



# COMPILATION OF COUNTRY PAPERS REPORT



## EXPERTS' MEETING

SEAMEO VETECH in collaboration with UNESCO-UNEVOC held Experts Meeting attended by TVET experts from Southeast Asian (SEA) countries and Nepal (enclosed the compilation of country paper report).

In conjunction with The International Conference

### **“The Excellence in Teacher Education and Research Innovation”**

Under the Project of

**“The 120<sup>th</sup> Thai Education Anniversary Celebration”**

**To Honor His Majesty the King: “The Teacher of the Land”**

*On the Occasion of His Majesty the King's 85th Birthday Anniversary*

25-28 December 2012

Royal Orchid Sheraton Hotel & Towers, Bangkok, Thailand

# TVET TEACHER EDUCATION IN BRUNEI DARUSSALAM: TRANSFORMATION AND CHALLENGES

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## Abstract

*Technical and vocational education and training (TVET) plays an important role in the social and economic development of Brunei. It has also proven to be a rewarding pathway for students in terms of employment and further education. It is widely acknowledged that the effectiveness of any TVET system strongly depends on the quality of its teachers. Qualified, trained and motivated teachers and trainers are essential for effective learning which are at the heart of TVET quality. Recognizing this, the Brunei government has taken initiative in recent years to improve the quality of the teaching staff by upgrading the only teacher education institution in the country into a graduate school. This means that all the teachers will be trained at only graduate level such as Master of teaching (MTeach), Master of Education, Doctor of Philosophy and Graduate Diploma in Education. TVET teachers are not exempted from this policy changes. This paper will focus on the changes on TVET teacher education in Brunei Darussalam following this recent policy transformation and share some of the challenges ahead.*

**Keywords:** Quality of teacher, TVET teacher education, MTeach, Brunei Darussalam

## Introduction

Technical and vocational education and training (TVET) plays an important role in the social and economic development of Brunei. TVET in Brunei has a very short history with formal TVET started with the establishment of two trade schools in 1970 offering United Kingdom based craft level programs to meet the needs of the Form Three school leavers. The establishment of the two trade schools marks the beginning of a separate VTE system led by the Organizer of Technical Education now known as the Department of Technical Education (DTE). Technician level programmes were introduced in 1982 to meet the needs of Form Five school leavers. Since then, TVET continued to expand in the last two decades and many more TVET institutions were built to meet the growing manpower requirements of the country. To date there are seven TVET institutions under the day-to-day administrative authority of the Ministry of Education (MOE) through the DTE. Throughout the years TVET programmes has also proven to be a rewarding pathway for students in terms of employment and further education (Chin, 2012).

## Overview of TVET teacher education

Initially, majority of the TVET teachers in the early years of establishment comprised of foreign professionals from different specialization employed to deliver the programmes. Experienced expatriates teachers were required to bring in knowledge and skills in areas not available locally (Chong & Mohd Ali, 2012). However during the expansion period, TVET institutions had seen an increasing number of local TVET teachers joining its workforce which is in line with the government localization policy. In the year 2010, out of the total 424 teaching staff in all the seven TVET institutions, 342 or 81% comprised of local (Table 1). Recruited TVET teachers are mainly fresh graduates with minimum qualification i.e. higher qualification than the taught programmes of the related field. Instructors teaching Diploma programmes must have at least a Higher National Diploma or Advanced Diploma to qualify them. Most of the local TVET teachers are recruited first before being sent to do their teaching qualification. A large proportion of the local TVET teachers comprised of graduates from local or foreign institutions whom are bonded to work for the government. Only a small proportion of these local TVET teachers have industrial experience. As can be seen, the training and recruitment of TVET teachers in Brunei is based on the in-service model, in which the teacher's qualification is acquired within the first few years usually probationary, phase of employment. Typically, the in-service model of teacher education does not take into account the respective subject matter. Instead, it is mainly focused on psychological and basic educational knowledge, and on teaching methods and techniques with some variations (Grollmann, 2008).

Table 1. *Number of Foreign and Local TVET Staff in the year 2010.*

TVET Institutions	Local	Foreign	Total Staff
<b>Maktab Teknik Sultan Saiful Rijal</b>	82	24	106
<b>Maktab Kejuruteraan Jefri Bolkiah</b>	67	16	83
<b>Sekolah Vokasional Nakhoda Ragam</b>	73	8	81
<b>Sekolah Vokasional Sultan Bolkiah</b>	35	15	50
<b>Pusat Latihan Mekanik</b>	26	2	28
<b>Sekolah Vokasional Wasan</b>	26	14	40
<b>Sekolah Perdagangan</b>	33	3	36
<b>Total</b>	<b>342</b>	<b>82</b>	<b>424</b>

Source: Data extracted from DTE, 2011

In the eighties, most of the local TVET teachers were send to do their teaching certification overseas for a period of one year in countries such as Australia or United Kingdom. Recognizing the need to provide local based TVET teacher training, Sultan Hassanal Bolkiah Institute of Education (SHBIE) the only teacher training intuition in Brunei began to offer TVET teaching certification in the late nineties in the form of Certificate in Technical Education (CTE) and Post-Graduate Certificate in Technical Education (PGCTE) programmes (Universiti Brunei Darussalam, 1997). Both CTE and PGCTE provide initial teacher education that caters for technical teachers who do not

have a teaching qualification. For entrance to CTE programme, candidates were required to have at least an Ordinary National Diploma or Higher National Diploma in a relevant technical field and recommendation by the DTE of the Ministry of Education. As for eligible for CTE award, students were required to complete 2 semesters full-time, required to complete 8 core course; 2 education electives and a period of teaching practice totaling 30 units.

For PGCTE the difference lies in the entry requirement where by candidates are required to have a degree in a relevant technical field and recommendation by the DTE of the Ministry of Education. Table 2 shows the module offering for both CTE and PGCTE. All the taught courses have a 60:40 course work to examination ratio. This ratio was changed to 70:30 a few years later.

Table 2. *Modules offering for Certificate in Technical Education and Post-Graduate Certificate in Technical Education in the year 1997*

Modules for January semester	Units	Module for August semester	Units
Psychology of Learning and Teaching	3	Curriculum Development in Technical Education	3
Assessment in Schools	2	Educational Technology	2
Computer Used in Technical Education	3	MOT Technical Subjects II	3
MOT Technical Subjects I	3	Education Elective I	2
Critical Review of Technical Education in Brunei Darussalam	3	Education elective II	2
		Teaching Practice	4
<b>Total</b>	<b>14</b>		<b>16</b>

Source: SHBIE handbook 1997/1998

Since the students were in-service, it has been a norm for all the local TVET teachers without teaching qualification to enroll into either CTE or PGCTE programme (depending on their academic qualification), a one year TVET teaching certification programme within the 3 years of their probation period. Some of the modules in Table 2 had gradually evolved to meet the changing needs of the local demands. An example was the abolishment of educational elective and the introduction of the module English for technical and vocational teaching to cater for the needs of local TVET teachers. Critical review of technical education in Brunei Darussalam has been replaced by current issues and trends in TVET, while the previous teaching practice was embedded into the methods of teaching modules.

SHBIE ceased to offer CTE and PGCTE programmes in the year 2009 after the introduction of the initial teacher preparation at master level also known as master of teaching (MTeach) in the year 2009.

In brief, before the introduction of MTeach programmes a TVET teacher with a degree or master will be enrolled into PGCTE while those with Higher National Diploma or Advance Diploma holders will be enrolled into CTE programmes for their teacher certification course. The subsequent paragraphs will give an overview of the current TVET teacher education routes taken by TVET teachers with different qualifications after the introduction of MTeach programme.

### **Current Policy and Practices**

Education reform in Brunei Darussalam has led to the introduction of a new national curriculum intended to equip Bruneians with the knowledge, marketable skills and entrepreneurial traits to meet the social and economic challenges of the 21st century. In order to ensure the success of the reform a step change is required in the way Bruneian teachers are prepared for the classroom.

SHBIE one of the faculties of the University of Brunei Darussalam charged with the responsibilities of training teachers has been upgraded to a graduate school in the year 2009. This change was aligned with the Ministry of Education aims of ensuring high quality teachers in the school system and at the same time uplifting teachers' professional standard and image as "first choice profession" (Abdul Rahman Taib, 2009).

This new policy in teacher education means that SHBIE will only train teachers at graduate level such as master of teaching (MTeach) and graduate diploma in education (GradDipEd) for initial teacher preparation and master of education (MEd) and doctoral courses (PhD) in the area of teachers' professional development.

One of the important highlight of these changes was the upgrade of the initial professional teaching qualification to Masters level through MTeach programme. This change was intended to align the teaching profession in Brunei Darussalam with international best practices whereby studies have found that the best performing education systems in the world are supported by teachers who hold a professional qualification at Masters level. The Ministry of Education, as SHBIE's major stakeholder, deemed that this change was necessary to improve the quality of the outcomes of the education system in Brunei Darussalam. Thus SHBIE was assigned the mission to prepare the finest teachers and to provide the best in-service professional development possible to support the development of all learners.

#### ***Master of Teaching (MTeach)***

The key features of the MTeach are:

- Extensive practical experience in the learning environment from the beginning of study
- Focus on research-based teaching
- Mentoring by experienced teachers and professionals in partner schools
- Deep understanding of the learning process and the design of teaching
- Integration of the disciplinary knowledge of graduate entry students with masters-level study of how to teach

This upgrade of initial teacher education to master level was implemented all across the different levels of teacher education ranging from early childhood, primary, secondary, TVET and higher education. Currently, there are two offerings for MTeach programmes that is in August and January. Table 3 shows the modules offering of the MTeach programme for TVET area of specialization for August intake. MTeach is a master programme offered at Quality Assurance Agency (QAA) level 7 or Australian Qualification Framework (AQF) level 9.

The educational research methodology module is a programme core module common across all specialisation areas. The frameworks for learning and design of instruction; technology, pedagogy and content knowledge; assessment for learning; language and teaching; leading, managing and institutionalizing change modules are programme option modules for the students. Learning area modules allow students to choose from a list of specialization core or specialization option modules according to their area of specialties. The current offerings for learning area modules TVET specialization area are learning in vocational context 1 and 2.

The research exercise module provides students with the opportunity to conduct site-based research under supervision. It will enable the students to link research with the improvement of practice in a chosen area of investigation.

The professional practice and seminar module provide students with practical experiences in teaching within a classroom. The focus is on class management and effective teaching and learning of the content area. Specifically, the module aims to enhance the students' abilities to apply professional criteria to their own teaching and professional activity. Candidates are able to experience the classroom environment and organize and teach groups and whole classes to facilitate learning. In addition, candidates are able to synthesise their theoretical and practical understanding of teaching. They will learn to use constructive criticism and discussion to evaluate and reflect on values and practices in relation to professional practice and to communicate effectively with other professionals, and provide feedback to students to assist learning.

The entrance requirements for admission to MTeach are as follows:

- holding a recognized university degree with at least second class honours in an appropriate subject;
- achievement of the University language requirement (at least an IELTS score of 6.0 or a TOEFL score of 550 or a credit in the GCE 'O' Level English Language)
- successful performance at interview

Table 3. Master of Teaching (TVET)–full-time:1year; 48credits; QAA Level 7/AQF Level 9\*)

(August-December)	(January-May)	(May-July)
<b>Professional Practice &amp; Seminar 1</b> (2 days a week in appropriate institutions + 15 day block both supervised by institutional mentor and SHBIE staff. Seminar Series) (4)	<b>Professional Practice &amp; Seminar 2</b> (2 days a week in appropriate institutions + 15 day block both supervised by institutional mentor and SHBIE staff. Seminar Series) (4)	<b>Research Exercise</b> (completion and submission of research focused on a specific learning area. Supervised by SHBIE staff) (8) <b>8 credits</b>
<b>Frameworks for Learning and Design of Instruction</b> (provides a conceptual framework for understanding learning, teaching and curriculum) (4)	<b>Educational Research Methodology</b> (provides guidance on the truture, use and design of research in education) (4)	
<b>Technology, Pedagogy and Content Knowledge</b> (provides a conceptual and practical framework for teaching and learning with technology) (4)	<b>Assessment for Learning</b> (prepares participants for assessment and reporting linked to teaching, classroom learning and curriculum) (4)	
<b>Language and Teaching</b> (introduces participants to the literacy demands of subject areas) (4)	<b>Leading, Managing and Institutionalizing Change</b> (provides knowledge and skills to support change in educational organizations) (4)	
<b>Learning Area (Learning in Vocational Context 1)</b> (prepares participants to teach in a specialist subject) (4) <b>20 credits</b>	<b>Learning Area (Learning in Vocational Context 2)</b> (prepares participants to teach in a specialist subject) (4) <b>20 credits</b>	

\*<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI08/FHEQ08.pdf> & <http://www.aqf.edu.au/>

### ***Graduate Diploma in Education (GradDipEd)***

The Graduate Diploma in Education is a one-year full-time initial teacher preparation programme introduced in the year 2012, that qualify graduates for employment as educators. The GradDipEd is a one year 40 modular credits programme offered in the area of early childhood education, primary education, secondary education, TVET, counselling in education and special educational needs.

Currently there are two intakes per year starting August and starting January for the GradDipEd programmes. Table 4 shows the modules offering for GradDipEd TVET for the August intake. The practicums, practicum project and professional seminars are area of study core modules carried out according to subject specialization. Learners, pedagogy and curriculum; assessment, learning and teaching; technologies for teaching and learning; and social and professional contexts are programme core modules common across different specialization areas.

GradDipEd is a graduate programmes offered at graduate level but not at master standard. It is a programme at Quality Assurance Agency (QAA) level 6 or Australian Qualification Framework (AQF) level 8. The entrance requirements for GradDipEd are as follows:

- o a university degree in an appropriate subject
- o achievement of the university language requirement
- o successful performance at interview

Table 4. *Graduate Diploma in Education (TVET)–full-time: 1year; 40credits; QAA Level 6/AQF Level 8\**

(August-December)	(January-May)	(May-July)
<b>Practicum 1 (TVET)</b> (2 days a week in appropriate institutions + 15 day block both supervised by institutional mentor and SHBIE Clinical Specialist. Professional Portfolio) (6)	<b>Practicum 2 (TVET)</b> (2 days a week in appropriate institutions + 15 day block both supervised by institutional mentor and SHBIE Clinical Specialist. Professional Portfolio) (6)	<b>Practicum Project (TVET)</b> (5 days per week in an appropriate institution supported by institutional mentor and SHBIE staff. Project report) (4) <span style="border: 1px solid black; padding: 2px;">4 credits</span>
<b>Professional Seminar 1 (TVET)</b> (provide a general conceptual framework for understanding learning, teaching and curriculum) (4)	<b>Professional Seminar 2 (TVET)</b> (provide a general conceptual framework for understanding learning, teaching and curriculum) (4)	
<b>Learners, Pedagogy &amp; Curriculum</b> (provide a critical understanding of the relationship between the interpretation of a curriculum specification and the enactment of teaching and learning sequences in context) (4)	<b>Assessment, Learning and Teaching</b> (prepares participants for assessment and reporting linked to teaching, classroom learning and curriculum) (4)	
<b>Technologies for Teaching &amp; Learning</b> (provides a conceptual and practical framework for teaching and learning with technology ) (4) <span style="border: 1px solid black; padding: 2px;">18 credits</span>	<b>Social and Professional Contexts</b> (provides a framework for reflecting on the role of the teacher in social and professional contexts) (4) <span style="border: 1px solid black; padding: 2px;">18 credits</span>	

\*<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EVNI08/FHEQ08.pdf> & <http://www.aqf.edu.au/>



## ***Diploma in Technical Education***

The Diploma in Technical Education is a one year programme designed to cater for those TVET teachers who need a teaching qualification but their educational background failed to meet the entrance requirement of the University such as those with a Higher National Diploma. Currently, the Diploma in Technical Education programme is run under the Continuing Education Centre of University of Brunei Darussalam.

Table 5 shows the current modules offering for the Diploma in Technical Education. The institutional-based supervised teaching practice is carried out one day a week at TVET institution. All the courses have mixture of either 70:30 or 60:40 course works to exam ratio.

Table 5. *Modules offering for Diploma in Technical Education for the year 2011*

Modules for semester I	Units	Module for semester II	Units
ICT Applications in VTE	3	Curriculum Design and Development in VTE	3
General Methods of Teaching VTE Subjects	3	Special Methods of Teaching VTE Subjects	3
Psychology of Learning, Teaching and Training	3	Assessment and Evaluation in VTE	3
Current Issues and Trends in VTE	3	Supervised Teaching Practice in VTE ( Institution-based Teaching Practice)	3
Introduction to VTE Teaching (Institution-based Teaching Practice)	3	Plus any one of the following options:	
		Guidance and Counseling in VTE	3
		Competency-based Training	3
		Education and Work	3
<b>Total</b>	<b>15</b>		<b>15</b>

In summary, it can be said that there are currently three different types of initial teacher preparation for TVET teachers in Brunei. From the entrance requirement perspective, the master level, MTeach cater for those TVET teachers with a 2.2 or higher classification degree at relevant field of study. The GradDipEd cater for degree holders at relevant field of study, while the Diploma in Technical Education caters for those TVET teachers with Higher National Diploma qualification. Although the programme structure for all three initial teacher preparation programmes are very different, one common observation is the content of the programmes do not provide teaching of the subject matter. It can also be seen that both the MTeach and GradDipEd provide students with more institutional placement time as compared to the Diploma in Technical Education. The current model for MTeach and GradDipEd requires students to be place twice a

week three weeks school placement block. The school mentor also plays a greater role in the professional development of initial teachers. The MTeach programmes provide TVET teachers with research skills to improve teaching and learning for the students. The need to develop research as a learning culture within TVET teacher education, citing the shifting expectation that research will become increasingly important in higher education and research should be a central part of any teacher's education was also highlighted in the recent online forum on organized by UNESCO-UNEVOC on "Strengthening TVET teacher education"( Bukit, 2012). The GradDipEd programme also provides TVET teachers certain degree of research skills.

### **Challenges and strategies**

One of the obvious challenges for the current TVET initial teacher education programmes is the need to expose the teachers to the industries. The current MTeach, GradDipEd and Diploma in Technical Education programmes fail to address this issue. Initial TVET teachers do not have an industrial background and working experience, and therefore often lack the understanding or motivation to engage with industries thus it is important to provide them with some sort of guidance and exposure during their initial teacher preparation phase. TVET teacher education should offer a clear pedagogic distinction compared with other areas of teacher preparation, and should better incorporate current practices, standards and technologies used within industry. Initial teacher education should greater accommodate the specific teaching style of TVET, customized to meet the requirement of industries. Furthermore, pedagogic programs should be accommodated to meet the nature of TVET congruent with the unique world of work.

Although there are some positive changes in the TVET initial teacher preparation programmes, very little emphasis has been placed on the professional development of existing TVET teachers. Professional development of existing teacher should be in line with the changes in initial teacher preparation programmes. Existing TVET teachers should also be upgraded with the new research skills obtained by the new teachers through the MTeach and GradDipEd programmes. This is to ensure that there will not be an imbalance in the eco-system that would cause resistance in the development of a research culture among TVET system. TVET institutes have to ensure that conditions are conducive to developing research activities.

Another issue would be TVET teachers striving to obtain a higher academic degree at the expense of professional development. Academic degree should not be seen as the only route for continuing professional development, because in certain cases attainment of an academic degree does not prepare for TVET teachers for all aspects of their role, including changing technology. To make thing worst, large numbers of TVET teachers obtaining higher academic degrees has been promoted to do administrative work. Continuing professional development in TVET context should be part of a lifelong learning education which recognition of prior learning taken into account.

## Conclusions and recommendations

In conclusion, it can be said that the new initial teacher preparation programmes for TVET teachers follows the teacher preparation framework of general education. Although the current framework inherit some of the strengths such as increase exposure time to institutional placement and the development of research capable TVET teachers, there are some areas distinct to TVET teachers that are lacking in the current framework. One obvious example is the exposure of initial TVET teachers to the industries or the world of work. Although one might argue that this can be done through different ways, the author would like to place emphasis of the importance of learning how to develop linkages with the industries during initial teacher preparation programme. TVET teacher preparation should be developed more distinctly from other areas of teacher preparation, with specific emphasis on the unique nature of TVET and the realities of the world of work.

Continuing professional development for TVET teachers is also another area that should not be misunderstood. There should not be an over emphasis on attaining higher academic degrees, as compared to relevant and applicable knowledge and skills in terms of changing technology and working practices.

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# TVET TEACHER EDUCATION IN CAMBODIA

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## **Abstract**

*Education system in Cambodia is divided into four levels, Pre-School Education, Primary Education, Secondary Education (lower and upper), and Higher Education (UNESCO, 2008). The Royal Government of Cambodia (RGC) has set the goal to help children get basic education at least at grade ninth. After completed grade 9, students can either go to upper secondary schools or secondary vocational training program provided by Ministry of Labour and Vocational Training (MOLVT). After completing upper secondary schools, student can either enter vocational training or universities (UNESCO, 2008). This shows the two main streams of education in Cambodia, Academic and TVET education. Regarding to Teacher education in Cambodia, there are two difference types of teacher education as well, Academic and TVET teacher education. Academic teachers education are conducted by National Institute of Education (NIE) which is under the Ministry of Education and Sports (MoEYS), and TVET teacher education is conducted by Ministry of Labor and Vocational Training (MoLVT) and National Technical Training Institute (NTTI) is the only institution under the umbrella of MoLVT which has the main duty to train TVET Teachers for the whole country. Currently, 300 hundreds of TVET teachers are recruited and trained at NTTI every year.*

*Keywords: Higher education, academic, Technical and vocational training*

## **Introduction**

The educational human resources of Cambodia were lost over the past 30 years due to conflict and instability. In 1979, after the Khmer Rouge regime, the national education started from zero, and has gradually been developed until present. In 1996 the Cambodian educational system has been reformed to 12 years (6+3+3) for General Education.

In Cambodia, we have two institutes which are currently offering teacher training program. One is based at National Institute of Education which is under the supervision of Ministry of Education, Youths and Sports and another is under the umbrella of Ministry of Labour and Vocational Training. National Technical Training Institute (NTTI) has been offering its extensive course on Technical Vocational Education and Training (TVET).

The primary objective of this program is to ensure an effective supply of teachers for all technical levels so as to respond to the education system expansion through upgrading the competencies of teachers, institute principals and other key staffs of the MoLVT.

The second objective is to ensure that the number of new intakes of all teachers and the subsequent deployment of new teachers should favorably respond to the growing demand for teachers in rural/remote and disadvantaged areas through the recruitment and training of teacher trainees from these targeted areas as well as from the areas inhabited by ethnic minority people.

The third objective is to improve the quality of teaching through expansion of in-service teacher training.

There are 38 TVET institutions run by Ministry of Labour and Vocational Training (MLVT) in Cambodia and those institutions are separated as Provincial Training Centers (PTCs), Regional Training Centers (RTCs), and TVET institutes (MOLVT, DTVETM). TVET teachers education are trained by the National Technical Training Institute (NTTI) which is one of the TVET institution under the umbrella of MOLVT and it is the only institution which has the main duty to train TVET teachers both Senior and Junior level for all of the 38 TVET institutions throughout the country. Since 2005, the MOLVT has set the policy to recruit three 300 of TVET teacher trainees every year.

### **Cambodia at a Glance**

Cambodia is a developing country in Southeast Asia. Three decades of civil unrest and conflicts destroyed the infrastructure, diminished the production potential and damaged the country's social fabric. During the last decade and half, Cambodia has recovered dramatically in terms of both human resources and infrastructural development. Based on the General Population Census of Cambodia 2008 (Provisional Population Totals), the population of Cambodia was approximately 13.4 million (as of 3 March 2008). Cambodia accounts for 2.3% of the Southeast Asian population. The annual growth rate of the population during the last decade is 1.54% with the population increasing by 1.95 million in the last decade. Urbanization has increased over the last decade from 17.4% in 1998 to 19.5% in 2008.

Table 1. *General Information of Cambodia*

<b>Local Administration Arrangement</b>	23 Provinces, 1 Capital (Phnom Penh) 159 districts and 8 khans (Phnom Penh) 26 municipalities 1,417 communes and 204 sangkats 14,073 villages (only 13, 852 villages as per MOI)
<b>Population</b> (as per 2008 census)	13,395,682 (51.36% - female); 81.5% rural 1.54% - annual population growth 4.7 – average household size 25.6% - female head of household 75 – density of population per km <sup>2</sup> 33.7% (Age 0-14); 62% (15-64); 4.3% (65+) 90% - Cambodians; 5% Vietnamese; 1% Chinese; 4% Others
<b>Health</b>	59 years – Male Life Expectancy; 63 years – Female Life Expectancy 58/1,000 – Infant Mortality Rate
<b>Education</b> (as per 2008 census)	77.6% - adult literacy rate (age 15 and above) 85.1% - male literacy; 70.9% - female literacy 90.4% - urban literacy; 74.0% - rural literacy 80.19% - 6-14 age group attending school (80.02% M; 80.38% F) 51.83% - 15-19 age group attending school (56.48% M; 46.90% F) 14.37% - 20-24 age group attending school (18.52% M; 10.40% F) 1.20% - 25+ age group attending school (1.56% M; 0.90% F)
<b>School Attendance</b> <b>5-24 years of age</b> (2007, CSES 2009, NIS, MoP)	1% - Pre-primary 67% - Primary 20% - Lower Secondary 9% - Upper Secondary 2% - Under-graduate/Graduate
<b>Enrollment and Drop-outs</b> (Education Statistics and Indicators – 2008/09 & 2009/10, EMIS, MoEYS)	Primary : 2,240,651 (F : 1,070,093) in 2008/09: 2,262,834 (F: 1,073,292) L Secon : 585,115 (F : 279,527) in 2008/09: 605,707 (F: 287,105) U Secon : 323,583 (F : 140,883) in 2008/09 : 292,423 (F: 123,334) GER :Prim–125.4; L Sec–58.1; U Sec–32.3; i2008/09–120.2, 61.6, 28.3 NER :Prim–94.8; LSec.–31.9; U Sec.–19.4; in 2008/09–94.4, 34.0, 16.4 Drop-out :Prim:8.3%(187,815); LS:18.8%(113,873); U S:11.3% (33,044) Completion Rates : 85.58% - Primary; 49.05% - L Sec; 20.58% - U Sec
<b>Economic Activity</b>	79.90% - age 15-64 ( 81.60% - M; 78.50% - F) 72.3% - primary (agriculture)
	Agriculture : 33.5%; Industry -21.7%; Services-38.8% 3.33% - GDP growth in 1989; 11.91% - in 1999 and 1% in 2009 \$114 – per capita GDP in 1989; \$281 – in 1999 and \$667 in 2009 7% - unemployment in 1999 and 7% unemployment in 2009
<b>Budget</b>	\$1.38 billion–Revenues; \$1.8 billion–Expenditure; \$606 million–Foreign
<b>Services</b> (General Population Census of Cambodia, 2008)	26.4% - Cambodian households using electricity as main source of light 33.7% - having toilet facility within their premises 47% - having access to improved water source 83.6% - using firewood as main fuel for cooking
<b>Rate of Urbanization</b>	17.4% - 1998 19.5% - 2008

Table 2. TVET Enrollments – Total, Gender and by Level

Level	Total	Female	% Female
Short courses	25,694	14,123	54.9
Diploma	545	84	15.4
Higher diploma	1,467	289	19.7
Bachelors	1,654	465	28.1
Postgraduate + trng.	23	00	50.9
<b>Total</b>	<b>29,383</b>	<b>14,961</b>	<b>50.9</b>

Source: TVET/M Department under DGTVET

## Overview of TVET Teacher Education in Cambodia

### About NTTI

The National Technical Training Institute was officially founded in Phnom Penh on 29/12/1999 by Sub-Degree no 109 dated 24/10/2001 in the post of the department of Ministry of Education, Youths and Sports. The institute was originally known as Preach Kossomak Technical and Vocational Training Centre until 1999 when it became Technical Training Center. On 29/12/1999, the center was granted institute status by the Ministry of Education, Youths and Sports and has hence been known as the National Technical Training Institute.

Currently, National Technical Training Institute is a state-owned education institute under the direction of Ministry of Labor and Vocational Training, which has taken over the control of the institute since 2004. The inspiration for the establishment of this institute came from the founder's desire to establish an educational institution to train students in theoretical and practical experiment, and academic ability.

### Vision

To become an excellent leading university of polytechnics in field of Technical Vocational Education and Training in Cambodia

### Mission

- Create the opportunities for students by providing high quality and competency (Theories, Practice and Ethics) of Technical Vocational Education and Training
- Provide a unique of technical and vocational training to prepare them within technical skills to entrance the current and future needs of labor market.\

### TVET teachers training at NTTI

TVET teacher training in NTTI is a one year training program consisting of 37 credits. All TVET teachers must come and get educated in NTTI and NTTI is the only institution that has the main duty to train TVET teachers of the country. In order to participate in TVET teacher training program at, all candidates who hold Associate degree, Bachelor degree or higher, must come and apply for the entrance examination prepared by NTTI with the cooperation from MOLVT. After successfully



passed the entrance examination, all candidates must come for a one-year training program consisting of 37 credits. Candidates then become the Teacher Trainees. There are two different levels of Teacher trainees, Junior level – for associate degree, and Senior level – for Bachelor degree or higher.

The training program is separated into three main sections, Semester I for 4 months. After completing semester I, all teacher trainees will be sent to do the Practicum for 2 months, second, they are compulsorily have to attend Semester II for 4 other months. Teacher trainees are assessed through these three sections and their final grade will be judged by adding the result of each section together and then divided by 3.

### **Challenge and Issues**

Based on observations and discussions, issues are categorized according to key areas of operations of TVET institutions, namely:

#### **Issues/Findings On Management**

- i) Lack of empirical data about the needs of industry and demand for skilled/technical workers;
- ii) Sustainability of the TVET program vis-a-vis the course preference of the youth and young adults; attractiveness of salary and benefits for skilled/technical workers; and recruitment policies of industry;
- iii) Resistance to change by teachers to shift their teaching from traditional to competency-based approach; determination of the institute management to adopt the competency-based education and training operating at a limited resources (e.g.budget and qualified manpower, etc.);
- iv) Availability of incentives for institutions to implement innovations thru own initiatives or directives from MoLVT in developing and implementing TVET programs that are market-driven;
- v) Determination of institution's internal effectiveness through a third party assessment;
- vi) Adoption of an accreditation system for maintaining quality of TVET programs;
- vii) Formulation of an honest-to-goodness school business plan that will guide the institution's management to maximize resources to achieve its vision and mission;
- viii) Initiative to benchmark with local and international training providers; and
- ix) Adoption of a well defined monitoring and evaluation system for the institution's growth and sustainability.

#### **B. Issues/Findings on Linkages**

- i) Designation of a qualified school personnel to link school with the industry;
- ii) Social acceptance of TVET programs among industry leaders, local government officials, students, parents, and investors;

- iii) Establishment of linkages with various stakeholders, e.g. chamber of commerce and industry, mass media (print and broadcast media), employers' associations, workers' organizations, civil societies, and others for the promotion of TVET programs.
- iv) There is also very little coordination between the training institutions and the industry or the employers.
- v) Many training courses often take place outside of any clear employment framework.
- vi) Entrepreneurial training is frequently divorced from formal TVET courses; and
- vii) There is very little help provided to the students to find employment after obtaining their qualification. The issue of career guidance is vital.

#### **c. Issues/Findings on Resources**

- i) High cost of procurement, obsolescence and maintenance of equipment especially for highly technical trade areas;
- ii) Relevance of teaching/learning materials to current technology used by the industry; and
- iii) Adoption and implementation of a development plan to improve the quality and quantity of learning resource materials.

#### **d. Issues/findings on Personnel**

- i) Technical qualifications and practical experience of teachers to teach hard skills for entry-level and advanced level of training;
- ii) Attraction of industry experts to teach the skills development component of the program;
- iii) Consciousness of safety and hygiene among school administrators, teachers and students; and
- iv) Adoption and implementation of a training and development plan for professional growth and development of teachers.

#### **e. Issues/Findings on Programs**

- i) Determination of manpower demand of industry to support development of new training programs or sustaining current programs;
- ii) Appropriateness of the theory-practice mix of current program;
- iii) Adoption and implementation of complimentary strategies, e.g. on-the-job training, cooperative education, dual training system and other training modality to enhance students' job exposure;
- iv) Determination of career options for graduates of the non-formal programs and articulation of acquired competencies towards the formal program;
- v) Training is not subjected to adequate quality assurance and control – no courses are accredited;
- vi) The mechanisms for determining knowledge/skills/attitude development needs (for the courses) are inadequate, which leads to a provider-driven system;
- vii) The formal TVET sector comprises a diverse mix of planned and unplanned training courses catering to a variety of students. Furthermore, there is very little standardization of TVET courses and even courses with the same titles can have different contents, duration, and training strategies;

- viii) The integration of 'employability competencies' in the curriculum and in the training courses is also lacking; and
- ix) Courses are generally input-based (numbers of trainees per program) rather than outcome-based. Institutions are attracted to run fee paying courses. (especially Bachelor level programs, for example, at present there are about 2600 students studying Bachelor level courses at NTTI which was established to be the focal center for teacher training. CIEDC which was establish to train students in entrepreneurship is planning to have 750 students in their bachelor courses).

#### **f. Issues/Findings on Financing**

- i) Readiness of industry to invest in training by providing scholarships, training subsidy, providing training places and shouldering the cost of training;
- ii) Adoption and implementation of a business plan to utilize current school resources for income generating activities; and
- iii) Allocation of the national government for a bigger budget for the continuous development of all national centers of competence (NCCs)

#### **Questions for Discussion**

- According to you, how could we develop a TVET System which is suitable for Cambodia? Provide us your ideas and recommendations.
- In your country, how do you improve access to TVET?
- Is there anything to do in TVET for sustainable development.

## TEACHER CERTIFICATION PROGRAM: AN EFFORT IN REALIZING A QUALIFIED VOCATIONAL EDUCATION

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### Abstract

*Teacher certification is a program based on Law of Indonesian Republic Number 14 Year 2005 about Teacher and Lecturer. Teacher certification aims at guaranteeing the mastery of teacher competence to improve the education quality nationally. Certification for in-service Teacher gives an optimism that the education product will be more qualified because schools including Vocational High Schools (SMK) have teachers who get educator certificates and teach professionally. Certified teachers have four competences required to be professional teacher in accordance with the requirement of the acts, that are a pedagogic competence, a personality competence, a social competence and a professional competence. The process of teacher certification is conducted through four patterns (1) direct teacher certification grant (PSPL) (2) portfolio assessment (PF), (3) teaching profession training and workshop (PLPG), and (4) teaching profession education (PPG). Teachers, themselves, can determine the certification pattern which are suitable for their capability and capacity. Since 2011, the implementation of in service teacher is led to the PLPG pattern, although there is always an opportunity for them to follow certification through PSPL or PF with certain requirement. Along with the certification, to produce vocational education teachers who have teacher certificate and professional skills on vocational field is being pioneered by the PPG collaborative pre-service teacher certification program.*

**Keynote:** Teacher competence, vocational high schools, certification

### Introduction

Teachers have a central role in learning process at schools, from pre-schools to high schools. Teachers hold a key of successful education at schools because they are in the front line of school system. Beside teaching in front of class, teachers also face and solve the various problems of their students directly, both in academic aspects and nonacademic ones. The success of students in absorbing knowledge and in sharpening their skills depends on teachers in providing guidances, demands, directions, and a model. Hattie's result of the study (2003) strengthens the previous statement that teachers give big contribution (>30%) toward the learning quality improvement and students' achievements at schools. There is no doubt that the qualified and professional teacher availability is an absolute demand that people believe will give a supporting contribution and become a key of success toward the achievement of national education.

Anticipating the demand on teachers' quality and professionalism, the Government of Indonesia together with the Houses of Parliament (DPR) issue the Law Number 14 Year 2005 about Teachers and Lecturers (UUGD), which arranges the qualification, the competencies, and teacher certification. In *UUGD*, it is stated that a teacher must have an academic qualification, a competency, an educator certificate, be health mentally and physically, and also have the capability to realize the purpose of national education. The academic qualification for a teacher is minimally an undergraduate (S1) or a diploma (D-IV), and has pedagogic, personality, social, and professional competences. The part of regulation which is not less important is a teacher shall have an educator certificate obtained after fulfilling the determined requirement as an evidence being a professional educator.

The Law Number 14 Year 2005 gives a new prospect for education world, especially for more qualified basic and secondary education level because the students will be educated by teachers who get professional teacher certificates. Under the Law, teachers of elementary schools till teachers of secondary schools must have educator certificates to guarentee their competence mastery. Besides, teacher certification aims to (1) detemine the teacher's feasibility in doing a duty as a professional educator, (2) to develop the process of and the result of learning (3) to enhance teachers' welfare/prosperity, (4) to improve the teacher status in order to realize the qualified nasional education.

By teacher certification, a teacher can use various teaching methods in class to encourage the students' motivation and improve their knowledge and skills. In the future, a teacher is expected to be a professional educator, not only being able to teach well but also becoming a model, enhancing students motivation, giving a valuable learning experience and improving students' potential in accordance with his/her capacity (Jalal, 2007).

### **Current Policy and Practices**

Teacher certification program is an implementation of the Law Number 14 Year 2005 about Teachers and Lecturers. Furthermore, the Minister of National Education issues a regulation Number 18 Year 2007 about Certification for In-Service Teachers and Number 40 Year 2007 about Certification for In-Service Teachers throughout the Education Line. To strengthen the implementation of teacher certification, the Minister of National Education issues two Decrees, that are Number Nomor 056/O/2007 about the establishment of Teacher Certification Consortium (KSG) and Number 057/O/2007 about the decision of Higher Institutions as the Organizers for In-Service Teacher Certification. By the Law Number 20 Year 2003 about National Education System, Government Regulation Number 19 Year 2005 about National Standard of Education, Regulation of National Education Minister Number 16 Year 2005 about Qualification and Teacher Competence Standards are legal instruments being used as the basis for the implementation teacher certification.

In 2008 the Government of Indonesia issued Government Regulation Number 74 about Teachers, that declares a teacher is a professional educator and an educator cercificate is a formal evidence as the approval given to a teacher as a professional

educator. The educator certificate is obtained through teacher certification program both for in-service teachers and pre-service teachers. For in-service teachers who fulfill the requirements, they can follow the certification program through four patterns (1) direct teacher certification grant (PSPL) (2) portfolio assessment (PF), (3) teaching profession training and workshop (PLPG), and (4) teaching profession education (PPG). However, for pre-service teachers, there is no choice except they should take a one-year education which is called by PPG.

PSPL pattern requires that not only must a teacher have the academic qualification of Magister or Doctor taken from the accredited higher institutions in education or relevant subject, but also fulfill the requirement of sufficient teaching experience. Meanwhile, PF pattern is conducted by assessing the documents reflecting the teacher competence. For PLPG, the implementation is held by Teacher Education and Training Institute (LPTK) through ten-day lecturers and workshops. And the last, the certification process of PPG is conducted during 1–2 semesters by Subject Specific Pedagogy (SSP) workshop approach and Field Practice to guarantee the graduates can fulfill the four competences required by the regulations.

The Government gives teachers an opportunity to select and follow one of the appropriate certification patterns. However, for pre-service teachers and in-service teachers who are just inaugurated after the endorsement/ratification of the Law Number 14 Year 2005, that is after December 30, 2005, they are only allowed to follow PPG pattern.

### **Challenges and Strategies: Certification of SMK Teachers**

Vocational High Schools (SMK) is a type of education at the secondary education level that especially prepares the students to get into a job world. At SMK, it consists of three groups of teachers: a normative group, an adaptive group and a productive group (skill subject). The three groups have a main different duty for each other in accordance with the role and the responsibility given to each group of teachers.

Specially for the teachers of productive groups, the teacher's competence and experience is absolutely needed to educate, to train, and to assist the students in producing the real work beside producing a certain knowledge and skills given to the students for their capital to get into a job world. The achievement indicators of the vocational education graduates are the graduates are accepted working in industry or the students implement their knowledge and skills working in the society to gain the deserved income for themselves and nationally can support the economy grow.

Certification of SMK in-service teachers is also conducted by using the four patterns of teacher certification as explained previously. For the pre-service SMK teachers on the uncommon subjects, a pattern of teacher certification through teacher profession education (PPG) which is a collaboration between LPTK and a partner education institution that has a relevant study program is just begin to make.

## Portfolio Assessment

Portfolio assessment (PF) in the teacher certification process is an approval on teacher professional experience in doing the main duties as a teacher. In teacher certification process the portfolio assessment is grouped into 10 components including (1) academic qualification, (2) education and training, (3) teaching experience, (4) learning plan and implementation, (5) the assesment from manager and supervisor, (6) academic achievement, (7) works on the profession development, (8) participation in scientific forum (9) organization experience in social and education field, and (10) relevant education awards. The ten components of portfolio are intended as the description of a track record of the teacher's experience, achievement, competence in conducting his/her duty as a learning agent at school, and are also as the basis of assessment to determine the level of teacher's professionalism.

Besides, the ten components are intended as a reflection of the four teacher competencies, that are a pedagogic competence, a personality competence, a social competence and a professional competence. Every component of portfolio assessment gives a description of the competence and quality of a certified teacher.

**A pedagogic competence** is defined as the capability to manage the student learning comprising (1) the comprehension toward the students, (2) lesson planning and implementing, (3) learning evaluation, and (4) the development of student potential. **A personality competence** refers to the personal capability, including (1) persistent, (2) stabil, (3) mature, (4) wise, (5) charismatic, (6) religious, dan (7) be a model; **A social competence** is defined as the teacher competence to communicate and interact effectively with (1) students, (2) colleagues, (3) educational administrators, (4) parents/student's representative, and (5) the surrounded community; and **A pedagogic competence** is defined as the capability in mastering the learning material broadly and deeply that enabling a teacher to assist the students in fulfilling the competence standard which have been decided in national education standards .

Mapping among the ten components and the four teacher competences is made in a table as the Table1 below

Table1. Mapping of Portfolio Components in Teacher Competence Context

No	Portfolio Components	Teacher Competence			
		Pedagogic	Personality	Social	Professional
1	Academic qualification	√			√
2	Education and training	√			√
3	Teaching experience	√	√	√	√
4	Learning plan and implementation	√			√
5	Asesment from manager and supervisor		√	√	
6	Academic Achievement	√		√	√
7	Works on the profession development	√			√
8	Participation in scientific forum	√		√	√
9	Organization experience in social and education field,		√	√	
10	Relevant education awards	√	√	√	√

Source: Book 3 In-Service Teacher Certification 2011, DGHE.

If the PF is observable deeply, there are some components which indirectly assess the teacher's main duty. The components which are assumed inappropriate to assess the teacher's main task are: academic competition and works, research article and research, and participation on scientific forum. To meet the demand of the components, some of SMK teachers get obstacles. On one side, teachers conduct the main task as their responsibility to be a teacher, while on the other side, they cannot optimally fulfill the demand of teacher certification on rewards toward works. Consequently, some teachers cannot fulfill the demand of the four components of teacher certification through portfolio assessment.

### **Teacher Profession Training and Workshop (PLPG)**

The objectives of PLPG are (1) to improve the competence and professionalism of teacher as the certification participants who have not achieved the minimal score of portfolio passing grade; (2) to determine the passing grade of the teacher certification participants through a competence test at the end of the program. The implementation of PLPG which is conducted relatively in short time, that is around ten days with the time allocation 90 hours, is dealt with the guidance book. Teachers assume that the implementation of PLPG is so tight that they feel so tired and lack of time to internalize the new lesson and knowledge given by the instructors.

Learning material given for adaptive and productive subjects to SMK teachers are considered inappropriate (< 20 hours) because it is divided into theories and practices. It needs more detail efforts so that the implementation of PLPG can provide a broad insight for SMK teachers, especially the job world and industry. If it is necessary, PLPG can invite the instructors from the industry circle to train SMK teachers so that the material given are more suitable with the need of job world and relate to the subject taught.

Nevertheless, some participants admitted that by following PLPG they get additional insight and knowledge from the lectures/instructors, especially on the Classroom Action Research, innovative learning models and the use of more various teaching media. Moreover, at the end of PLPG, the participants must be tested by an examination on theories and practices as the teacher performance test in teaching at class. The test will, clearly, give an enhancement toward the pedagogic and professional competences although it has not reached fully the two other competences, that are the social and personality competences.

The enhancement of social competence is defined as the teacher capability to communicate and interact effectively with the students through the simulation mechanism of *peer teaching*. It is not easy to develop dynamic learning process in improving learning quality in relatively short time. This also happens in the demand toward the personality competence which are obtained indirectly in formal education context.



### **Collaborative of PPG for SMK**

Collaborative SMK Teacher Profession Education (PPG) Program is a pioneer of teacher profession education program which is held in one year and the program implementation will cooperate with Teacher Education and Teaching Institute (LPTK) and Universities or Polytechnic that have human resources relevant to a certain vocational study program. This program aims to produce a teacher education model which is expected to born the excellent and competent pre-service teachers as a professional teacher in vocational subject.

The vocational subjects which are prioritized in this program are the study program which LPTK has not prepared yet and get into the uncommon category among others Agriculture, Freezing and Air Conditioning Technique, Aeronautical Engineering, Marine Engineering, Textile Engineering Graphics Engineering, Mining Geology, Tourism, Water Resource Agribusiness, Farming Agribusiness, Automotive Engineering, Information and Communication Technology, and Navigation.

In the implementation, this program needs some requirements among others are (1) recruitment of the candidates, they must come from the relevant study program, (2) LPTK as an organizer must collaborate with partner institutions, (3) LPTK with the partner institutions determine the pattern of partnership, make a collaborative curriculum and an evaluation that are able to guarantee the graduates having the competence in education and in vocational subjects. After accomplishing the study, the participants will get two certificates, an educator certificate and a vocational certificate.

### **Conclusion**

The implementation of teacher certification, either through PF, PLPG, or PPG aims to develop a qualified national education. Teacher is the frontier and keeps a central role in the process of the improvement of education quality. By determining the feasibility standard of teacher professionalism through the certification process, teachers will be motivated to improve their knowledge and develop their self capacity continuously so that they can enhance the achievement of education target which is in turn being able to improve national education quality.

Teacher certification through collaborative SMK PPG Program, is a pioneer of teacher profession education program which is specified to develop the pattern of teacher profession education in vocational subjects, especially for the uncommon subjects and have not been prepared yet by LPTK. By a collaboration between LPTK as a teacher provider and partner education institutions and polytechnics as the institutions having the relevant vocational subjects, it is expected that collaborative PPG can produce competent vocational teachers and they have excellent skills to be a teacher at vocational high schools.

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# TVET TEACHER EDUCATION IN LAO PDR

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## **Abstract**

*Currently, TVET teachers in public TVET schools have, in principle, the status of permanent employees and the decision of recruiting them is made by the central government. Meanwhile, the VEDC and the National University of Lao PDR (NUOL) have been playing a critical role in pre-service TVET teacher training. The Faculty of Engineering of the NUOL was training the theory TVET teachers at Bachelor level (20 per year), whereas, VEDC was training the practical TVET teachers and trainers at Higher Diploma and Bachelor (continuous) level (50-60 per year). This capacity was assessed as not in accordance with the ambitious target of TVET expansion set by the government. Thus, the MOES decided since 2008 to expand the TVET teachers training capacity to some selected TVET institutions, 9 in total but only 7 in operation. In total, 600 new teachers will be trained each year during the next five years and the MOES is ready to allocate appropriate resources based on a yearly plan and curricula submitted by schools that are approved by them.*

*As for the in-service training, during 2008-2010, 65 separate training or study programmes were undertaken by TVET directors, officers and teachers in a range of TVET areas, with durations ranging from one day to one year, either in Lao PDR or abroad. Currently, the VEDC and some major TVET schools conduct in-service training for TVET teachers (pedagogy and technical field). Around 150 teachers are trained annually, but nevertheless more than 1,500 teachers from the MOES have yet to undergo pre-service training.*

**Keynote:** Technical and Vocational Education Training, institutions

## **Overview**

The development of TVET teachers in the Lao PDR dates back to last century. The first TVET teacher institute was established in 1983 at the same location of today's VEDC. In 1998, the institute was replaced by setting up Vocational Education Development Center (VEDC). The center consists of five major tasks as: curriculum development, instructional media development, TVET teacher training (in-service), research and analysis and skill upgrading. Due to expanding and increasing number of TVET schools, the government decided to restart the pre-service training for teacher again in 2003 at the higher diploma level. The training lasts for two years for those who already obtain technical diplomas from TVET schools nationwide. The aim of the training was to produce practical teaching staff for public and private schools. The training programs comprised five occupational fields such as agriculture, business administration, construction, general mechanic and electric-electronic.

Currently, TVET teachers in public TVET schools have, in principle, the status of permanent employees and the decision of recruiting them is made by the central government. Meanwhile, the VEDC and the National University of Lao PDR (NUOL) have been playing a critical role in pre-service TVET teacher training. Until 2008, the Faculty of Engineering of the NUOL was training the theory TVET teachers at Bachelor level (25 per year), whereas VEDC was training the practical TVET teachers and trainers at Higher Diploma and Bachelor (continuous) level (50-60 per year). This capacity was assessed as not in accordance with the ambitious target of TVET expansion set by the government<sup>1</sup>. Thus, the MOES decided since 2008 to expand the TVET teachers training capacity to some selected TVET institutions. In total, 600 new teachers will be trained each year during the next five years and the MOES is ready to allocate appropriate resources based on a yearly plan and curricula submitted by schools that are approved by them.

As for the in-service training of TVET teachers, while considerable in-service training and continuous development of teachers and managers occurs, it appears to be implemented in a somewhat random and uncoordinated manner (ADB, 2010). During 2008-2010, 65 separate training or study programmes were undertaken by TVET directors, officers and teachers in a range of TVET areas, with durations ranging from one day to one year, either in Lao PDR or abroad. Currently, the VEDC conducts in-service training for TVET teachers (pedagogy and technical field). 150 teachers are trained annually, but nevertheless more than 1,500 teachers from the MOES have yet to undergo pre-service training. The VEDC also made proposals for increasing teachers' qualification through dedicated training during vacations but no clear evidence on the progress of such initiative has been seen. Under STVET Project<sup>2</sup>, TVET teachers need to be retrained in both technical and pedagogical aspects to serve the newly approved CBT curricula of four occupational areas, construction, cabinet maker, basic business and mechanic, which consisting of 17 Jobs. At present, three types of in-service training programs covering skills upgrading, pedagogical and management training are being prepared, some already undergone.

### **Current Policy and Practices**

Since 2005, several policy efforts, strategies and plans have been initiated, including the National Growth and Poverty Eradication Strategy in 2006, the National Socio-Economic Development Plan 2006-2010, the National Education System Reform Strategy 2006-2015, the Education for All (EFA) National Plan for Action 2003-2015 followed by the EFA Mid-Decade Assessment in 2008. These strategies and plans were integrated into the Education Sector Development Framework (ESDF) 2009-2015 and agreed to by the Government and development partners. Expanding equitable access, improving quality and relevance, and strengthening planning and management capacities are the major areas of action.

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<sup>1</sup> GIZ (2011) prognosticated in 2011 that up to 5,000 teachers and trainers had to be trained and employed from 2010 to 2020, more than tenfold higher than the current capacities.

<sup>2</sup> STVET project is ADB Grant which will last for 5 years focusing on 4 occupation areas, 8 public institutions and 3 private were involved. Competency Based Approach to training will be deployed.

More recently, the 7<sup>th</sup> National Socio Economic Development Plan (NSEDPP) 2011-2015 clearly emphasises the importance of education development and considers it a high priority. Concretely, it states the need to continue reforms in the national education system, uplift its quality, widen access to opportunities for the people and develop education to be the core pillar of the society while supporting human resources and regarding people as decisive elements in development. Some targets of the education sector related to TVET are as follows:

- Build at least 3 technical schools in districts that have rapid economic growth.
- Increase technical students to at least 50,000, of which 50 percent are women and 20 percent are from remote areas and/or poor families.

Based on the above legal frameworks and qualification system, TVET is being provided through various channels:

- Under the MOES, there are 22 TVET institutions and 8 IVET schools. In 2008-2009, 59 percent of the nearly 18,000 students enrolled in MOES public TVET institutions were in high diploma programmes. In contrast, only 40 percent of all TVET students were enrolled in diploma programmes, while less than 1 percent were enrolled in certificate programmes.<sup>3</sup>
- MOES universities also provide formal accredited TVET programmes. In 2007-2008, 2,500 high diploma students graduated in forestry, engineering and agriculture at the National University of Lao PDR in Vientiane, and 300 high diploma students in agriculture, business and engineering at the University of Champasak. As for private TVET institutions, total student enrolment in 2008-2009 was approximately 22,000 across all programmes in 86 national private schools. These schools typically delivered TVET diploma-level courses in English learning, IT, business, mechanics, food processing, automotive and electrical engineering.<sup>4</sup>
- Non-formal TVET is implemented under the management of the MOES in IVET schools (see above) but also in 3 centres in Vientiane, Luang Prabang and Champasak, as well as in 321 Community Learning Centres (CLCs) across the country. In 2008-2009, the 3 centres provided skills training courses of 5 days to 3 months for a total of 1,154 persons through short courses providing basic vocational skills in wood processing, construction, chicken, frog and fish raising, mushroom cultivation, cookery and beauty (ADB, 2010).
- The MOLSW runs 4 skills development centres offering short and long term training courses in IT, auto repair, carpentry, furniture, garment, electronics, electricity, hospitality and construction, mainly for school drop-outs and unskilled adults. In 2008-2009, a total of 2,660 enrollments were registered in short courses provided by skills development centers. Also, some centers like the Lao-Korean VT Centre are providing short-fee courses on computing.

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<sup>3</sup>Source: ADB Lao PDR Preparing the Strengthening Technical Vocational Education and Training Project Final Sector Assessment Report, 2010

<sup>4</sup> Source: ADB Lao PDR Preparing the Strengthening Technical Vocational Education and Training Project Final Sector Assessment Report, 2010

There are now two types of institutions in the formal system: TVET Institutions and Integrated Vocational Education and Training (IVET) Schools.

- TVET Institutions cover technical, vocational or technical/vocational schools or colleges where the traditional divisions between vocational and technical or between school and college have been blurred. They offer up to three-year programmes for lower secondary school graduates and a variety of programmes at post-secondary level for upper-secondary school graduates. TVET institutions are administered by several governmental bodies (Ministry of Education, Ministry of Agriculture, Ministry of Finance, Ministry of Transportation and Ministry of Culture and Health).
- IVET schools deliver formal TVET and non-formal basic vocational training to different target groups including adults. This refers to a new concept of TVET schools in rural areas developed with the support of GIZ. So far, there are 9 IVET schools under the MOES which have been supported by the German Government under the financial and technical cooperation programs.

The pre-service training of TVET teachers consists of two levels Higher Diploma and Bachelor's Degree. The former is offering in 7 institutions and the later is undergoing at three separate institutions VEDC, Polytechnic College and NUOL. Since 2008, the Department of Technical and Vocational Education (TVED) initiated a teacher training program, higher diploma level, in order to produce more TVET teacher. 9 TVET institutions were selected to join the pilot program. Due to budget constraint and the readiness of the institutions in terms of human and technical resources only 6 schools have active involved. VEDC is considered as forerunner and one of the major providers of Higher Diploma in Vocational Teaching. See table 1 and 2 below.

Table 1. TVET Teacher trained by VEDC (*continuous programs*)

Academic year	Training Fields/trades										Total
	Business		Construction		Mechanic		Electric- electronics		Agriculture		
	Total	F	Total	F	Total	F	Total	F	Total	F	
<b>2003-05</b>	15	9	10	0	4	0	7	0	10	4	46
<b>2004-06</b>	10	7	4	0	4	0	3	1	10	6	41
<b>2005-07</b>	16	13	11	0	7	0	5	0	7	2	46
<b>2006-08</b>	16	11	7	0	10	0	10	0	17	9	70
<b>2007-09</b>	10	9	11	0	12	0	7	1	6	1	47
<b>2008-10</b>	9	6	10	0	14	0	17	0	14	4	64
<b>2009-11</b>	10	5	11	0	6	1	9	1	17	5	54
<b>2010-12</b>	0	0	11	0	8	0	5	0	10	5	34
<b>2011-13</b>	0	0	12	0	12	0	7	0	11	6	42
<b>Total</b>	<b>86</b>	<b>60</b>	<b>87</b>	<b>0</b>	<b>77</b>	<b>1</b>	<b>70</b>	<b>3</b>	<b>102</b>	<b>42</b>	<b>422</b>

Source: VEDC

Table 2. TVET Teacher Trained by Other TVET Institutions

TVET Institutions	Fields	Program	Year started	Graduated	Current number
Pakpasack Technical College	1. construction 2. business 3. hostelry	HD (regular)	2010	1 6 16	0 9 19
VTE Technical College	agriculture	HD (regular)	2009	21	14 55
Champasack College)	1. construction 2. hostelry	HD (regular)	2009	10 20	3 13
LPQ TVS	1. construction 2. hostelry	HD (regular)	2009	NA 11	NA 11
LGTS)	1. automotive 2. electric	HD (regular)	2010	10 NA	10 10
VTE-HN TS	IT	HD (regular)	2010	13	20

Source: TVED

Note: Regular program lasts for 3 years (or 11+3), continuous program lasts for 2 years or (Diploma + 2)

The pre-service training of TVET teacher at Bachelor's Degree in Vocational Teaching is offering by 3 institutions as presented in table 3 below:

Table 3. TVET Teachers of Bachelor Level Trained by Approved Institutions

Institution	Field	Program	Year started	No. completed	Current number
<b>NUOL/TVET Teacher training department of FOE</b>	Electric-electronic,	BA regular	2003	20 (2007)	60
	Construction,			40 (2008)	
	Mechanic			31 (2010)	
	Business			22 (2011)	
	Agriculture				
<b>Total</b>				113	60 (12 will be graduated by 2013)
<b>VEDC</b>	• Agriculture	BA continuous	2010	10	12
	• Electric-electronic		2011		16
	• Construction		2010	9	8
	• Mechanical engineering		2011		21
	• Business		2010	10	6
<b>Total</b>				29	63 (21 will be graduated by 2013)
<b>Polytechnic College</b>	• Mining	BA continuous	2009	10	2
	• Electric			10	2
	• Land management			5	3
<b>Total</b>				25	7
<b>Grand Total</b>				<b>167</b>	<b>130</b>

Source: VEDC and TVED

Note: regular program lasts for 4 years (or 11/12+4); continuous program lasts 2 years (or High Diploma+2)

The in-service training program for TVET teachers undergoes both in country and abroad. The training has been focused on two aspects pedagogy and skill upgrading training. In-country training, VEDC is the key training organisation that undertakes the in-service training on pedagogy and skills upgrading. From 2000 to 2011 there are 2230 teachers trained by VEDC on pedagogical know-how and in the past 7 years more than 300 people on skills upgrading. In collaboration with donor agencies, TVED has sent 432 teachers to neighbouring countries, mainly Thailand, for skills upgrading in a period of 4 years.

## Challenges and Strategies

### 1) *Low Qualification of TVET Teachers*

So far, the qualification level of TVET teachers is very limited. For example, according to the Master Plan, in 2007, within the whole teaching staff involved in TVET in the MOES, 2 had a PhD, 29 a master degree, 160 a bachelor's degree while 793 possessed a higher diploma qualification or lower. Many of these teaching were found to be lacking real working experience. The 2010 ADB assessment report confirms this finding by showing that in 2009, only 20 percent of the teachers were degree holders, 42 percent high diploma holders and 37 percent had diploma or lower qualifications



(ADB 2010). Thus, at present, students enrolled in high diploma programmes aimed are being taught by teachers who have the same level of qualification.

Furthermore, teachers lack relevant pedagogical preparation. As part of the 4 years of the bachelor's degree programme, students are only required to complete 4 weeks of internship in one TVET school and 4 weeks in company. Combined with the limited relevance of the practical training available in TVET schools, this reinforces the theory-based orientation of the TVET system which undermines its labour market relevance as well limits its attractiveness to students who are not inclined towards heavily theoretical programmes.

In addition, the higher diploma holders that were trained by selected TVET institutions and VEDC are equivalent in terms of qualification but might be different in terms of skills and professional competency. VEDC is applying the continuous program which lasts for 2 years and diploma holders are accepted whereas graduates of other TVET institutions did not have any vocational training background. Moreover, teachers who are delivering pedagogy aspects at TVET schools are the former graduates of VEDC.

### *2) Limited Co-operation Between TVET Teacher Providers*

Until present there has been limited coordination between the Faculty of Engineering of NUOL and other TVET institutions. Although both institutions are in close proximity to each other in the University campus in Vientiane, their activities tend to overlap and little coordination was seen between them. The cooperation between VEDC and other TVET institutions providing teacher training programs are also very limited. In an effort to address this situation, a policy workshop was organised in September 2010 in cooperation with the MOES, NUOL and GIZ, where suggestions were made concerning a new model for TVET teacher training, including the clarification of roles and the complementarity among all institutions involved.

### *3) Low Salary of TVET Teachers*

Attracting good quality teachers is at the core of policies aimed at increasing the quality of TVET. However, there is evidence that being a TVET teacher is not an attractive profession. A tracer study done by GIZ in 2010 about the career development of graduates in TVET teaching courses suggests that only 42 percent of graduates are teaching at a vocational school (GIZ 2011). Interviewees highlighted that work conditions, wage structure and career opportunities were not attractive enough compared to the positions available on the labour market where on the average, salaries are about three times higher. However, in April 2012, the government decided to separate teacher's career from other government staff. The salary structure of teachers is also different from general staff. In addition, teachers can get additional benefit up to 25% on top of their salary if they teach at primary education. Additionally, the government has increased for all government officials by 24% that effective from October 2012. Nevertheless, the improvement of teachers' salaries remains a pressing policy issue, as well as their selection and recruitment. An option would be to conduct

pre-recruitment procedures, with the objective of training only the applicants that are truly committed to move on to the teaching profession.

#### 4) *Limited Movement of TVET teachers*

Another issue arises from the fact that upward career growth is not possible for teachers in schools where they are initially employed, and their career development is static. It is possible for TVET institutions to hire teachers for a short period, but this happens very rarely. Even in the non-formal centres almost all teachers are permanent staff, although some courses are organised for a few weeks or months a year in their teaching field. The vertical movement of TVET teachers are also very limited. Thanks to VEDC that has initiated bachelor degree for higher diploma holders. In most cases, TVET schools are permitted to offer up to higher diploma level only. If someone intends to get higher qualification must go to universities and have to attend the bridging courses before undertaking professional subjects. The continuous program at universities can last between 3 to 3.5 years meaning that the TVET pathway is very time consuming.

#### 5) Not unified teacher training system

The higher diploma in general disciplines and teacher education for general education lasts only 2 years after grade 12, whereas higher diploma in vocational training including vocational teacher training lasts at least 3 years. For the bachelor level, including teacher education, it lasts 4 years after year 12 of secondary education. However, vocational teacher education at this level undertakes between 5 to 6 years or 12+3+2 and 2+2+2 system. This makes TVET teacher training not attractive in terms time spent and benefit gained since the salary is paid according to the educational qualification. In this connection, TVET teacher training has been considered as one of the least popular jobs for school leavers or as 5<sup>th</sup> class student populations (university education 1<sup>st</sup> class, teacher education for general schooling 2<sup>nd</sup>, TVET 3<sup>rd</sup>, private education 4<sup>th</sup>). Therefore the shortages of qualified TVET teachers are not avoidable.

## **Strategies and plans of TVET Teacher Development**

### **Strategies**

Until present, TVET development is being pursued in accordance to the several strategic plans prepared by the government in cooperation with development partners, covering diverse issues of TVET policy areas. The key strategic plans of TVET which are guiding current government initiatives include the TVET Master Plan, the Education Sector Development Framework and the Education Sector Development Plan (2011-2015). Based on the TVET Strategy 2006-2020 released in June 2007, the Lao government prepared the Master Plan for the Development of TVET for 2008–2015. With assistance from the Luxembourg government, this TVET Master Plan was developed by an inter-ministerial team in order to provide clear directions and performance indicators to relevant stakeholders. Both the TVET Strategy and the Master Plan are underpinned by three key concepts which are used as guidelines for the development of the Education Sector Development Framework (ESDF):

- Equitable access
- Quality and relevance
- Management and administration

Within these key issues, seven strategic projects have been identified: (i) Construction renovation and expansion; (ii) Expand offer and approaches; (iii) Development and improvement of teachers and Staff; (iv) Quality assurance; (v) Information system; (vi) Organisational structure; (vii) Formulation of policy and tools at macro level. These projects are detailed in 31 main outcomes or indicators and 130 activities, each with its own indicators, responsible organisation, budget, and implementation plan.

Another strategic plan is the 7<sup>th</sup> 5-year Education Sector Development Plan (2011-2015) which once again emphasized the following issues:

- *Introduction of vocational stream in upper secondary schools*
- Increased access by ethnic girls and women to TVET through a voucher system and dormitory accommodation
- Increased private sector involvement in TVET strategy and delivery
- Identification of national skill standards
- Social marketing campaign to improve the poor public perception of TVET
- Strengthen the TVET policy and regulatory framework so that funding for TVET is more demand-side based
- Greater flexibility in employment arrangements for TVET teachers
- Development of information system to provide data on skill shortages and salary levels for TVET trained workers
- *Establish at least 3 vocational training centers at district levels*

Targets for TVET were set up for 2015:

- 40 percent of TVET students receive scholarships from 2010
- New curriculum programs meeting labour market demand e.g. CBT
- A focus on 4 priority areas (construction, mechanical maintenance and repair, furniture making, basic business skills)
- Minimum of 50,000 students by 2015 with 50 percent female and 20 percent from the poorest families
- Increased enrolment of students in different types of TVET schools and colleges including upper secondary vocational schools
- *300 new TVET graduate instructors and teachers per annum from 2012*
- One TVET college in each province with pathways and articulation to advanced institutions
- Introduction of a voucher system to students, targeting girls and ethnic groups from poor families and provision of dormitory accommodation

### Plan for the development of TVET teachers

In the real situation, TVET teachers in Laos are classified into two types: theory and practice instructors. Mostly, theory teachers are those who completed universities in the country or overseas without any teaching experiences. For practical instructors, on the other hand, are those have learned from TVET institutions. Among these some were selected to join the higher diploma program at VEDC. The following strategies will be deployed for future development of TVET teachers/instructors in Laos.

#### a) Pre-service Training

Higher Diploma Level: to be conducted by VEDC

- Model 1: with Certificate 4 , or 9+3 system, as minimum entry requirements

Table 4. The Structure of Higher Diploma Program

Description	Training Programs							
	1	2	OJT	3	4	OJT	5	6
Semester	1	2	OJT	3	4	OJT	5	6
Activity	Skills	Skills	OJT	Skills + Pedagogy	Skills + Pedagogy	OJT	Professional +Pedagogy + School Management	Teaching Practicum + project
Period (weeks)	20	20	12	20	20	12	20	16
Credit	20	20	4	20	20	4	20	11

- Model 2: 12+3 system as conducted by selected TVET institutions until now will be continued.
- Model 3: Diploma + 2 years will be continued by VEDC.

For the bachelor's degree level it should be undertaken by the universities with two concepts:

- 4 years program (12+4) at the Department of TVET Teacher Education, NUOL
- 2 years program (higher diploma +2) or (12+3)+2 years (might be undertaken by VEDC for some more batches).

Table 5. Structure of Bachelor's Program (continuous)

Activities	Training Phase			Training & transfer phase	
<b>Semester</b>	1	2	school vacation)	3	4
<b>Period</b>	18 weeks	18 weeks	14 weeks	18 weeks	18 weeks
<b>Topics</b>	Field related	<ul style="list-style-type: none"> <li>Field related</li> <li>Pedagogy</li> <li>Modern media</li> </ul>	OJT or Internship	<ul style="list-style-type: none"> <li>Field related</li> <li>Pedagogy</li> <li>Management</li> <li>Research</li> </ul>	<ul style="list-style-type: none"> <li>Teaching practices</li> <li>Dissertation</li> </ul>
<b>Credit</b>	20	20	4	20	8

For the master's program it is planned to collaborate with external universities under such concept as Regional Cooperation Platform (RCP) involving 5 countries China, Vietnam, Laos, Thailand, Malaysia and Indonesia.

**b) In-service Training:**

The in-service training will be followed the TVET reform closely, that is moving towards Competency Based Training (CBT). The following strategies are being deployed.

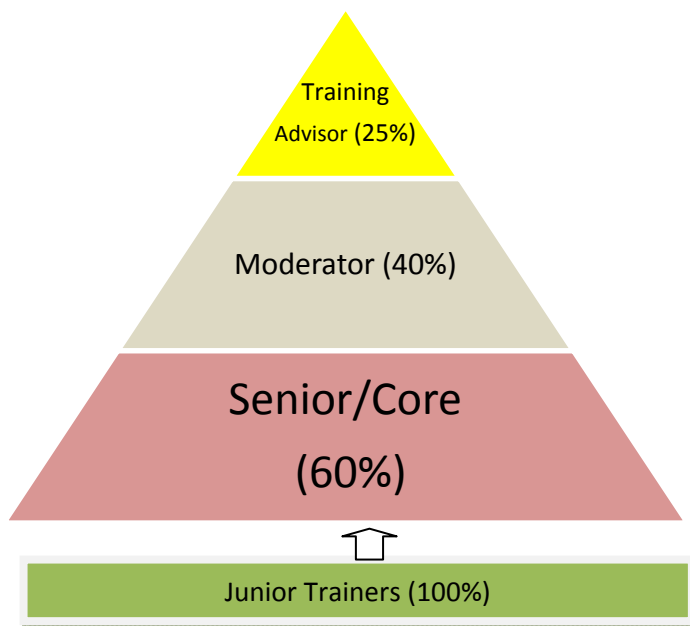
**Implement Teaching Competency Standard**

In 2011, teaching competency standard has been drafted by VEDC and approved by TVED. The standard consists of 4 levels, with totally 43 teaching competency units, level 1 is the lowest and 4 is the highest level, and will be named as junior teacher, experienced teacher, expert teacher and senior expert teacher. Table 6 below presents the structure for future TVET teachers.

Table 6. The Structure of Proposed TVET Teacher/Educator

Vocational Teacher Education Certificate	VTE-C1	VTE-C2	VTE-C3	VTE-C4
<b>No of teaching competency units</b>	10	11	11	11
<b>TVET Qualification (preferred)</b>	Diploma	Advanced Diploma	Master Craftsman (BA TVET)	Vocational Graduate Diploma (Specialist 1)
<b>Vocational Teacher Qualification Level</b>	VT QF 1	VT QF 2	VT QF 3	VT QF 4
<b>Official name</b>	Junior Teacher	Experience Teacher	Expert Teacher	Senior Expert Teacher

Parallel to this development, TVET teachers who are working for the non-project schools will be trained on the multiplier training scheme (MTS). The trained participants will certified as junior, senior/core, expert/moderator and senior/training advisor (see the pyramidal structure below).



### 1. Skills Upgrading: Contract Training Scheme

Based on competency units of Competency Based Curriculum teachers working for the project supported schools (11 in total) will be sent to companies in the country or to the neighboring countries to gain hands-on experiences under contract training scheme. The scheme has been supported by STVET project which is financed by ADB. With the support of through GIZ, TICA and some foreign companies that investing in Laos, some elected teachers working at IVET schools and other technical schools will also be upgraded.

### 2. Teaching License

It was found that teachers in most TVET schools are not subject experts (VEDC 2011). One person might have to teach 3-4 subjects without depth understanding of its content. Teachers have taught according to he or she has learnt before. Syllabi are very abstract that creates difficulty for developing a teaching plan of most teachers, especially those working in provinces. Thus teaching License is aimed to create unified teaching contents on the same subjects nationwide and to develop subject experts. Individual teachers will be trained on specific subject(s) according to the approved curriculum. The training might be undertaken 3-4 weeks and focused on theory and practice instructors/trainers. Successfully trained teacher can obtain a license that is similar to a driving license.

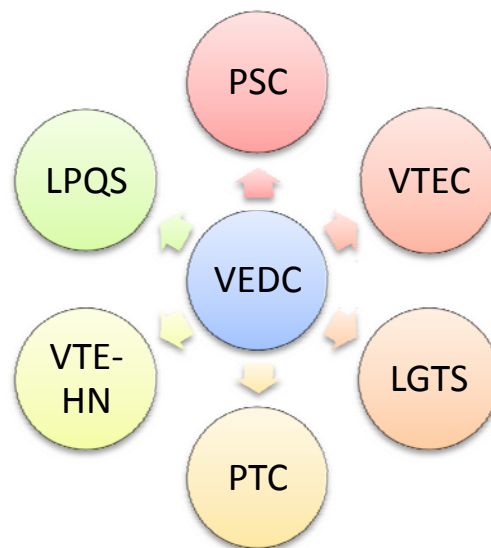
### Conclusion and Recommendation

TVET teacher training in Laos has long tradition. Both pre-and in-service training programs are available. Around 1900 TVET teachers are working at 22 TVET institutions under MOES but less than 500 people produced systematically in the country of

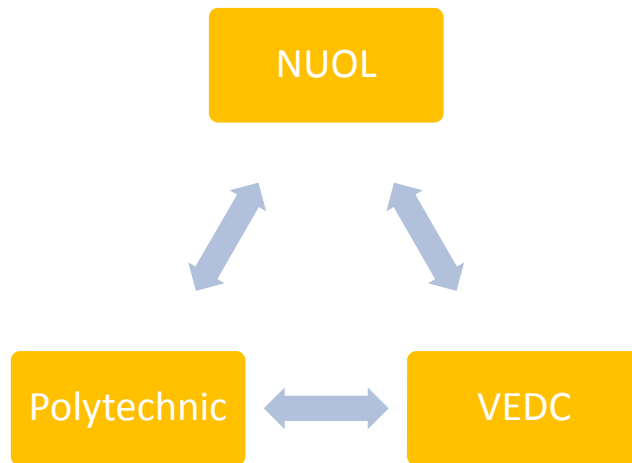
abroad. The in-service training on pedagogy and professional is highly needed in order to improve the quality of delivering. NUOL, VEDC and Polytechnic College in Vientiane are the major providers on bachelor degree level but co-ordination and co-operation between them are still lack. Similarly the co-operation between TVET institutions providing higher diploma in vocational teaching is very limited. Major challenges to TVET teachers include: low qualification, limited cooperation between providers, low salary, limited movement especially vertical, not unified training system. Policy and strategies have been described very nicely but very difficult to realise due to lack of budget from the government and limited support from donor agencies.

### Recommendations

1. There are 8 teacher training colleges nationwide that produce teacher for general education subsector. It is time now to establish TVET teacher training institute for Laos in order to produce qualified teacher for TVET sub-sector.
2. The Higher Diploma should be the (9+3)+3 or certificate 4 plus 3 years and follow the model 1 structure mentioned above.
3. VEDC should serve as a hub in providing TVET teacher training programs in order to have a unify system and qualification especially on teaching related subjects. See diagram below.



4. For the bachelor's degree level the University Of Laos (NOUL) should works closely with other two institutions in terms of sharing resources. NUOL should focus on academic stream whereas other two should concentrate on real work.



5. It is recommended that a number of studies need to be conducted. The following themes might be considered as:
- Demand and Supply of TVET teacher to meet the vocationalisation's policy of the government
  - Training Need of TVET teachers to cope with TVET Reform,
  - Application of CBT issues and Challenges for TVET teachers

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## Technical and Vocational Education (TVET) Teachers in Malaysia

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### Abstract

*The paper explains about the structure and function of the training needs for Technical and Vocational Education and Training (TVET) teachers in Malaysia. TVET programmes in Malaysia prepare youths for employment in various industrial trades. They mostly run by government agencies. Several private initiatives complement the government's efforts in producing the skilled workers needed by industry. The main government agencies involved in TVET teachers training are Ministry of Education (MoE), Ministry of Higher Education (MoHE), The Ministry of Human Resources (MoHR), Ministry of Youth and Sports (MYS) and Majlis Amanah Rakyat (MARA). Qualification and quality of the TVE training have become issues in teachers training. By the year 2020 all teachers must possess a first degree before they can join the teaching profession to ensure all teachers passing their 'quality criteria' before leaving the training institute. Malaysia should have the new National TVET-Teacher Qualification Standards and training in conjunction to the transformation of vocational education system. Skills accreditation programs for TVET teachers (initially as part of training) need to be strengthened for the new models of TVET teachers to fulfill high standards of teacher's quality and market needs.*

### Introduction

Technical and vocational education and training (TVET) is a branch of education that has been introduced into the mainstream education system and transformed recently as part of the government initiatives to promote access, equity, quality of education which is ultimately aimed at providing the necessary local workforce who possess the necessary skills and competences for achieving the high income nation status by 2020 (Mohd Zain, 2008). The term TVET as used in Malaysia is synonymous with the term technical and vocational education as often used by the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

### TVET TEACHERS TRAINING BACKGROUND

Technical Teachers Training College (TTTC) was first established on 17 May 1962, after the arrival of a group of technical and vocational teachers from Canada, led by Mr. B.F. Addy. TTTC first building located at Jalan Damansara, Kuala Lumpur. The building is the former Malay College Girl (Malay Girl's College) which had moved to Seremban. Then, at the end of 1967 when the service personnel from Canada ends, all the responsibility for managing the college was taken over by the local officials. The role of this college has become increasingly important with the implementation of the Comprehensive Education System in 1965 that introduced four new subjects at lower secondary school level, the Industrial Arts, Agricultural Science, Commerce and Economic Science.

The role of TTTC conducted the trade courses began in early 1970, when the department at Teachers College Carpentry in Kuantan moved. In 1972 Trade Studies courses were initiated when the Department of Trade Specialist Teachers Training College (STTC) transferred to the Technical College in order to combine the technical and vocational fields. TTTC also runs teacher training courses in the three components of Life Skills: Home Economics, Advance and Agricultural Living Skills since 1989 until the courses are transferred to Batu Pahat Teachers College in 1992. TTTC has been appointed by Ministry of Education as crucial training institute to the development of TVET teachers' provider in Malaysia. In early 2011 the new TVET systems introduced by Ministry of Education. The change to modernize and introduce transforming TVET system in Malaysia has been decided to improve and rebrand the TVET system. The existing TVET teachers training system has been revised to be seen as value added to suit with the new TVET system.

### **TVE TEACHER TRAINING PROVIDERS**

Technical and Vocational Education teacher provider in Malaysia is conducted by many different ministries, agencies and organizations, both public and private. The various TVET teacher training providers often operate as required by the Ministry of Education and Ministry of Human Resource. There are numerous TVET teachers providers in Malaysia. The Government is the main provider, having several ministries and agencies involved. These are:

**Ministry of Higher Education (MoHE)** – TVE teachers is offered by several public and private universities. Most of the universities provide Education Diplomas, Post Graduate Teaching Certificate, Bachelor Degree, Masters and Doctor of Philosophy. The public Universities include;

- Universiti Putra Malaysia (UPM).
- University of Technology Malaysia (UTM).
- Education University of Sultan Idris (UPSI).
- University Tun Hussein Onn Malaysia (UTHM).

**Ministry of Education (MoE)** - TVE teachers training was trained by Teachers' Institute of Education (IPG). There were three IPG involved in TVE development. The institute provides TVE Teaching Certificate, Education Diploma and certification for in-service courses. Currently IPG has limited program at degree level in Technology Design for primary school. The three IPG are IPG Technical (Trade), IPTI (Living skills) and IP Tuanku Bainun (Living skills).

**Ministry of Human Resource** - Centre for Instructor and Advanced Skill Training (CIAST) is located in Shah Alam, Selangor. CIAST is one of the key players in TVET teacher development. However, CIAST were focusing on developing skills trainer which do responsible to supply TVET instructor to their TVET institutes such as Institute of Industrial Training (ITI), Advance Technology of Education Centre (ADTEC) and private training centre recognized by Department of Skills Development (DSD).

**Ministry of Rural and Regional Development (MARA)**, is an agency of the Ministry of Rural and Regional Development. MARA responsible to support, promote, stimulate, facilitate and undertake economic and social development in the federal and particularly in rural areas. The developments of TVET were in their mission. With the current technology and the need for skilled and semi-skilled workers, the various areas and programs are offered to ensure Mara skills training capable to fill in and contribute manpower requirements needed by industry and country. As part of their responsible, TVE teachers' development were included in the TVET implementation strategies.

**Ministry of Youth and Sports** - under which the National Youth Skills Institute is placed.

**State Economic Development Corporation** – training centers under the state government support TVET providers to help implement the training centers provided by the state government.

**Private Training Institution** – There are few private institution involved in operating TVE teacher training. Among institution involved are private training institution (SMI's) which appointed by DSD from Ministry of Human Resource. E.g. Pritec Academy, Help Institute, SEGI College International

### **POLICY OF TVE TEACHERS TRAINING**

The various TVET teacher providers often operate as planned from the different perspectives and do not taking into account program offerings in the broader context, resulting in overlapping courses and institutions as well as creating confusion for teachers and employers. This situation has implications for the standardization of training and qualification, cost-effectiveness, quality assurance, recognition of prior learning, and the further education of TVET graduates. The current governance structure still lacks effective coordination, sharing of resources, and articulation within the overall system. There is also no single oversight body to provide overview of TVET landscape. The diverse TVET management structures and the sharing of training responsibilities by various government bodies and ministries account for some of the inefficiencies in the system like duplication and segmentation of training, and the absence of a common platform for developing coherent policies and joint initiatives.

TVE teacher Education programmes offered by public universities have been accredited by the Malaysian Qualification Agency (MQA) e.g. Bachelor Degree Vocational Education (Electrical & Electronic) with Honour offered by UTHM. These programmes can be considered for recognition by the government for the purpose of employment in the public sector. However, there were still some programmes provided by others institution did not recognize by MQA but has been accredited by other professional bodies.

The teachers' competences have been identified by the MOE as one of the most important enablers in the process of vocational education and training transformation. TVE teacher with current and future should be trained and educated with knowledge and skills related with industries need. The MOE has liberalized its policy by having 'open' policy recruitment in which only the best and skillful teachers will be recruited as the vocational teachers. These teachers may be product from any training institutes, universities and other training providers. The traditional teacher training provided by the universities of the Ministry of Higher Education (MoHE) has now been gradually undertaken by Teacher Training Colleges under the Ministry of Education. However, most of the initiatives of teacher training at the bachelor levels run in collaboration with institutions that are allowable to award bachelor degrees, Wahid *et.al* (2012).

### **Policies Supporting TVET Teachers**

TVET continues to be considered as critical for supporting the country's economic development in the 10<sup>th</sup> Malaysia Plan (10MP), 2011-2015. Four policy guidelines have been put forward to mainstream and elevate access to quality TVET in Malaysia: (a) Improving the perception of TVET and attracting more trainees, through more intensive national media campaign; (b) Upgrading and harmonising TVET curriculum quality in line with industry requirements, by initiatives which include standardising TVET curriculum, recognising the national skills qualification, and establishing a new Malaysian Board of technologists; (c) Developing highly effective instructors, including to establish a new Centre for Instructor and Advanced Skills Training; and (d) Streamlining the delivery of TVET, including to review the current funding approach of TVET and to undertake performance ratings of TVET institutions (Wahid *et.al*, 2012).

### **Policy on Human Resource Development Fund (HRDF)**

Government introduces the Human Resource Development Fund (HRDF), which is a training levy-reimbursement scheme that aims to provide accelerated industrial training and offer enormous opportunities and avenues for companies, industry associations and public/private industrial training institutions to contribute to more responsive and relevant for skills development. This includes any training by private institution to provide TVE teachers training and education.

### **TVE TEACHER QUALIFICATION STANDARD VERSUS TVET DEMAND**

Implementation of TVET teacher training in Malaysia is to fulfill the market need among TVET institutions in Malaysia. TVET institutions requiring skills and qualify trainers for Technical & Vocational Training Institute (TVET) & Public Skills Training Institute (ILKA). Different TVET institution involves with the different qualification of TVE teacher to various TVET agencies:

Table 1. TVET Provider in Various Levels Versus Students' Enrolment Demand

Ministry	Name of TVET Institution/Agencies/Centre	Students Enroll	TVE Teachers Basic Qualification needs	
MINISTRY OF HIGHER EDUCATION • <b>Polytechnic</b>	1. 30 polytechnic including Conventional, Premier Polytechnic and Metro Polytechnic	88,000	<ul style="list-style-type: none"> <li>• Degree in Engineering and related courses.</li> <li>• Masters in Technical Education or Engineering.</li> </ul>	
	• <b>Community College</b>	2. 32 Community Colleges	17,000	<ul style="list-style-type: none"> <li>• Skills Certificate</li> <li>• Degree in Technology</li> <li>• Degree in Engineering</li> <li>•</li> </ul>
	• <b>Public and Private University</b>	3. 4 Malaysian Technical Universities		<ul style="list-style-type: none"> <li>• Degree in Engineering Technology</li> <li>• Degree in Engineering</li> <li>• Masters</li> <li>• PhD</li> </ul>
MINISTRY OF EDUCATION	1. 90 Vocational College (KV's)	25,000	<ul style="list-style-type: none"> <li>• Degree in Vocational Education + Skill Certificate level 3 or above</li> </ul>	
	2. 9 Technical College			
	3. Lower and Higher Secondary School (MPV/PAV)	<ul style="list-style-type: none"> <li>• Degree in Vocational Education.</li> <li>• Skill Certificate level 2 or above</li> </ul>		
MINISTRY OF YOUTH AND SPORTS (KBS)	1. National Youth Skills Institute (the institute)	8,200	<ul style="list-style-type: none"> <li>• Degree in Engineering with related courses.</li> <li>• Skill Certificate level 3 or above</li> </ul>	
	2. Higher National Youth Skills Institute (IKTBN)			
MINISTRY OF HUMAN RESOURCE • <b>Department Of Manpower Training Institutions (ILJTM)</b>	1. Advance Technology Training Centre (ADTEC)	3,200	<ul style="list-style-type: none"> <li>• Degree in Engineering and related courses.</li> <li>• Skill Certificate level 3 or above</li> </ul>	
	2. Technical Institute of Japan - Malaysia (JMTI)	10,800		
	3. Industrial Training Institute (ITI)			
MINISTRY OF HUMAN RESOURCE • <b>Department of Skills Development</b>	1. Centre for Instructor in Advance Skills Training. (CIAST),		Degree in Engineering + Skills Certificate	
THE PEOPLE'S TRUST (MARA)	1. University Kuala Lumpur (UniKL),	2,000	<ul style="list-style-type: none"> <li>• Degree in Engineering and related courses.</li> <li>• Skill Certificate level 3 or above (Not Compulsory)</li> </ul>	
	2. British Malaysian Institute,			
	3. German Malaysian Institute,			
	4. Mara Skills Institute (IKM),	10,000	<ul style="list-style-type: none"> <li>• Degree in Engineering and related courses.</li> <li>• Skill Certificate level 3 or above (Not Compulsory)</li> </ul>	
	5. High Skills College MARA (KKTm)	19,000		
MINISTRY OF AGRICULTURE & AGRO-BASED INDUSTRY	1. National Agriculture Training Council (NATC)	n/a	<ul style="list-style-type: none"> <li>• Degree in Engineering and related courses.</li> </ul>	
MINISTRY OF DEFENCE	1. PERHEBAT	802	<ul style="list-style-type: none"> <li>• Diploma or Degree in various area with Skill Certificate level 3 or above</li> </ul>	
STATE INSTITUTE	1. Institution under state government	20,000	<ul style="list-style-type: none"> <li>• Various qualification</li> </ul>	

## CHALLENGES AND INNOVATIONS IN TVE TEACHERS

Despite many TVET Teacher providers in the country, TVE teachers' training has issues and challenges. Training providers under different ministry and department were developing their own model and set of TVE teachers. These include, entry qualification, curriculum standard, niche area and accreditation standard.

1. **Various TVET providers** with the different Standard of training – With three streamline in TVET articulation. Skills sector under MOHR, Vocational and Technical Education under MOHE and Higher Education under MOHE.
2. **New challenge in Teaching and Learning** – Changing of technology in education give an impact to the teaching and learning approaches.
3. **Qualification standard** – different TVET players needs different level of qualification and standard of TVE teacher training. Capability and quality of TVE teacher were variety and difficult to fulfill different TVET players at all level.
4. **Mismatch within Education System** – The new transformation of TVET changes the new training system for TVE teachers' provider.
5. Lack of skills and knowledge – training needs.
6. **Demand-Supply Mismatch** - there are many reports of a demand-supply mismatch, which is part of contributing to infill TVE teacher employment vacancies in TVET players.

## STRATEGIES TO IMPROVE TVE TEACHERS

1. **The standard of TVE teacher** training should be coordinated by authorized body to ensure the quality of training and outcomes fulfill the needs of global industries. Malaysian Quality Agency is one of the accreditation bodies responsible to recognize academic programmes. This is to ensure standard training and education to all TVE teachers provider.
2. **Strengthen working relationship** with other TVET providers and private educational institutions in Malaysia and internationally;
3. Efforts are being made to introduce a method of student recruitment through the **Accreditation Prior Experience Learning** (APEL) in TVET in line with My3L program (MoHE) where experienced and professional people join the teaching profession. This recruitment method could indirectly enhance the teaching profession in TVET.
4. **Cross collaborate with other ministries** and department. E.g. Collaboration with Ministry of Higher Education and Ministry of Human Resource which allow both ministries to change training content and cross articulation.

## CONCLUSION AND RECOMMENDATION

1. The introduction of new models in the implementation of education TVET as new programs for high impact market value. These include introducing the New Bachelor of Vocational Education (Majoring in Trade) Figure 2 analyzed as conceptual framework has been used to meet the needs of both skills and knowledge. Curriculum development approach comprised of the latest models of training that be able to fulfill local and international markets. UTHM proactive for their innovation and common ground for these models that involve of the 'practical-oriented' approach, whereby teachers trainee undergo intensive practical sessions. Hence, the main feature of this new 'breed' of education model that prepares teachers for applications-related schooling and industry for professions which require the application of academic knowledge and methods.

Figure 1. Curriculum content include Skills and Knowledge proposed by UTHM for TVE teachers training



2. Encouraging TVET provider **to join professional Education bodies** to ensure international recognition can be embedded in certification.
3. TVET providers were adviced to **join international TVET members** e.g. Regional Co-operation Platform (RCP), UNESCO-UNEVOC and Colombo Plan Staff College (CPSC).

4. Establish **joint programmes** between other ministries or countries. Introduce and strengthen 'double degree' or 'joint degree' and 'double major' is a popular program that has been established by developed countries in the world. "Higher Education with Vocational Training" as part of strategy to enhance the promotion of "double degrees".
5. **Propose accreditation body** to provide professional teaching licensing as given to Engineering graduate who complete their professional body requirement (e.g. BEM).
6. TVE teachers training focuses on extremely academic or skills bias, for those who do not do well 'academically' will do skills training and yet pointed to be TVET instructor. This view persists due to two different streamline. UNESCO-UNEVOC contemplates on changing the name TVET to something nearer to '**Skill & Knowledge Development for Employability**'. Apply **National Dual Training System** (NDTS), as part of TVE teachers training. Approximately 70-80% of the training is done in the industry, while the remaining 20-30% is carried out in training institutions, utilizing curriculum developed by the National Occupational Core Curriculum (NOCC).

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### Acronym

UPM	Universiti Putra Malaysia
UTM	University of Technology Malaysia
UPSI	Education University of Sultan Idris
UTHM	University Tun Hussein Onn Malaysia
BPTV	Technical and Vocational Education Division
DKM	Malaysian Skills Diploma
ETP	Economic Transformation Plan
GTP	Government Transformation Plan
JPT	Department of Technical Education
KV	Vocational College
MOE	Ministry of Education
MOHE	Ministry of Higher Education
MOHR	Ministry of Human Resource
MPV	Vocational Subject
PAV	Fundamental in Vocational Education Stream
SMT	Technical School
SMV	Vocational School
SKM	Malaysia Skills Certificate
STTC	Specialist Teachers Training College
TTTC	Technical Teachers Training College
DSD	Department of Skills Development

# TVET TEACHER EDUCATION IN MYANMAR

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## **Abstract**

*The Republic of the Union of Myanmar is making all efforts to enable the nation to keep abreast with the global nation. The development of today's Technical and Vocational Training System in Myanmar reflects the development of Myanmar Society and Economic Growth, so TVET is the major role to implement human resource development programs for science and technology. Thirty-two Technological Universities, three Government Technological Colleges, eleven Government Technical Institutes and thirty-six Government Technical High School are conducted in Myanmar for the students to study and continue to the higher education in many skilled-based programs which are highly relevant for national development. The key to excellence in TVET is qualified teachers, so two TVET teacher training centers have been established to train and produce competent technical teachers who become knowledgeable and skillful in their respective technical and engineering fields. This paper will discuss how TVET teacher training programs are conducted in Myanmar. Teachers for Technological Universities are trained for under graduate and post graduate degree in engineering from first year to final year. On the other hand, practical skill based short-term training courses are conducted every year for teachers in Government Technological University, Government Technical Institute and Government Technical High School. The main theme of TVET teacher training programs is, to build up the quality for teaching and also for technical skill for TVET education.*

## **Introduction**

Myanmar is the largest country in mainland Southeast Asia with an estimated population of 60 million people. It is a home to a diverse group of ethnic nationalities, comprising up to 135 groups, living on a strategic geographic location bordering with the world's two most dynamic and largest economies – China and India, offering an important trading and business hub for foreign partners with impeccable access to large markets. Her geography covers a vast and highly fertile central plain, beautiful snow-tipped mountain ranges and untapped white sand beaches, extensive coastline with sea access to Indian Ocean, and throughout the country, she is richly endowed with forests, natural gas and hydropower resources, and precious stones, gold and minerals. Myanmar also has favorable land to man ratio and low population density most promising for significant agricultural potential; for instance, its staple rice sector is now poised to return to its historic ranking in the world as “the rice bowl of Asia”.

For more than two decades, Myanmar has been taking several steps in undertaking comprehensive initiatives towards economic and social reforms. Right after

her abrupt transition from planned socialist economy in 1988, various efforts at economic and political opening boosted foreign investment and private sector involvement in the country. These reforms broadly transformed the socialist economy into a market economy; however, the legacy of isolation and conflict undercut the progress towards realizing the country's fullest potentials.

Given this background, the new Government of Myanmar (GOM), has undertaken far-reaching moves towards national reconciliation with both political parties and nationality groups. On May 11, 2012, the President declared that the GOM has achieved substantial gains in the "first stage of reforms", mainly targeted at political and governance changes to achieve peace and national unity, so that it will then emphasize on "second stage of reforms" which will be targeting at immediate improvement of economic and social well-being of the citizens. He then called for development of policies and reform strategies that can achieve people-centered development, civic participation and human resource development, effective and transparent use of public financial resources, sustainable regional development, decentralization and local governance and poverty reduction.

Education is a top government priority in view both of the current relatively low levels of provision of education and the importance of investments in education for inclusive growth. To address these issues the government has already increased public expenditures on education significantly and will increase expenditures further in the coming years both absolutely and as a proportion of the total government budget.

It is also critical to put in place as soon as possible an overarching education sector reform policy and strategy that focuses on expanding the quantity and quality of education and that recognizes the complementary roles of government and non-government sectors in service provision. This reform policy and strategy will focus on the need to expand the system of technical and vocational education, curriculum, teacher training and other reforms necessary to enhance the quality of TVET.

With the significant decline in Myanmar's population growth rate over the past decade from 2.2% to 1.1% per year, the country is now enjoying a relatively young population with a higher percentage of working-age groups relative to non-working, dependent groups. There is a good opportunity to put his young population to work in building a stronger economy, reducing poverty and narrowing gaps of inequality. But the country's youthful population is currently facing tremendous challenges of unemployment, low levels of education.

Technical Vocational Education plays a vital role in human resources development of the country by creating skilled manpower, enhancing industrial productivity and improving the quality of life. Technical Vocational Education is a planned program of courses and learning experiences that begins with exploration of career options. That education system supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education. So Technical Vocational Education has been an integral part of national development strategies in many societies.

The Republic of the Union of Myanmar is making all efforts to enable the nation to keep abreast with the global nation. The development of today's Technical and Vocational Training System in Myanmar reflects the development of Myanmar Society and Economic Growth, so TVET is the major role to implement human resources development programs for science and technology.

At present, planning and management of Technical and Vocational Education and Training (TVET) in Myanmar is being executed by the Ministry of Science and Technology. The Ministry of Science and Technology consists of nine main Departments. Among them, Department of Technical and Vocational Education is implementing the TVET system.

### **Overview of TVET teacher education in Myanmar**

The Department of Technical and Vocational Education is responsible for the technical education and training of the country's youth to become engineers, technicians, skilled workers. DTVE function within the policy framework laid down by the Ministry of Science and Technology.

The principal objectives of DTVE are:

To train qualified technicians and skilled workers

To formulate the program of strong linkages between academic and industries

To set the priorities for occupational skills this will be met with industrial needs

To organize training programs in vocational trades for the students who dropped out at various levels of the formal education system

To train and nurture skilled technicians who are imbued with a sense of conscientiousness and convictions to cherish the state

The curriculum development, examination program and academic plan are carried out by the technical promotion committee. Its members include professors and senior official from the relevant departments and Technological universities.

The main functions of DTVE are:

- Implementing tasks according to the policies and guidelines lay down by theministry of science and technology
- Planning for the attainment of highly qualified and proficient teaching staff
- Enhancing effective teaching methods using modern teaching aids and equipment

There are Twenty eight Technological Universities, three Government Technological Colleges, eleven Government Technical Institutes and thirty-six Government Technical High School under the Ministry of Science and Technology. These universities, colleges, institutes and schools are conducted for the students to study and continue to the higher education in many skilled-based programs.

The students who achieves good score, the total marks of 360 and above in the matriculation examination can apply for the A.G.T.I (Association of Government Technical Institutes) diploma Technical training courses. Courses offered in A.G.T.I are

Civil, Electronics, Electrical, Mechanical, Mechatronics, Information Technology, Architecture, Textile, Mining, Petroleum, Chemical, Metallurgy and Biotechnology.

Qualified students in A.G.T.I diploma level can join the graduate courses conducted by Technological Universities and Colleges. Realizing the education and training are lifelong processes, the Department of Technical and Vocational Education with the approval of the Ministry of Science and Technology has already implemented several continuing education programs. Thus, it is envisaged that Technical and Vocational Education and Training will continue to be given a high priority in Myanmar for sustainable Human Resources Development.

The Universities, Colleges and Institutes established for technical education are providing increased capacity of accepting more students and trainees. Number of students attending at these Universities, Colleges and Institutes are 85934 in last academic year 2012-2013.

The Department of Technical and Vocational Education has been making great effort to raise the education standard of the nation and to provide qualified graduates in TVET by nurturing qualified and competent teachers; making the technical education level of students in urban and rural areas equivalent by sending qualified and competent teaching staff to universities and colleges throughout the country; purchasing laboratory equipment, teaching aids, and other research facilities; and carrying out research and development projects.

Altogether 149,651 persons have already been trained and offered degrees and certificates by the Universities, Colleges and Institutes under the Ministry of Science and Technology during the period from 1997 to 2012.

Before 1996, Department of Technical and Vocational Education was formed under the Ministry of Education. At that time DTVE conducted (11) Government Technical Institutes, (17) Government Technical High Schools and Handicraft Schools, Machinery School, Commercial School, Domestic Science School, Veterinary School, Agricultural School, Agriculture Institute, Border Area Development School were operated for Technical and Vocational Education in Myanmar. At that time, the teaching staff from the Technical and Vocational Education Schools were trained Technical Teachers Training Program in New Zealand and Canada. Moreover, the teachers were nurtured according to the subjects to be able to train at the Technical Teachers Training Institute.

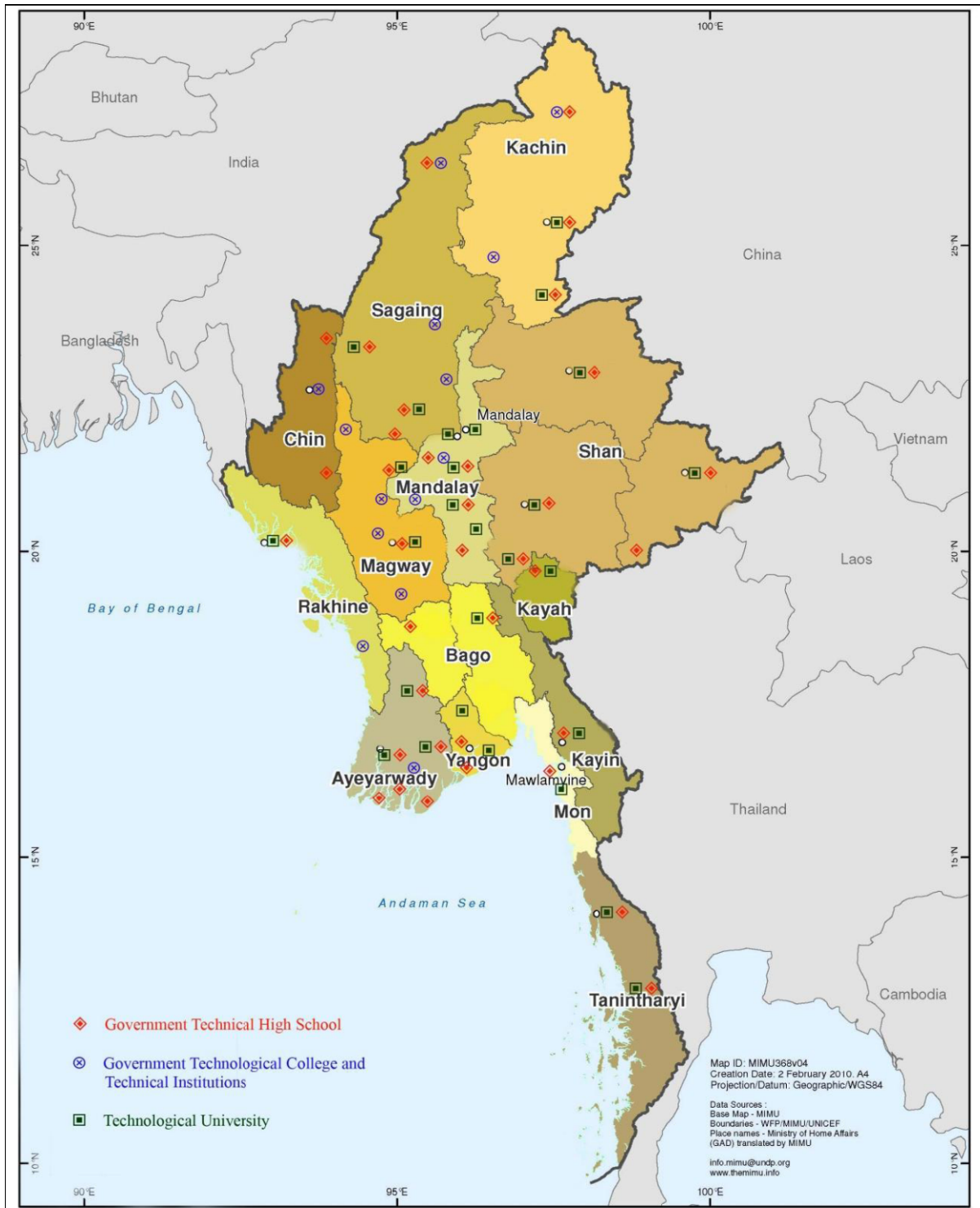
In 1988, national political system was changed and became under Military regime. Due to the complicated political situation, all support from international was stopped and it was seriously affected for the Training provided by the foreign countries. Technical Teachers Training Institute also couldn't function properly. Another worst things, is properly well trained competent Teachers were going retired between 1988 and 2012, there were generation gap between teachers for (22) years, as two decades.

In the time of 1996, all the Technical and Vocational Education Schools were transferred under the supervision of Ministry of Science and Technology.

Between 1988 and 2010, due to political situation of our nation, Myanmar was sanctioned economically by the International Countries. Not only Myanmar didn't get any assistance from foreign countries but also banned for economics relation with other countries. National economy was fallen down and the competent and skillful teachers also lost due to changing their profession, migrated to other firm and industry due to having better salary.

Therefore, it becomes shortage of skilled and competent teachers for DTVE. For recruitment of new teacher, the Ministry of Science and Technology organized the outstanding youth students who passed the matriculation examination and contracted for serving as teachers in technical institutes. They have a chance to attending universities from first year to holding degree with the government support. Among them, some outstanding students were taught to get Master Degree, Ph. D Degree in local and a few brilliant students were sent to foreign countries for their Master Degree and Ph. D Degree also.

The following map describes the location of TUs, GTCs, GTIs, GTHSs from the Department of Technical and Vocational Education under the Ministry of Science and Technology throughout the nation.



At present, the total number of the teachers who served at the TUs, GTCs, GTIs, GTHs from the Department of Technical and Vocational Education under the Ministry of Science and Technology are as follows.

PhD Degree Holders	374 persons
Master Degree Holders	1537 persons
Bachelor Degree Holders	1741 persons
Diploma Holders	250 persons
Total No of Teacher	<b>3902 persons</b>

Teachers need motivation to be devoted teacher; in fact they get low salary compared to staff from private sector. Some teachers are planning to change other job after the completion of their bonded contract with government. The teachers who serve currently at the TUs, GTCs, GTIs, GTHs have moderate ability in teaching theory but a little experiences in teaching practical works.

They have less industrial experience. They got a chance only just visit to Industry and workshop but they have lack of Industry based skilled. Besides, At the time of 1988 to 2010, all Industry and workshop were owned by the government and there were a few private-owned firms and Industries. There was less relationship between Industry and Institution.

## **2. Current Policy and Practices**

After the new government had taken the charge in 2011, the changes are being implemented dramatically in both political and economic system. Private-owned industries are encouraged and some are successfully growth up. The objectives of the Technical and Vocational Education were also changed. Previously, there was less involvement in relationship between workplace and education but now the main task is changed as "Education for Work".

At the time being, the government is encouraging and implementing in growth of private industrial sector, the men power demand is significantly higher and higher. Members of Parliament are also encouraging to upgrade for industry in their respective region. For these reasons, teaching practices and the teaching methods as well as the quality of the teaching staff are necessary to be reconsidered.

The following points become important to upgrade for quality of teachers.

- (a) The teacher must have sufficient and appropriate qualification for both knowledge and hands on skill.
- (b) The teacher must have industrial experience to train their students which meets the Industrial needs.
- (c) The teacher must have skill in using the modernized teaching aids.
- (d) The teacher must have ability to develop and innovate effective teaching method.
- (e) The teacher must have ability to create linkage between institution and Industry to get correct work placement according to industrial needs.

### **Some undergoing current Practices**

- (a) Since 2010, short-term skilled training courses are provided for the teaching staff regionally.



(b) Two months Special training Courses for technical teachers are conducted every year in Yangon Technological University and Mandalay Technological University.

(c) Government has provided Internet connection for every TUs, GTCs, GTIs, GTHSs. E-learning System is being established to make accessible to use in teacher's education and training.

(d) Further trainings are implemented with International organizations for Technical Teachers Training. For this moment, there are technical teacher's programming with Government of Indonesia, GIZ German organization, and Ministry of Science and Technology sent Myanmar Teachers to Indonesia for training. Indonesian Teachers have been planned to visit Myanmar and conduct Technical Training to Myanmar Teacher as trilateral cooperation.

(e) Comprehensive Education Sector Review (CESR) is implemented with Myanmar funded by AUS AID, United Nations Organizations and other International Non-government Organization.

(f) Curriculum for technical education has been established in line with National Skill Standard (NSSA) National Skill Standard Authority which is established with Myanmar, DTVE is actively involved in NSSA.

(g) DTVE is the member of ASEAN Qualification Framework AQF and National Qualification Framework NQF. Quality of teacher has to be redefined to meet requirement of NQF and AQF.

### **Challenges and Strategies**

- (a) Mainly in insufficient budget. Although Government allows more budgets year by year, it has not met yet with actual requirement. For conducting training courses for teacher education, we can't run effectively due to budget constraints.
- (b) According to present teacher-student ratio, there were insufficient teachers for class room. So it faces with difficulties to make long term teacher's education programs.
- (c) The teachers need to improve their ability in teaching not only in theoretical and practical works skill but also in teaching method.
- (d) To train teacher for using modern Teaching aids, another problem exist as teaching aids currently in use are out-of-date equipment.
- (e) Myanmar is left behind in Technology for two decades, and must try hard to keep abreast with regional and International countries.
- (f) Due to rapid expansion of 28 TUs, 4 Colleges, 11 Technical Institutes and 36 Technical High schools, we need more pre service training for new recruited teachers.
- (g) Due to lack of qualified educationist, we cannot conduct In Service Training for Technical Education pedagogy.

### **Strategies**

- (a) Finding means and ways to get more Budget permission from our Parliament,
- (b) Collaborating with International organizations to get necessary assistance and aids

- (c) Planning for recruitments for new teachers in region. It needs to improve the teachers' quality as well as quantity
- (d) Planning to upgrade Teachers Training Centers to be Technical Teachers Training Institutes.
- (e) Inviting Experts from Industry and private workshops to the Universities to provide skill training and sending the teachers from the institutes to Industry for having practical work place exposure.
- (f) Conducting practical skill training for technical teachers in six Industrial training centers, collaboration with Ministry of Industry and also with Ministry of Labor.
- (g) Reviewing curriculums for teacher's education and reforming based on learning for work principle.
- (h) Changing curriculums for TVET teachers training more time for practical skill training.
- (i) Drafting and proposing for TVET legal framework and policy, rules and regulations.
- (j) Developing quality assurance framework for both teachers and learners.

### **Conclusion and Recommendations**

Being left behind in Technical and Vocational Education sector for nearly two decades, Myanmar is trying the best with some difficulties and challenges to overcome this large gap. Department of Technical and Vocational Education are willing and happy to have any assistance, any suggestion, any comment, any technical assistance, any training for trainers, providing any technical education training for teachers in Myanmar, regarding the current teacher's education processes.

## **TVET TEACHER EDUCATION AND TRAINING IN NEPAL**

***Ram Babu Adhikary***

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### **Abstract**

*The system of training for Secondary teachers was initiated in Nepal in 1957 when the training system for the school teachers was started in 1957 in Nepal. At that time the government of USA supported to establish College of Education with functional and technical assistance. Under Tribhuvan University, the College of Education offered a two year I.Ed. program for the 10-year high school graduates to train lower secondary teachers. The College also offered a one-year B.Ed. course for those who holds Bachelor's degree in other subjects other than education. Likewise, the Ministry of Education started in-service teachers training program after few years under Science Education Project. After establishing the Council for Technical Education and Vocational Training (CTEVT) in 1989, the government realized a separate technical teachers training program working in different CTEVT schools. In 1991, Training Institute for Technical Instruction (TITI) was established as a TVET teacher training institute.*

*The TVET teacher education and training program is not satisfactory until now. There is no mandatory for pre-service training or in-service training in TVET instructors. TVET teachers licensing system is not implemented. CTEVT should have long term Human Resource Development (HRD) policy. There should be regional and international development cooperation in the field of TVET teacher education and training in Nepal.*

### **Introduction**

Education in Nepal from the primary school to the university level has been modeled from the very inception on the Indian system, which is in turn the legacy of the old British Raj. Hence, until the recent past, Nepal followed the traditional sixteen-year education system, allocating ten years to school education, four years to college level studies - two years each for intermediate and bachelor program, and two to the Masters program at the university. TVET sector targeted two types of students. School dropout students can enrolled in vocational training program and Technical SLC program, whereas Secondary school passed students will be enrolled in 3 years diploma program.

The system of training for Secondary teachers was initiated in Nepal in 1957 when the training system for the school teachers was started in 1957 in Nepal. At that time the government of USA supported to establish College of Education with functional and technical assistance. Under Tribhuvan University, the College of Education offered a two year I.Ed. program for the 10-year high school graduates to train lower secondary teachers. The College also offered a one-year B.Ed. course for those who holds Bachelor's degree in other subjects other than education. Likewise, the Ministry of Education started in-service teachers training program after few years under

Science Education Project. The system of training for Secondary teachers was initiated in Nepal in 1957 when the training system for the school teachers was started in 1957 in Nepal. At that time the government of USA supported to establish College of Education with functional and technical assistance. Under Tribhuvan University, the College of Education offered a two year I.Ed. program for the 10-year high school graduates to train lower secondary teachers. The College also offered a one-year B.Ed. course for those who holds Bachelor's degree in other subjects other than education. Likewise, the Ministry of Education started in-service teachers training program after few years under Science Education Project. Nepal government has been investing significant amount of money in education. The government has given preference to quality service delivery in education. Therefore, it has been investing big amount of money in teachers training from last five decades. There are 9 primary teachers training centers (ETC) and 25 secondary teachers training centers (ETCB) allocated around the country. Teacher training is getting high preference from the government as well as from donor agencies. However, effectiveness of teacher training is always in question.

The Council for Technical Education and Vocational Training (CTEVT) constituted in 1989 (2045 BS) is a national autonomous apex body of Technical and Vocational Education and Training (TVET) sector committed for the production of technical and skillful human resources required to the nation. It mainly involves in policy formulation, quality control, preparation of competency based curriculum, developing skill standards of various occupations and testing the skills of the people, conduct various research studies and training needs assessment etc. After establishing the Council for Technical Education and Vocational Training (CTEVT) in 1989, the government realized a separate technical teachers training program working in different CTEVT schools. In 1991, Training Institute for Technical Instruction (TITI) was established as a TVET teacher training institute. CTEVT through its constituted technical schools and training centers, affiliated technical colleges and institutes, and annex schools offer proficiency/diploma level, technical school leaving certificate and short-term vocational and skill training. Now approximately 10 thousand TVET teachers and trainers are involved in CTEVT network. TITI is only the responsible organization to conduct the pre service and in-service training to the TVET teachers.

### **Situation of TVET teachers**

Inadequacy of qualified and trained teachers, decreasing quality of school graduates and lack of practical activities in the delivery of instruction were found to be the weaknesses of the existing TVET system in Nepal. Similarly, poor linkage of general education with TVET system, lack of practical knowledge and vocational skills, lack of job security of teachers, inaccessible education to extremely poor and inadequate budget were found to be the weaknesses of TVET system. Anybody who passed technical school education could become a TVET teacher. The condition for recruitment of professional teachers in vocational schools is usually Diploma level, bachelor degree or master degree in some special field. Motivation of preparation for examination, ease of measuring the level of knowledge, convenience in preparing the test items, uniformity in examination system and easy to evaluate students' performance are depends on the effectiveness of the teacher's education and training program. There are no mandatory for pre-service training or in-service training to TVET teachers and trainers. Only a very small part of vocational school teachers have

received pre-service professional education for TVET. There is no professional competence standard of TVET teaching and training staff in Nepal. Majority of junior teachers with below diploma level are found to have been teaching at both the TSLC and diploma levels. They don't have strong educational background, occupational skills and instructional skills too.

We can find various problems in teacher education program in TVET sectors of Nepal. Shortage of funding, shortage of trained subject teachers and shortage of physical facilities for teacher training are the potential risks and challenges in initiating the TVET teacher education and training program. Licensing system is not introduced in TVET sector whereas there is existing teacher licencing system in general education sector in Nepal. TVET Teaching is considered the least preferred occupation for qualified person.

### **Academic Requirement for TVET Teachers**

The CTEVT has guidelines and by-laws about the academic requirement for various level TVET teachers. Following is the general requirement of qualification for different level.

<b>Level</b>	<b>Post</b>	<b>Minimum qualification requirement</b>
<b>Assistant 2<sup>nd</sup> Class</b>	Teaching Aid	Technical SLC
<b>Assistant 1<sup>st</sup> Class</b>	Assistant Instructor	Diploma Level
<b>Officer 3<sup>rd</sup> Class</b>	Instructor	Bachelor Degree
<b>Officer 2<sup>nd</sup> Class</b>	Senior Instructor	Master Degree/Ph.D.

The TITI has different academic and training programs for the teachers, trainers, managers and researchers. TITI provides training for trainers, technical instructors and managers, and occupational curriculum development specialists through regular programs and modules or through customized trainings. The high quality and unique instructional materials used in these modules have been adopted by numerous countries in Asia and world-wide. The TITI has existing curricula more or less, addressed basic life skills as group work (cooperative skill), social skill (maintaining relationship), solving daily life problems like letter writing, health related skills, learning and earning skills, office management skills, communication skills, decision making skills and the skill related to vocational education. Likewise it also have curriculum for occupational skills.

The most popular teachers training program of TITI are as follows.

Course Title	Duration
Training of Trainers (TOT)	2 Weeks
Instructional Skill (Level 1)	4 Weeks
Instructional Skill (Level 2)	4 Weeks
Instructional Skill (Level 3)	4 Weeks
Occupational Instructional Skill	4 Weeks
Instructional System Design	8 Weeks
B.Tech.	2 Years

### Key issues and Challenges

The TITI has a standard curriculum in training program. It is structured and helps trainers to conduct training effectively. However, Nepal is a diversified country. The training curriculum does not address this situation. As trainers are not effective and efficient in using resources, teachers are also less competent in this area. Most of them did not show creativity in using teaching aids. In this situation, we have identified following key issues and challenges in TVET teacher education and training in Nepal.

- National/International Coordination
- National Resource allocation in TEVT teacher education
- Quality Standard
- Institutionalization of peer review and continuous monitoring of teachers
- Lack of autonomy: qualifications, course content, lecturers perceptions
- Lack of teacher networking
- Scholarship for teachers, especially those in deprived areas
- Access/Affordability/Inclusion/equity
- Teachers have a low self-esteem and are frustrated
- Human Resource Development within CTEVT and its institutes
- TVET teachers have better non-teaching job opportunities in industry
- Industry institute linkage

### **Proposed Approach**

On the basis of discussion in previous headings, we can propose following recommendation to develop TVET teacher education and training program in Nepal.

- Networking among teachers to facilitate information sharing and collegial support
- Teacher involvement in policy making bodies
- Long term HRD policy in CTEVT
- TVET Teacher licensing system
- Pre-service, In-service training strategy
- Regional and international cooperation for teacher education
- Resource allocation for TVET teacher education program
- New innovation in education system: e-learning, School-based training, apprenticeship , course base on occupation classification and industry section
- Accelerated promotion based on education and training qualification
- Special quota for study leave with pay
- University-school co-operation

### **Conclusion**

The TVET teacher education and training program is not satisfactory until now. There is no mandatory for pre-service training or in-service training in TVET instructors. TVET teachers licensing system is not implemented. CTEVT should have long term Human Resource Development (HRD) policy. There should be regional and international development cooperation in the field of TVET teacher education and training in Nepal. TITI is the apex body of CTEVT to organise TVET teacher education and training. Therefore, the roles in transfer of TVET related occupational and instructional knowledge and skills should start from TITI and CTEVT.

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# LEARNING THE VOCATIONAL TEACHER EDUCATION IN THAILAND FOR THE FUTURE

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## **Abstract**

*This paper discusses the vocational and technical education and training (TVET) current system. The labor mobility and employment for strengthening skill competencies in this region have influenced the way of TVET system in Thailand. Office of the Vocational Education Commission (OVEC) sets the TVET policies divided into 4 major dimensions as: a) Dimension 1: giving an opportunity of vocational education to all; b) Dimension 2: developing the quality of the vocational students; c) Dimension 3: establishing the effectiveness of TVET management; and Dimension 4: cooperating the TVET management. One of the TVET quality developments must be carried by the vocational teachers. The good practices of OVEC programs launched for improving the vocational teachers' potential as: a) conducting the native foreign experts; b) improving learning management using project or problem based learning (PsBL); c) increasing the potential of occupational skills; d) working on research for developing instructional media "The Innovative Logistics Professional's Training for Border Trade with the Greater MEKONG Sub-region"; e) strengthening the TVET networking with other organizations in both public and private sectors; and d) expanding the overseas partnership.*

**Key words:** Technical and Vocational Teachers, Competency

## **Introduction**

In 2011, Thailand has a gross domestic product (GDP) at current market prices of 10.54 trillion baht (Office of the National Economic and Social Development Board, 2012) approximately as US\$ 345.65 billion with the growth rate of 0.1 percent (The World Bank, 2012), much lower than the expected growth rate of 3.5 percent due to severe damage from the flood in the last quarter of the year. In 2012, the Thai economy is expected to grow by 5.5-6.5 percent, a V-shaped recovery.

The industrial and the service sectors serve as the two main sectors in the Thai gross domestic product, with the former accounting for 39 percent. Thailand has an agricultural sector which shares only 8.6 percent of the GDP – lower than the trading sector and the logistics & communication sector which account for 13.5 percent and 9.6 percent of the GDP respectively. (Bank of Thailand, 2012).



With regard to the social and development indicators, Thailand is recognized by the World Bank as “one of the great development success stories”. It is now an upper-middle income country, the percentage of the population living below the national poverty line decreased dramatically from 42.21 in 1988 to 7.75 in 2010. Moreover, the minimum wages to be increased to 300 baht (about US\$ 10) per day by 2013, the Kingdom's unemployment rate remains very low, and the inflation rate is still not so high. Thailand is a member of the World Trade Organization (WTO) and the Cairns Group of agricultural exporters. Thailand is part of the ASEAN Free Trade Area (AFTA) and has actively pursued free trade agreements.

Although the economy has demonstrated moderate positive growth since 1999, future performance depends on continued reform of the financial sector, corporate debt restructuring, attracting foreign investment, and increasing exports. Telecommunications, roadways, electricity generation, and ports showed increasing strain during the period of sustained economic growth and may pose a future challenge. Thailand's growing shortage of engineers and skilled technical personnel may limit its future technological creativity and productivity ([www.wikipedia](http://www.wikipedia)).

## **Education System**

### **A. Education System**

The Thai Education system follows a 6-3-3 structure as illustrated in Figure 1. It consists of 12 year free basic education: 6 years of primary education, 3 years of lower secondary education and 3 years of upper secondary education. Enrolment in the basic education system begins at the age of 6. The current Thai Education system stems from the reforms set by the 1999 National Education Act which implemented new organizational structures, promoted the decentralization of administration and called for innovative learner-centered teaching practices. The Thai education system provides 9 years of compulsory education from 1 to 9 in primary and lower secondary education, with 12 years of free basic education guaranteed by the Constitution. In addition, at the end of 1 3-year of lower secondary level, students can decide to continue for further study at the upper-secondary level in general education at academic field or in vocational education for career path. Vocational education aims to enable learners to develop occupational knowledge and skills useful for working both as entrepreneurs and as paid workers.

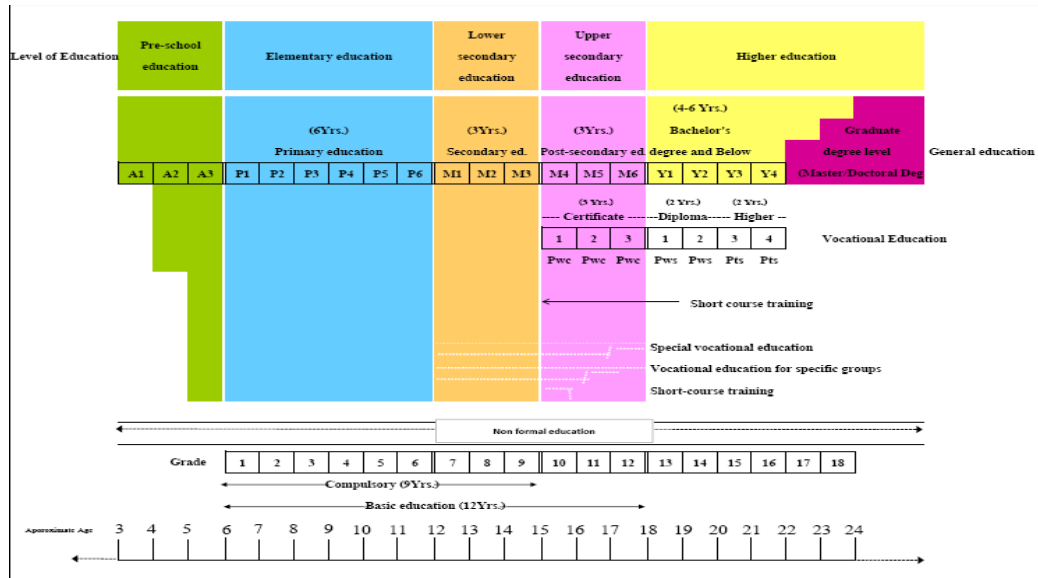


Figure 1. The Thai Education System

Source: Adapted from the Thai Education System, Towards a Learning Society, Ministry of Education

## Administration in Educational Service Areas

The 1999 National Education Act initiated an overall reformation of the Thai Education System. Considerable changes in the structure of management and administration have taken place in order to support the key teaching and learning changes. Emphasis is on the decentralization of administrative responsibilities to local level with the consolidation of education planning at the central level. A new structure for the organization of the Ministry of Education at Central Level (Figure 2) has been implemented since 2002.

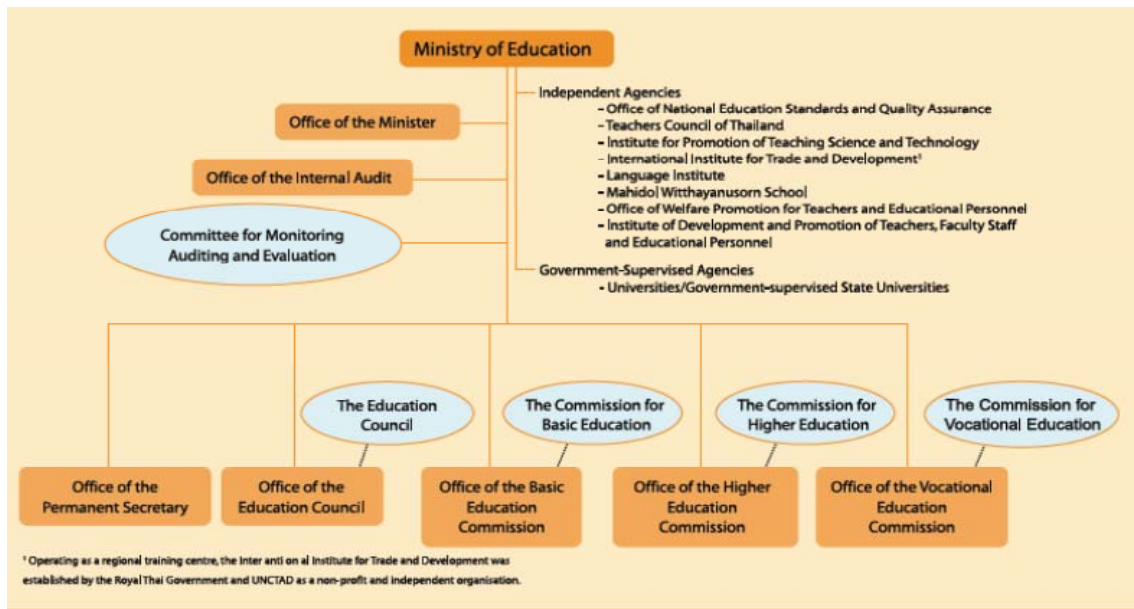


Figure 2. Organization of Administration in Educational Service Areas

Source: Education in Thailand 2007, Office of the Education Council, 2007.  
[http://www.bic.moe.go.th/fileadmin/BIC\\_Document/book/intro-ed08.pdf](http://www.bic.moe.go.th/fileadmin/BIC_Document/book/intro-ed08.pdf)

### Vocational and Technical Education & Training System

In Thailand, as in many other countries in the region, the system of vocational education and training consists of two different sectors. The first is formal vocational education, carried out as a fulltime school scheme. Graduates are awarded a certificate, formal vocational and technical education is conducted at three levels: upper secondary (leading to the Lower Certificate of Vocational Education), post secondary (leading to a Diploma or Vocational Associate Degree) and university level (leading to a Degree).

Another sector, non-formal vocational training, offers many social groups open access to the training programs; graduates are awarded internationally recognized certificates of skills development on different levels. Since the 1960s, both sectors have been extended continuously and in parallel by government funds and with support of international development cooperation. Today both sectors have a dense network of institutes that stretch across the whole country. The segmentation is based on regulatory policy. Occupational training is regarded as a task of the government and is, consequently, placed under the jurisdiction of certain government bodies.

Private sector organizations have been involved in vocational education system for providing internship and apprenticeship as dual vocational training. The demand of the public sector for personnel declined significantly, and private companies, which were becoming larger in number mainly due to foreign direct investment, were increasingly recruiting graduates of formal vocational education (Pozorski, 1999).

### **Office of the Vocational Education Commission (OVEC)**

The Office of the Vocational Education Commission (OVEC), Ministry of Education is a leading agency providing skill manpower and practical or work-based training. OVEC is responsible for vocational and professional life long learning. The provision of technical and vocational education and training is offered through the formal school system, in both the basic and vocational education streams, as well as through non-formal education opportunities. Technology-related education is offered at primary school level as an elective, compulsory, or free elective course to provide students with practical experience and basic knowledge.

#### **Mandate:**

- Provide the general public with access to technical and vocational education.
- Assess the demands of the labor markets and promote self-employment in accordance with social and economic development of the country.
- Produce and develop a vocational workforce in all professional levels.
- Implement and standardize quality vocational education management and administration.
- Promote research, innovation and technology development for a competitive market.

Accordance with the Education Ministry Regulation B.E. 2003, the education administration and management structure of the OVEC consists of 7 bureaus and 2 organizations as follow:

- Bureau of General Administration
- Bureau of Monitoring and Evaluation
- Bureau of Personnel Competency Development
- Bureau of Standards and Qualification
- Internal Audition Office
- Bureau of Cooperation
- Bureau of Policy and Planning
- Bureau of Research and Development
- Public Service Development Section

As the second education reform, OVEC has adjusted the structure of administration for launching the projects to develop the technical and vocational education management by adding 4 units as the following:

- Center for Education Development at the Southern Border Region
- Center for Students' Activities Development and Coordination
- Center for Vocational Manpower Information Technology
- Supervisory Unit

## Current Status

The provision of VTET is offered the formal school system and non formal education system through colleges. There are 415 colleges working under the OVEC as follows: a) 110 technical colleges; b) 36 vocational colleges; c) 43 agricultural and technical colleges; d) 53 polytechnic colleges; e) 142 industrial & community colleges; f) 5 commercial colleges; g) 3 industrial and ship building technical colleges; h) 2 arts and crafts colleges; i) 3 business administration & tourism colleges; j) 4 fishery colleges; and k) 1 Kanchanapisek Golden Jubilee Royal Goldsmith college l) 11 Technology and Management College; and m) 1 Science based technical and vocational college(OVEC, 2012; <http://www.vec.go.th>). The major programs has been offering to the vocational stream including industry, arts & crafts, home economics, business & commerce, tourism, agriculture, fishery, textile industry, and technology information & communication.

The total number of vocational students in formal school system tended to decrease from 693,038 in 2010 to 684,055 in 2011 and to 663,338 in 2012 (Figure 3). The student enrolment in certificate was higher than diploma and higher diploma level. As a result, most of vocational students would prefer to study further as bachelor degree.

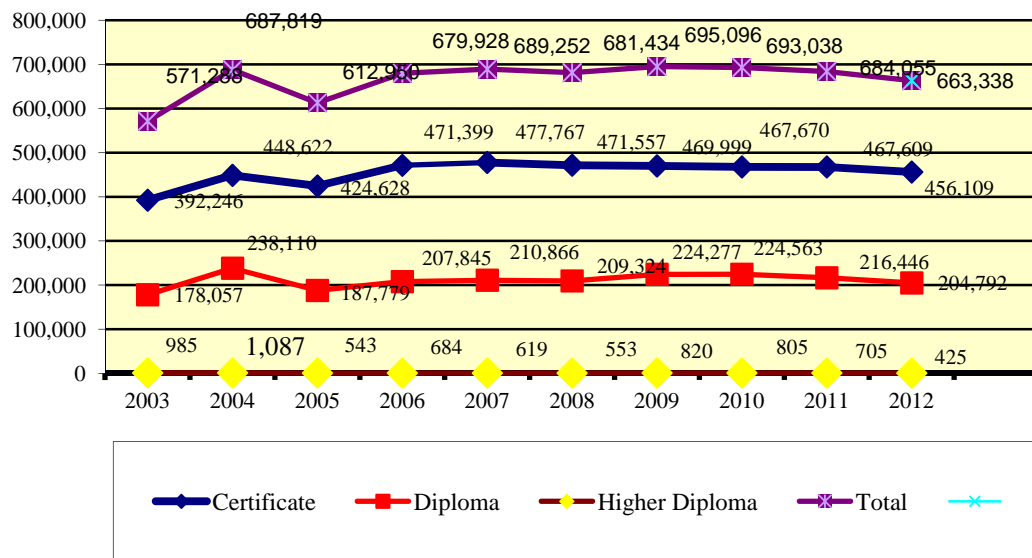


Figure 3. Number of Vocational Students in Formal School System Classified by Level, Academics Years 2003 – 2011.

Source: [www.vec.go.th](http://www.vec.go.th)

As comparing between the formal and non-formal school systems, we found that the total number of vocational students in non-formal stream accounted for 900,501 was higher than in formal stream accounted for 684,055 in 2011. A demand for greater access to short courses in VTET is also increasing for upgrading the qualifications of the work forces in local community and rural areas. The majority of vocational students enrolled in industry and business & commerce programs. The students enrolled in industry program of non-formal and formal school systems comprised 477,642 and 365,448 respectively. And the students enrolled in business and commerce program of non-formal and formal school systems comprised 323,928 and 240,688 respectively (Table 1).

Table 1. *Number of Vocational Students in Formal and Non-formal School Systems by Level and Programs, Academics Year 2011*

Programs	Certificate			Total	Diploma/Higher Diploma		Total	Formal Education	Non-formal Education
	1	2	3		1	2			
Agriculture	6,693	4,312	4,819	15,824	3,134	4,964	8,098	23,922	32,020
Home Economics	6,300	4,214	4,333	14,847	1,643	1,629	3,272	18,119	21,391
Information Technology	-	0	0	-	1,810	1,924	3,734	3,734	7,468
Fishery	305	216	241	762	487	632	1,119	1,881	3,000
Business and Commerce	62,143	46,539	48,766	157,448	36,259	46,981	83,240	<b>240,688</b>	<b>323,928</b>
Arts & Crafts	5,421	3,019	3,202	11,642	839	829	1,668	13,310	14,978
Industry	101,263	67,317	84,674	253,254	48,988	63,206	112,194	<b>365,448</b>	<b>477,642</b>
Hotel and Tourism	5,958	3,817	3,833	13,608	1,444	1,588	3,032	16,640	19,672
Textile	92	70	62	224	9	80	89	313	402
<b>Total</b>	<b>188,175</b>	<b>129,504</b>	<b>149,930</b>	<b>467,609</b>	<b>94,613</b>	<b>121,833</b>	<b>216,446</b>	<b>684,055</b>	<b>900,501</b>

*Source: Office of the Vocational Education Commission, 2012*

The total number of vocational teachers in academic year of 2012 is approximately 16,198. Most of vocational teachers graduated in bachelors' degree and master degree comprised 9,310 and 6,670, respectively. In addition the vocational teachers tend to decrease (Figure 4). Because the government's policy is limited to the

number of government teachers, but it still recruits the vocational teachers by using sign contract. However, the government needs to provide the teacher positions for some major rare fields such as science, mathematics, petro-chemistry, water resource management, and logistics and so on. When comparing the vocational teachers by gender and major courses provided in TVET, we found that most of vocational teachers are male accounted for 9,588 (Figure 5). The majority of vocational teachers work in industrial college and polytechnic & community college comprised around 7,685 and 3,606, respectively (Figure 6). The number of vocational teachers is consistency with the number of colleges providing the TVET curriculum of the office of vocational education commission (OVEC).

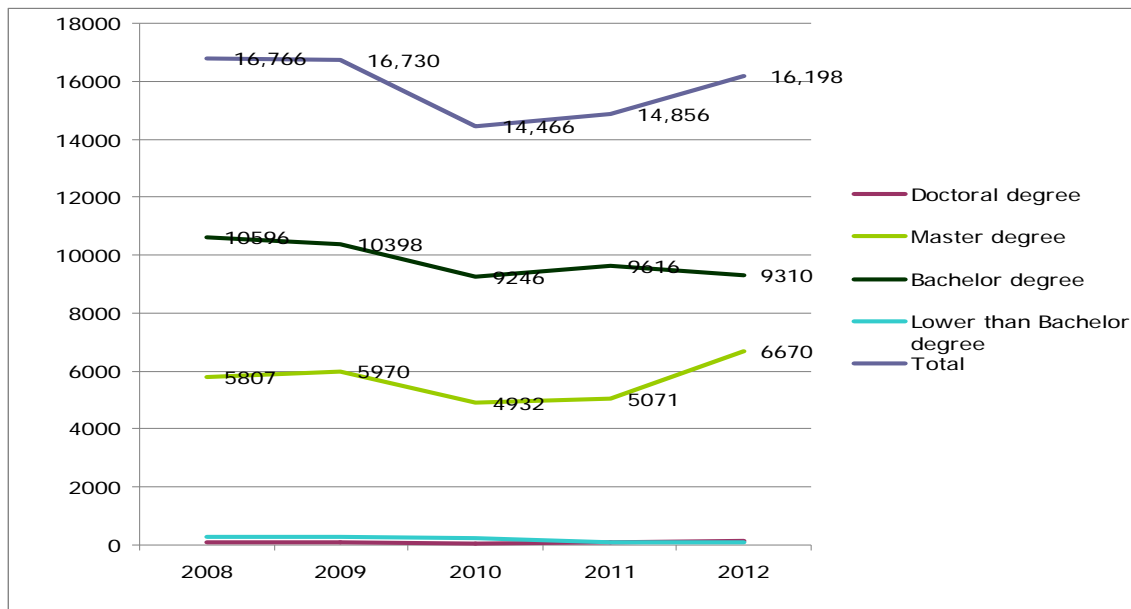


Figure 4. Number of Vocational Teachers in Academics Years 2008 - 2012

Source: [www.vec.go.th](http://www.vec.go.th); Center for Vocational Manpower Information Technology

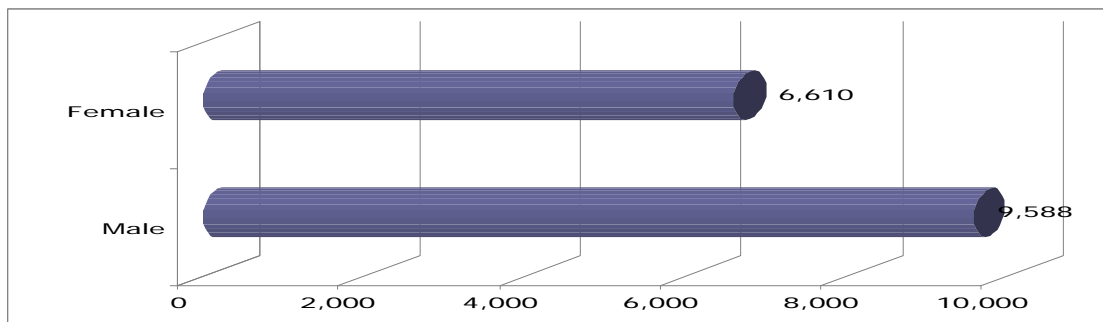


Figure 5. Number of Vocational Teachers by Gender in Academics Years 2012

Source: [www.vec.go.th](http://www.vec.go.th); Center for Vocational Manpower Information Technology

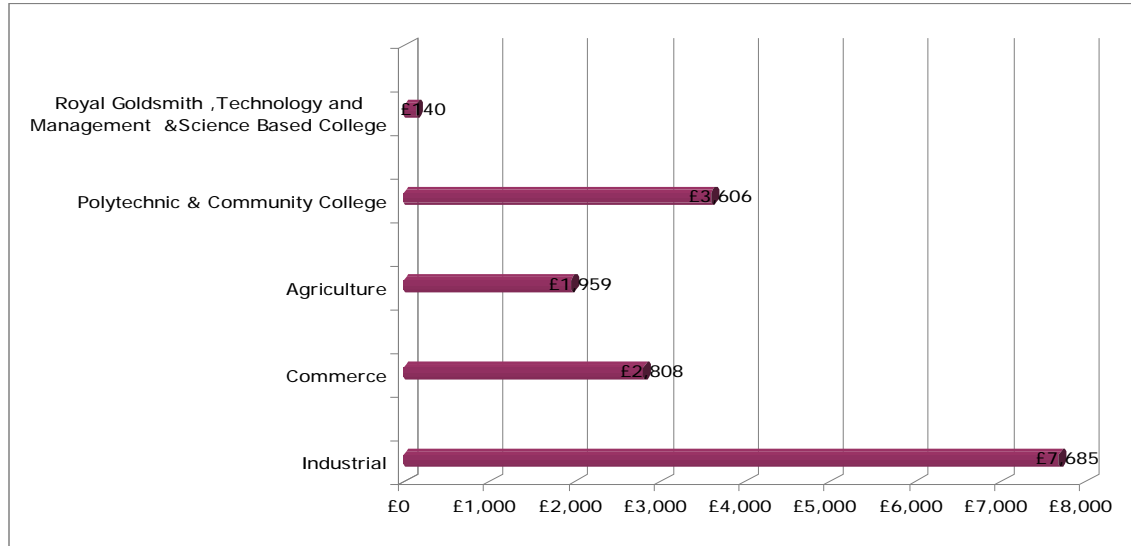


Figure 6. Number of Vocational Teachers by Major in Academics Years 2012  
 Source: [www.vec.go.th](http://www.vec.go.th); Center for Vocational Manpower Information Technology

### Good Practices in Vocational Teacher Education Development

With rapid transformation of societies in social, political, economic, technological, and education spheres, they have been a change in the perspectives on the need for and nature of vocational teacher education. OVEC has launched some good practices as the following:

- **Conducting the Native Foreign Experts**

Office of the Vocational Education Commission is concerned how to prepare the vocational teachers and students for ASEAN community. In 2011, OVEC allocated the budget 144 million baht to improve the occupational and language skills by asking the native foreign experts and occupational wisdom people to teach or work in schools directly. The languages provided in class such as English, Chinese, Japanese, and ASEAN languages and so on. The knowledge was summarized in CD, hard copies, and uploaded in the website of OVEC. The curriculum related to ASEAN must be covered in physical geography, people & culture, city & tourism, and season & whether.

This program had been fitted the objectives, but still be needed to improve the curriculum standard, integrate into formal courses, launch program continuingly, develop the vocational teacher manual for lifelong learning and etc.



### ● **Improving Learning Management Using PBL**

As the global situation always change, the problem of agricultural situation should be concerned in Thailand. It may involve balancing between energy and food of the world. This will effect happening any disasters and environmental changes. OVEC provides the agricultural education using Future Farmers of Thailand Model. Project based learning and problem based learning (PBL) are the good teaching methods for agricultural teachers. Hence, OVEC has launched the program of improving learning management using PBL.

### ● **Increasing the Potential of Occupational Skills**

According to OVEC has been provided in many fields. The bureau of personnel competency development has done in many fields to increase the potential of vocational teachers' occupational skills in major of hospitality, arts and crafts, business and commerce, foods, jewelry design, logistics, construction, electronics, mathematics in GPS and so on.

### ● **Developing the instructional Media “The Innovative Logistics Professional’s Training for Border Trade with the Greater MEKONG Sub-region”**

Office of the Vocational Education Commission has taken on the responsibilities of producing and developing the vocational manpower in the workforce. One of the whole ideas is to increase business capacities of Thai industrial sectors to be competitive at the international level. As a matter of fact, the idea can be accomplished by gaining competitive advantages through human resource development especially in the level of vocational schools where students are taught to perform a special task.

Therefore, the OVEC focuses on developing academics, employability and attitude skills before the students enter the workforce. The research project of “The Innovative Logistics Professional's Training for Border Trade with the Greater MEKONG Sub-region” could potentially provide tremendous benefit to the businesses in the Greater Mekong River trading areas as long as human capital developments are properly planned and successfully run.

The innovative logistics professional's training manual went through assessment and testing processes. The manuals consist of three different sections with one main activity. Firstly of the border trade logistic competency called as knowledge, the vocational teachers can teach their students to learn how to handle customs rules, exportation measures, laws, and trading regulations. Secondly of the competency; called as Skill, the students should be developed more skills on communication which can help students understand what customers' need and can help coordinating tasks run smoother. Lastly of the competency; called as attribute and/or attitude, the positive attitude at the workplace is a must. The students should be responsible for their assignments, must be on-time, and have good personality. These key personality traits, needed for the future career advancement, were detailed in the innovative logistics professional's training manual.

- **Strengthening the TVET Networking with other organizations and private sectors**

OVEC has cooperated with other organizations including public and private sectors such as *National Science and Technology Development Agency: NSTDA.*

Thailand National Electronics and Computer Technology Center: NECTEC, Thai Federation on Logistics, Kasetsart University: KU, King

Mongkut's University of Technology Thonburi: KMUTT and so on.

- **Expanding the Overseas Partnership**

OVEC has done some projects working with other countries. The examples of programs are as the following:

- Lao-Thai Skill Upgrading Training Program Cooperation supported by the Asia Development Bank (ADB), and
- TVET Teacher Exchange Program between Indonesia and Thailand, 18 - 22 September 2012, etc.

### **Future Directions**

As the global and rapid technology changes including socio-economic and political factors in Thailand, the Ministry of Education will push forward the development of vocational education to meet the market demand and the upcoming free labor transfer within the ASEAN region in the future. The National Vocational Education Plan has been pointed out as the following:

### **Education Policies**

The National Economic and Social Development Plan (2012-2016) have the statements of the vocational manpower focusing on sustainable skill development to global competitiveness including two mainstreams as follow:

- establishing lifelong learning society and
- increasing stronger regional cooperation based on ASEAN member partnership (NESDB, 2011).

In addition, the Ministry of Education has the policy for the ASEAN community as follow:

- sharing knowledge and information of ASEAN at school in all levels for creating ASEAN awareness;
- building the capacity of teachers and students to access the quality of education;
- developing the standard of education in all levels;
- encouraging the memorandum of agreement in education for occupational development on preparing cross-border mobility; and
- strengthening the Thai youth development project.

The vocational education policies setting goal to improve the quality of the vocational graduate students based on demand and supply, the current Secretary-General of OVEC (Dr. Chaiyapruerk Serirak) gave the TVET policies divided into 4 major dimensions as follow:

- Dimension 1: Giving an opportunity of vocational education to all
- Dimension 2: Developing the quality of the vocational student

- Dimension 3: Establishing the effectiveness of TVET management
- Dimension 4: Cooperating the TVET management

To focus on the vocational teacher development, the Secretary-General set the policy for the fiscal year of 2013 as establishing the vocational association in major fields under OVEC such as automobile teacher association (AuTA), agricultural teacher association (AgTA), and so forth.

### Recommendations

- Setting the vocational teacher development institution of Thailand.
- Considering the professional regulatory under the MRAs to enlarge for the vocational teachers transfer or exchange programs.
- Enhancing stronger regional solidarity and cooperation on research and development.

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# THE TECHNICAL AND VOCATIONAL TEACHER DEVELOPMENT IN VIET NAM: ISSUES AND SOLUTIONS

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## **Abstract**

*The paper is to present issues that hinder the development of the Vietnamese vocational teachers. The paper is also to express some solutions that the Vietnamese Ministry of Education and Training may apply in order to help increase the competencies and motivation of the current vocational teachers.*

**Keywords:** Technical and vocational development, issues and solutions

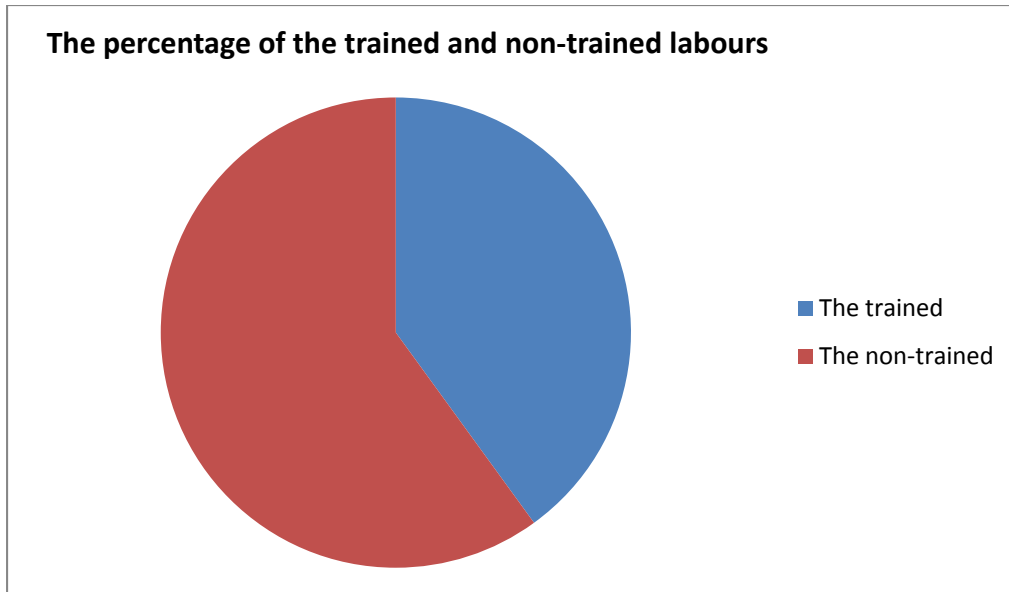
## **Overview**

The Vietnamese population is around 90 million and scattering in 63 provinces or 696 districts. Viet Nam shares border with China, Lao PDR and Cambodia. In the education system, there are five (5) main levels which are infant education, primary education, secondary education, technical and vocational education (TVE) and higher education..

There are 540 TVE institutions, of which 282 are intermediate TVE colleges and 258 are higher TVE colleges that provide TVE training programs. On average, in Viet Nam, each district has one TVE institution. In the TVE field, the private institutions account for 27 % and the number is increasing as the government encourages and calls for potential investors.

In total, Viet Nam has around 1 million teachers and lecturers working at five levels. However, there are only 18,000 TVE teachers who are teaching 700,000 students.

To date, Viet Nam still has 60% labours that have not been trained yet. Therefore, the role of the TVE is very important in order to help them get skilled.



*Figure 1. Percentage of Trained and Non-trained Labours*

### **The Ministry of Education and Training (MOET)**

The Ministry of Education and Training oversees and governs all education activities in Viet Nam. MOET has a complex structure under a minister of education and training, supported by five vice ministers responsible for various departments within the education portfolio. The main functions of the Ministry include policy formulation, implementation, and evaluation of national education plans, as well as the initiation of legislation relating to education and training. Delivery and implementation of education, however, falls under the responsibility of provincial and district level authorities. As part of the country's decentralization mechanism, administration and management of schools and institutions are the responsibilities of local education authorities.

### **The Department of Education and Training (DOET)**

The Department of Education and Training (DOET) is the education authority at the provincial level, and its main roles include coordination and support of education services implementation at the district level. Furthermore, the technical and vocation education is generally under the direct responsibility of the respective provincial education authorities. Provincial education departments are headed by Provincial Education Directors.

## **Current Policies and Practices**

### **Teacher Salary**

It is common knowledge that Vietnamese teachers are underpaid and that most seek employment outside their primary positions. As a result, some teachers devote a

minimum amount of time to their teaching responsibilities and more time to outside endeavors. The average teacher salary is 1.7 times Viet Nam's gross domestic product (GDP) per capita compared with an average of 2.4 times GDP per capita for all Asia countries (World Bank, 2006) and less than half of the "Education for All" Indicative Framework target of 3.5 (Huang, 2006). Salary levels are set by the Vietnamese government and are based on the public sector minimum salary scale. Salary increments are based on years of service (not on educational level, professional advancement, or performance). Since 1997, public TVE teachers have received salary supplements but before that, supplements were granted only for extra duties or for going to rural areas.

## **Teacher Development**

### **Pre-service Training**

Teacher training in Viet Nam is managed at two levels: decision making is centralized; implementation is decentralized. MOET is required to provide a pre-service training curriculum framework that specifies content and duration of required coursework. The framework includes the number of credit hours for general education, professional education and practice teaching. Pre-service training is provided by universities. However, there are no universities that provide a direct program for TVE teachers. Individual, who wants to become a TVE teacher, must graduate from a university and to take another teaching method course. All of these universities must follow MOET regulations and the Education Law.

### ***In-service Training***

In-service training is offered through the teacher training institutions or MOET. In-service training is often held on Saturdays and during the summer. Like pre-service training, it is regulated by MOET.

### ***Legal and Policy Basis for Renovation of Viet Nam's TVE Sector***

In general, The Vietnamese Government considers education as very high priority and issued the policy that education is the national and leading policy. It means that The Vietnamese Government pays special attention when they allocate the national resources or make any decision and every relevant party must have certain responsibility for education.

Furthermore, at the moment The Vietnamese Government and The Ministry of Education and Training are trying to renovate primarily and fully the education system. In other words, from now to the year of 2020, MOET will conduct a massive reform in education that include the renovation in policy, management, contents, curricula, methods, teaching equipment and especially the quality of teaching staff.

The Vietnamese government is proactive and understands that economic development will depend on a highly educated workforce. There is a strong legal basis for changes in the Vietnamese technical and vocational education system. The Vietnamese government has mandated changes to the education and training system to develop the skills, attitudes and intellectual capacity needed to build an adaptable and competitive workforce. As a result, the new national education strategy focuses

more on quality, and seeks to replace the old system (rooted in teacher-centered practice and learning by rote) with one geared more toward the creation of a “knowledge society”.

At the heart of these reforms is a call to strengthen teacher capacity-building and management systems. This is reflected in the priorities of the strategy for education development in the period 2011 – 2020. MOET's stated priorities are to (i) create radical changes in education quality; (ii) give priority to the enhancement of manpower training; and (iii) enhance innovations in education management. The Education Development Strategic Plan focuses on education management and teacher development as two main factors for education development.

Transformation in teacher training is focused on standardizing and upgrading teacher qualifications and training institution capacity, and on adapting training and teacher support to the new curricula and methodologies. The high level of attention given to renovating the curricula and methodologies demands a corresponding updating and upgrading of teacher knowledge and skills (Huang, 2005). In addition to the aforementioned changes, there is a concerted effort to upgrade the capacity and qualifications of teachers, teacher trainers, and Teacher Training Universities (TTIs) as well as in-service training to introduce the new student curricula and methodologies to teachers.

While these changes in teacher capacity and management are sought, there is also a national focus on decentralization and socialization of the educational system. All current Viet Nam education project plans focus on a move to a more efficient decentralized education management system using accountability measures such as teacher standards (Furniss, 2008). Socialization in the Vietnamese context refers to local communities sharing a greater burden for funding education on the local level (Nguyen, 2004) and decreasing the central government's role in funding.

### **Issues and Solutions**

In general and with regard to TVE teachers, there are three main issues: (i) The TVE teachers' competencies are low compared with that in the regional countries; (ii) There is no specific training programs that help students directly become TVE teachers; and (iii) Teaching equipments are insufficient and out of date. To solve these issues, MOET is taking some following actions:

#### **1) Developing policy and quality assurance frameworks**

Critiques of both pre-service and in-service training are that both are often theoretical in nature and do not provide practical applications. In pre-service education, many new lecturers are hired directly out of colleges or universities and have no practical experiences in classroom teaching beyond their own student teaching experience. Instruction in both pre and in-service is primarily lecture based and does not show TVE teachers how to implement new ideas and methods in their classrooms. Further, some educational researcher from outside Viet Nam (Hamano, 2008; Huang, 2006), argue that because few teacher trainers have firsthand experience teaching for creative thinking and problem solving, and few were taught in a student –

centered fashion, they are unable to help upgrade practicing teachers' skills, because they only know of these new methods in the abstract.

MOET is developing policies and quality assurance frameworks for TVE teacher development and information management systems to plan and manage training and career development of the TVE teachers. MOET has limited capacity to provide accurate and timely information, or to analyze trends to better plan future policies and programs. This constrains its ability to ensure quality of planning associated with teacher training. Although MOET has exhibited strong commitment to education, it needs support to develop a policy and quality assurance framework for TVE teacher development; and an information management system that will allow it to plan and manage the training and career development of the large teaching force.

## ***2) TVE Teacher Standards***

MOET regards the professional standards for TVE teachers as the primary policy in the efforts to renovate the quality of TVE teachers. MOET will develop standards for TVE teachers. The development of teacher standards can be considered as a foundation to all educational renovation efforts in Viet Nam. The goals of the standards are to:

- Help the TVE teachers self-assess their knowledge and practices, thereby, guiding TVE teachers to develop professional attributes, knowledge and understanding, and skills;
- Provide guidelines for educational managers' annual assessments and rankings of TVE teachers, thereby providing goals for management, plans for professional development of teachers;
- Provide a basis for pre-service and in-service teacher professional development programs at universities of education as well as other teacher training institutes;
- Articulate a foundation for policies and priorities for TVE teachers.





Figure 2. The Professional Standards for TVE Teachers Development

### **3) Developing database of TVE teachers**

The database will include some personal information, professional competencies and the individual training needs. The four steps are recommended:

- Analyzing the demands of information by relevant parties such as MOET managers, TVE Institutions, TVE teachers;
- Developing software to manage the information system;
- Testing the software and system
- Training the end-users to utilize the software.

### **Conclusion**

According to The strategy for education development in the period 2011 – 2020 (decision 771 by the Vietnamese prime minister), the general purpose of the education reform in Viet Nam for the next 10 years (2011-2020) is to renovate primarily and fully with the direction of standardization, modernization, socialization, democratization and globalization.

In order to reform, Viet Nam has selected 8 solutions, including Renovation in education management; Development of teachers and education managers; Renovation in teaching contents, teaching and assessing methods; Increase in financial investment and adjustment in financial allocation. Therefore, Viet Nam focuses on development of teaching staff and is developing standards that determine what make

a good TVE teacher. MOET considers the professional standards for TVE teachers as decisive solution to help increase the competencies of TVE teachers.

Besides that, the author of this paper recommends three researches should be carried out:

- Firstly, based on the standards, develop indicators and evidences that help TVE teachers understand and identify what and how they need to do in order to become an excellent TVE teachers;
- Secondly, develop assessment tools that help TVE teachers to do self-assessment against the professional standards;
- Thirdly, study the training needs of the current TVE teachers and developing the materials for in-service training courses.

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