Reforming Vocational Teacher Training and Education: Global and Regional Trends

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www.upsi.edu.my

Total area: 329 758 sq km
Malaysia will leverage its competitive advantages by prioritizing investment and policy support behind a limited number of key growth engines. Hence, the Economic Transformation Programme focusses on 12 National Key Economic Areas (NKEAs) as announced in the Tenth Malaysia Plan. These NKEAs will receive prioritised government support including funding, top talent and Prime Ministerial attention.
JUSTIFICATION FOR MALAYSIA TVET ENHANCEMENT

- Economic growth demands additional 1.3 million quality TVET workers by 2020
- By 2020, at least 46% of jobs will require technical and vocation qualifications.
- Malaysia needs to increase its ratio of skilled workers to 50% by 2020
**TRANSFORMATION OF TVET**

- The needs of Malaysia for skilled workers
- Current system does not prepare students for work
- Place TVET in the mainstream of national education
- Malaysia is not similar to other countries in the region and world in terms of TVET
- To narrow the gap of differences to achieve international status of human capital
- Malaysia is far behind in terms of student enrolment in TVET compared to many countries in the world
- The dropouts who are academically weak should be given place to continue their education in TVET institutions
Malaysia needs to upgrade skills and productivity of its workforce

**Occupational Breakdown**
- Legislators, senior officials, managers
- Professionals
- Technicians, associate professionals
- Clerical workers
- Service workers, shop and market sales workers
- Skilled agricultural and fishery workers
- Craft and related trade workers
- Plant and machine operators and assemblers
- Elementary occupations

**Skills Upgrading**
- 2012: Skilled (25%) 3,180,750
- 2015: Skilled (33%) 4,198,590
- 2020: Skilled (50%) 6,361,500

**Source:**
* Based on Labour Force Survey, Dept of Statistic (DOS) 2012, Total Employed 12.723 million
** Based on DOS Labour Force projection CAGR 2.6%

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**Malaysian Workforce Transformation**

Source: Mr. Reinhardt Sachs, German Consultant for Career & Technical Education

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**Contrast between professional, technical & vocational education/training**

- **THEORY**
  - Professional
  - Technical
  - Vocational

- **SKILLS**
  - Professionals
  - Semi-professional
  - Skilled workers

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**VTET IN MALAYSIA**

- VTET IN MALAYSIA
  - PUBLIC
  - PRIVATE
    - MOE
    - OTHER AGENCIES

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### Ministry of Higher Education

- Polytechnics,
- Community Colleges, and
- Public Universities (MTUN)
  - Unimap
  - UTeM
  - UMP
  - UTHM

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Categories of Personnel In Relation To SKM Certification

<table>
<thead>
<tr>
<th>CATEGORY OF PERSONNEL</th>
<th>ACADEMIC QUALIFICATION</th>
<th>SKILL QUALIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGEMENT LEVEL</td>
<td>ADVANCE DIPLOMA</td>
<td>MALAYSIAN SKILL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ADVANCED DIPLOMA</td>
</tr>
<tr>
<td>SUPERVISORY LEVEL</td>
<td>DIPLOMA</td>
<td>MALAYSIAN SKILL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DIPLOMA</td>
</tr>
<tr>
<td>OPERATION AND PRODUCTION</td>
<td>SKM LEVEL 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SKM LEVEL 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SKM LEVEL 1</td>
<td></td>
</tr>
</tbody>
</table>

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CURRENT

Age 21+
Age 20+
Age 18+
Age 17+
Age 15+

VOCATIONAL SCHOOL (VS)

POLITECHNICS / SKILLS INSTITUTES

At VS, more academics than vocational (SPM) ~ 60 : 40
After SPM, student is considered as semiskilled worker.
Transfer of credit is not allowed.

TRANSFORMATION

Tier 4
Tier 3
Tier 2
Tier 1

VOCATIONAL COLLEGE

Focus on vocational ~ 30 : 70
After completing Vocational education, student is considered as highly skilled worker.
Program Articulation to Higher level.
Entrepreneurial programme
(School Enterprise, Production-Based Education)
On-the-job training (OJT) ~ 3 times
Outcome-Based Budgeting (OBB): marketable graduates.
Human capital in line with National Education Philosophy.
Uplifting of perception towards Vocational Education.

VET STRATEGIC ACTION PLAN
20% MURID KOHORT UMUR 16 TAHUN (LEPASAN RENDAH) MEMASUKI SISTEM PENDIDIKAN TAHUN 2020

MALAYSIAN QUALIFICATION FRAMEWORK

MBOT will enhance the career path of TVET graduates.

<table>
<thead>
<tr>
<th>MQF Level</th>
<th>Skills</th>
<th>Vocational and Technical</th>
<th>Higher Learning Institutions (ETAC – Sydney Accord)</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Advanced Diploma</td>
<td>Advanced Diploma</td>
<td>Doctorate</td>
<td>Principal</td>
</tr>
<tr>
<td>4</td>
<td>Diploma</td>
<td>Advanced Diploma</td>
<td>Masters</td>
<td>Technologist / Sensitive</td>
</tr>
<tr>
<td>3</td>
<td>Skills Certificate 1</td>
<td>Vocational &amp; Technical Certificate</td>
<td>Bachelors</td>
<td>Technologist / Executive</td>
</tr>
<tr>
<td>2</td>
<td>Skills Certificate 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Skills Certificate 1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed Pathway For Malaysia TVET Graduates
NEW VOCATIONAL CURRICULUM CONCEPT

**Content**
- Integration of technology, practical and drawing (75% skill)
- Accommodate Polytechnics & Community Colleges subjects/modules
- Articulation to Polytechnics & Community Colleges
- Entrepreneurship modules (across curriculum)
- Introduction of Applied Science

**Approach (Pedagogy)**
- Modular
- Competency Based Learning

**Assessment**
- School Based Assessment
- Competency Assessment
- Modular Certification

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**Vocational Curriculum Content**

Accommodate and Articulate

Polytechnic Modules

Geometrical Drawing

Entrepreneur

Vocational Subjects

Geometrical Drawing

Polytechnic Modules

Entrepreneur

Community College Modules

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PENDIDIKAN VOKASIONAL
DI PERINGKAT MENENGAH ATAS

DI KV – 4 TAHUN
30%

DI KV –

30%

VOKASIONAL MALAYSIA (DVM)

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CADANGAN PERUBAHAN
MPV KEPADA PVMA

Modul Kemahiran
Tiada Pengiktirafan JPK
Std Kemahiran Pekerjaan Kebangsaan

Modul Akademik
KBSM
BM, Sejarah dan BI (SPM), MPAK

Jenis
22 mata pelajaran elektif
20 kursus kemahiran

Akademik:Vokasional
73% : 27%
45% : 55%

Prasarana
Sedia ada
Ditambah baik

Pusat Bertauliah
Tiada
Pusat Bertauliah Cawangan

Norma Guru
Tiada
Pusat Bertauliah Cawangan

Persijilan
0.5n tanpa SKM
SPM dan Sijil Modular

VOKASIONAL MALAYSIA
Senarai 12 Kursus PVMA Yang Akan Dilaksanakan Dalam 2015
( NOSS format baru CoCU dan WIM telah dibangunkan sepenuhnya )

<table>
<thead>
<tr>
<th>No.</th>
<th>Kursus PVMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Membuat Perabot</td>
</tr>
<tr>
<td>2</td>
<td>Pendawaian Domestik</td>
</tr>
<tr>
<td>3</td>
<td>Menservis Automobil</td>
</tr>
<tr>
<td>4</td>
<td>Menservis Motosikal</td>
</tr>
<tr>
<td>5</td>
<td>Menservis Peralatan Penyejukan dan Penyamanan Udara</td>
</tr>
<tr>
<td>6</td>
<td>Membuat Pakaian</td>
</tr>
<tr>
<td>7</td>
<td>Catering dan Penyajian</td>
</tr>
<tr>
<td>8</td>
<td>Penjagaan Muka dan Dandanaran Rambut</td>
</tr>
<tr>
<td>9</td>
<td>Akuakultur dan Haiwan Rekreasi</td>
</tr>
<tr>
<td>10</td>
<td>Tanaman Makanan</td>
</tr>
<tr>
<td>11</td>
<td>Produksi Multimedia</td>
</tr>
<tr>
<td>12</td>
<td>Hiasan Dalaman Asas</td>
</tr>
</tbody>
</table>

VOCATIONAL COLLEGE (VC) CURRICULUM

<table>
<thead>
<tr>
<th>Percentage of Credit Hours for Level 1-3 Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC MODULE PERCENTAGE: 30%</td>
</tr>
<tr>
<td>VOCATIONAL MODULE PERCENTAGE: 70%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage of Credit Hours for Diploma (Level 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC MODULE PERCENTAGE: 20%</td>
</tr>
<tr>
<td>VOCATIONAL MODULE PERCENTAGE: 80%</td>
</tr>
</tbody>
</table>
Confronting Confusion

• Three basic frameworks that form different belief systems about how curriculum should be constructed and learning experiences organized
  – Content framework
  – Competency framework
  – Outcomes framework

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Comparing The Curriculum Design Process Across Three Teaching Frameworks

<table>
<thead>
<tr>
<th>Content Framework</th>
<th>Competency Framework</th>
<th>Learning-Centered Outcomes Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Topics</td>
<td>1. Competencies</td>
<td>1. Outcome Statements</td>
</tr>
<tr>
<td>2. Textbooks</td>
<td>2. Records</td>
<td>2. Content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Assessment Criteria</td>
</tr>
</tbody>
</table>

- **LEARNING OUTCOMES**
  - Knowledge
  - Professionalism, values, attitudes, ethics
  - Psychomotor/Practical/Technical Skills
  - Life Long Learning & Information Management
  - Communication Skills
  - Critical Thinking & Scientific Approach
  - Managerial & Entrepreneurial Skills
  - Social Skills & Responsibility

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Effective communication, interpersonal skills, personality skills, strong leadership qualities, computer literacy, planning, manage, able to organize a group (team work), self-motivated, logical and strong analytical skills, able to work independently, resourceful, knowledgeable, fast learner, quick learner, adaptability, honesty, integrity, commitment, output or result oriented, dynamic, enthusiasm, professionalism, problem solving skills, able to work under pressure (tight schedule) with minimum supervision, discipline, good negotiation skills, able to supervise a group, good presentation (report writing) skills, pro-active, having initiative, being creative, having accountability, showing maturity, showing responsibility, strategic thinking abilities, initiative, aggressive, and energetic.

Recent Developments of VTET

- New programme known as National Dual Training System is offered concurrently with the NOSS-training system
- MOE reviewed the technical and vocational education curriculum
- Now Technical Schools have been upgraded or rename as Vocational Colleges, offering Diploma in various skills
Recent Developments of VTET

- National Vocational Training Council (NVTC) has made two major changes namely the adoption of a new 5-level National Skills Qualification Framework (NSQF)
- The change of the organisational structure of NVTC which is currently known as Department of Skills Development (DSD)
- DSD much more focus in monitoring the NSQF

TEACHER EDUCATION AND TRAINING INSTITUTIONS FOR TVET

- Center for Instructors and Advanced Skills Training (CIAST)
- Universiti Teknologi Malaysia (UTM)
- Universiti Tun Hussein Onn Malaysia (UTHM)
- Universiti Putra Malaysia (UPM)
- Universiti Pendidikan Sultan Idris (UPSI) • Institut Pendidikan Guru (IPG) - Teknikal
Major Issues and Challenges

- VTET programmes should better understand employers’ response to workforce diversity
- VTET institutions should understand the types of teaching and learning environments that are conducive to the employment, retention, and promotion of diverse groups to ensure productivity and remain competitive

Major Issues and Challenges

- VTET institutions must addressed the global marketplace
- VTET should be proactive to produce a more productive, creative and innovative workforce who are capable of competing globally.
- Improve industry involvement in the school activities
- VTET should develop new image to attract parents and student towards TVET
Major Issues and Challenges

• Mismatch between training and employment – graduates not working in the fields they were trained

• VTET should aim to develop a holistic young people who will become future workers with ‘towering personality’ – possessing all the social and employability skills besides knowledge and skills in the specific area of occupation

Future Plan

• The government works collaboratively with the private sector to maintain and expand vocational education and training in Malaysia

• VTET provides more generalisable skills in order to prepare the labour force for the rapidly changing world of work
Future Plan

• Introducing a flexible VTET programmes which take into consideration the development in ICT and equipment in the workplace

• Ensuring VTET to be productive and demand-driven in order to meet the changing needs of the industry and the society

Future Plan

• Providing entrepreneurial skills and other social skills to all vocational students

• Emphasising the development of proper attitudes and values (affective domain) in order to produce virtuous individuals who are responsible and able to contribute towards the prosperity and development of the country