaysia?
2. What are the elements of the core standard for TVET personnel (e.g. qualifications and qualification packaging, assessment guidelines, training provider requirements, qualifications of faculty etc.)?
3. What are the assessment methods used to determine who will be certified or meet the core standard?
4. What agency certifies the candidate who attains the core standard among TVET personnel?
5. What are the challenges and issues in the development and implementation of a core standard?

METHODOLOGY

This project was a study of the development and implementation of the national core standard for TVET personnel in Malaysia. There are four groups of TVET personnel: teachers in schools/colleges, school principals/directors, industry trainers and trainers of trainers. The focus of this study, however, was on the first two, teachers and school principals/directors. Two approaches were used in this study, which are the survey questionnaire and the interview. A survey was administered to teachers in TVET institutions, while interviews were conducted with teachers, school principals and committee members of the Vocational Training Operation (VTO). The document on job profiles for VTO was studied for additional data gathering. The sample for this study was focussed to only three main TVET providers in Malaysia, the Ministry of Education, the Ministry of Human Resources and Majlis Amanah Rakyat (MARA). The sample is shown in Table 1.

Table 1
Study sample

No.	Ministry	TVET Institution		Numbers
1	Ministry of Human Resources	1.	Pusat Latihan Pengajar dan Kemahiran Lanjutan (CIAST)	1
		2.	Pusat Latihan Teknologi Tinggi (ADTEC)	8
		3.	Institut Latihan Perindustrian (ILP)	24
2	Ministry of Education	1.	Kolej Komuniti	82
		2.	Politeknik	34
		3.	Kolej Vokasional	79
3	Majlis Amanah Rakyat (MARA)	1.	Giat Mara	205
		2.	Kolej Kemahiran Tinggi Mara (KKTMM)	10
		3.	Institut Kemahiran Mara (IKM)	13

Three hundred survey forms were sent to the respondents, while 10 principals, 10 teachers and three committee members of the national Vocational Training Operation (VTO) were interviewed for data collection. The document for the development of the VTO was studied as well.

RESULTS

The profile of the respondents is shown in Table 2. This table provides details of the respondents who were teachers. Out of the 101 respondents, most (n=86) came from a background of technical skills.

Table 2
Profile of respondents

	Ministry of Education	Ministry of Human Resources		Majlis Amanah Rakyat (MARA)	
Institution	51	19			
Gender	Male		Female		31
		51		50	
Working Experience	Less than 5 years	6 to 10 years		11 to 20 years	More than 21 years
		30	34	11	26
Specialisation	Education	Electrical	Engineering	Mechanical	others
		86	2	9	3

It is worth to note that TVET personnel, including those in this study, are not nationally recognised today as the teachers' standard is being used only by certain ministries. Nevertheless, the component for TVET teachers has been developed not

only for teachers, but also for principals, trainers and industry as well. Table 3 shows the respondents' awareness of the existence of the standard. The response is given in percentage.

Table 3
Status of the development and implementation of TVET personnel core standard

Status	Teachers' Standard	School/College Principal/Directors' Standard	Trainer of Trainers' Standard	Industry Trainers' Standard
Percentage (%)				
Developed	75	76	57	32
Not yet	3	8	15	18
Not sure	22	16	28	50

Most of the reported issues during the dissemination process comes from unclear guidelines and limited briefing and capacity building. Problems arising from implementation also stem from the same reason i.e. unclear guidelines and limited time. Therefore having a single national

core standard for all TVET teachers can streamline teaching practice and address TVET issues more effectively, as all stakeholders throughout the country can be entertained at the same time. Other benefits of a single standard for the country are tabulated in Table 4.

Table 4
Benefits of having a national core standard for TVET personnel

	Harmonise TVET development in the region	Provide platform for benchmarking	Improve the quality of TVET overall	Strengthen TVET provider integration	Facilitate mobility of human resources
Percentage (%)					
Strongly Agree	57	62	68	58	51
Somewhat Agree	36	36	29	36	39
Somewhat Disagree	7	2	3	3	10
Strongly Disagree	0	0	0	3	0

In the meantime, institutions are looking for the best personnel in terms of professionalism and skill. These are important criteria for TVET teachers. The purpose of a national core standard is achieved

if everyone uses it as a reference in each and every department. Table 5 details the respondents' response to a single national core standard.

Table 5

How the national core standard for TVET teachers will be used in respondents' institutions as perceived by the respondents

	To review/ update the national standard	To use it only as a reference	To use it as an added reference and to give value close to the national standard	To adopt it as the national standard	Not going to use it
	Percentage (%)				
Strongly Agree	53	25	49	42	14
Somewhat Agree	47	49	48	50	27
Somewhat Disagree	1	27	4	8	34
Strongly Disagree	0	0	0	0	26

Interviews with the Committee and Principals

The study included interviews with the teachers, principals and committee members of the Vocational Training Operation (VTO). Most of them received information on the national core standard for TVET teachers through email or as hard copy or from attending a workshop. The document contained guidelines but the guidelines were not clear. All of the respondents agreed that they needed more clarification on the standard. The concerns and issues raised in the development and dissemination process highlighted the minimal involvement of industry in developing the National Occupancy Skill Standard (NOSS) and syllabus for vocational training. One of

the respondents stated that training and explanation were insufficient and guidelines were unclear and lacked detail. In terms of suggestions and recommendations to improve the development and dissemination process, they suggested that more companies/agencies should be involved in developing the NOSS and syllabus and that these bodies they should be rewarded. More training and courses were needed for the teachers especially, and teachers should be provided with all necessary information and details. Participation of the counselling department was also crucial.

The challenges and issues in the implementation of the national core standards for TVET teachers are lack of industry attachment opportunity, dearth of

good mentors, students not being ready to learn new content and the latest technology. Shortage of qualified teachers was also reported in the interview. In terms of recommendations for the implementation of a regional core standard for TVET teachers in Southeast Asia, the respondents proposed benchmarking to advanced countries like Singapore, Germany and Finland, adequate training time, disseminating information to all teachers in the country, capability building and clarifying information about the standard.

Meanwhile, the expected components to be included in a core standard for TVET teachers are training based on skills and pedagogical approach. More knowledge should be made available passed to teachers. Facilities and skills for teachers must fulfil competency and knowledge requirements for new technology. The respondents recommended that practicals and internship related to their major subject as well as to vocational education be incorporated in the core standard for TVET teachers and subjects related to new technology.

All the respondents agreed that the core standard developed for TVET teachers should be used as a referencing/benchmarking/strategic tool to improve teaching and learning. An exchange programme for teachers within member countries of the Association of Southeast Asian Nations (ASEAN) would be greatly beneficial towards this end in terms of sharing of knowledge, training and experience based on strategic tools, the fundamentals of TVET and methodology.

Such collaboration could be a standard reference for TVET training approaches within ASEAN, recognised by all ASEAN countries and the world for preparing skilled workers and enhancing the employability of TVET students. Regional collaboration would also result in the sharing of new technologies at a quicker rate. Possible challenges to such collaboration might be the lack of the following: financial readiness of individual countries, qualified teachers who are ready to change their methods, industry commitment, political commitment and infrastructure.

The respondents suggested that more discussion, conferences within ASEAN and involvement of TVET management and representatives be solicited. Singapore should be engaged as a leader in this area because of its good TVET training approach, which it adopted from Germany. A standard should be set for the evaluation of skills for ASEAN students. Core working skills should be integrated into the TVET system and TVET exchange teachers from within ASEAN should be engaged in member countries.

DISCUSSION

This section will discuss the function of a certification system called Vocational Training Operation (VTO) in educating TVET teachers. The component and the elements of this certification will be explained through deep interview with members of the VTO committee. The interview was conducted with the VTO document in sight. The interviews were

successfully conducted and clarification of unclear statements in the document were resolved immediately. The discussion was divided into two segments: (1) Development of the VTO; and (2) Implementation of the VTO.

Three main topics were involved in the development process i.e. the process and the committee, content and structure of the document and dissemination of content. The process involved in developing the VTO was the Development of Standard and Curriculum (DESCUM), which took around five to six months. Industry experts and practitioners were directly involved in the specified occupation involved in the development of the VTO. Both have practical and teaching experience. The Department of Skill Development (DSD) under the National Occupancy Skill Standard (NOSS) division and the DESCUM facilitators were given the authority to delegate the assignment to the experts. First, the NOSS assigned duties and tasks to the team (facilitator and expert), who then worked on the assigned job. Consultants were also hired under the Department of Tender and Internal Expertise, NOSS and the Industry Lead Body (ILB) to spearhead and complete the programme. There are two levels of certification, the VTO and Vocational Training Management (VTM). The performance indicator is based on performance standard tied to the NOSS development structure.

In terms of the dissemination process, the standard needs to be approved by the Majlis Penasihat Pembangunan Kemahiran

(MPPK), the advisory body for skill development, as outlined on the NOSS development process flow chart. The activities involved are proofreading and validation, followed by endorsement. It takes about six to seven months to disseminate the standard by the NOSS division. Other parties are also involved in this process, such as the Accredited Centres, external assessors/verifiers and those related to the programme, especially instructors and managers. The standard is disseminated through the DSD website to external verifiers, workshops and emails in the form of soft copy or a CD to accredited centres and committee members for specific fields.

The discussion now focusses on the implementation of the standard. To become a training provider, a centre must be: (i) Legally registered as a training provider; (ii) have adequate with training facilities, tools and equipment; and (iii) Have qualified and competent trainers. The institution does not necessarily have to be a specific centre as long as it fulfils all the requirements listed in the KAPPA document. The needed status in accreditation are status of finances, equipment and infrastructure of the institution, all of which should follow regulations by MOSQ (JPK) and NASDA (652 Act). A qualified teacher must have attained Level 5 of the Advanced Diploma in Vocational Training for both technical and vocational courses. The course duration depends on the level and type of training programme. The duration is usually six months to three years. Qualified candidates who meet the standard are those who have

successfully participated in the following types of assessment method: Case study, project, simulation, role play, knowledge assessment, performance assessment, self-assessment and peer assessment.

Internal assessment is conducted by an internal assessor and endorsed by an internal verifier, while external assessment is conducted by an external assessor and endorsed by an external verifier. This assessment takes around one to two weeks. The qualification requirement for personnel and professional assessors is: (i) Have VTO documents; (ii) Possess the technical certificate SKM 1-5; and (iii) Have experience of two years and above. The Department of Skill Development (DSD) and MPPPK will certify those who have VTO documents. Nevertheless, there are a few challenges in the implementation of this standard such as rapid changes in technology, collaboration with industry, teaching and learning approaches and methodology that are not equivalent, learning and teaching materials that are not fully developed and the management of training resources. It is recommended that English be made the medium of communication in the programme and that all involved respect individual differences among trainers/instructors for regional standards.

The existence of a single national core standard for TVET teachers allows the establishment of professional competency based on the specific profession that will foster the teaching and learning including training in TVET institutions. Thus, the image of TVET will be enhanced and this

in turn will bring public willingness to considering TVET as an option for higher education.

TVET teachers must understand the current trend in technical and vocational education. The concern today is not so much on the value and importance of Vocational Training and Education but how to ensure its relevance, responsiveness and value in an increasingly global economy (Law, 2007). The changes in the drivers of the economy today have become a major focus in TVET. When discussing skilled teachers, a person needs to be trained or to have vast experience in hands-on and practical activity. Skills can range from highly concrete proficiency, like the ability to operate a particular machine or to write a sentence, to far less tangible capabilities such as the ability to think strategically or to influence others (Sanghi, 2007). On the other hand, Smyth, Lyons and Darmody (2013) emphasised that the criteria for developing good teaching skills in a teacher should not be burdensome to teachers.

A similar study regarding the general framework of teachers' competencies outlined nine different dimensions: field competencies, research competencies, curriculum competencies, lifelong learning competencies, social-cultural competencies, emotional competencies, communication competencies, information and communication technologies competencies (ICT) and environmental competencies (Selvi, 2010). Teachers' competencies affect their values, behaviour, communication, aims and practices in school and also

support teachers' professional development and curricular studies. Piwowar, Thiel and Ophardt (2013) evaluated the effectiveness of a training programme on classroom management for in-service school teachers and found that positive effects on teachers' competencies and increased student engagement occurred only in the intervention group. These findings were supported by the participants' reported high subjective validity of the training. In this case, a high level of competency is vital.

Hands-on skills, which are often the target of TVET, was emphasised as the main criteria in developing a TVET Teacher Standard. In hands skill development, the willingness of a teacher to do a job or task is very important for a student to develop his/her hands-on skills. The concept of willingness normally stems from the interest and desire of a teacher to perform a task. The complementary role of attitude in skills development is supported by Neihart (1999), who suggested that individuals who were willing to do or to take the risk of doing a new thing, would obtain a higher level of achievement. This component must be implemented during the training for teachers.

In terms of competency that a teacher should possess, a study of Malaysian TVET providers and practitioners conducted by Ali, Kaprawi and Razally (2010) identified 98 competencies derived from a literature review and a focus group discussion that reflected the range of attitudes, attributes, knowledge and strategic and tactical skills required in electrical

instructors. In this regard, TVET teaching competencies are defined as an integrated set of technical competency, learning and methodological competency and human and social competency that are needed for effective performance in various teaching contexts and didactic approaches (Spottl, 2009). These three clusters are the basic components of the holistic K-worker desired for the Malaysian context. The standard of TVET teachers should also be in line with K-worker competency.

CONCLUSION

This research was conducted thoroughly on the development and implementation of a national core standard for TVET teachers. It was found that the guidelines for competency are unclear and that enforcement of the standard is still far beyond expectation. Integration of a common national teacher standard and the Vocational Training Operation (VTO) is seen as the best solution for producing effective TVET teachers. In conclusion, TVET teachers should comply with the following requirements: (1) Professional skill and knowledge; (2) Professional teaching and learning process; (3) Personal and professional attributes; and (4) Professional industries and communities. These requirements are based on the requirements of the Malaysian Teacher Standard, K-worker competency and TVET centres to ensure that TVET teachers not only comply with the national teacher standard but with the larger governing principles of the nation for its modern workforce. To conclude, this

paper outlined the requirements of a good TVET teacher in terms of knowledge, skill and competency. Future research should identify the skills required for each of the four areas mentioned above for further study. Further study should also assess the implementation of the teacher standard as well as the cause-and-effect relationship between these four areas.

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