

Curriculum In TVET: Catalyst Towards Nations's Success

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ABSTRACT : Malaysia is developing in rapid rate confronted drastic challenges with fundamental changes. Successful stories created after one another in various fields. Skyscrapers rose to become milestone measurement towards achieving developed country status. New technologies and expertise brought in to create brighter stories. However, one of important factors to attract foreign investors is skills and technical competencies in local workforce. The Government is responsive towards this demand which been aware that it does not only depending on educated workforce, but also on having a large pool of skilled workers with first class talent base. Technical and Vocational Education and Training (TVET) is responsible towards this demand. High literacy in technologies, foreign languages, equipped with employability skills and entrepreneurship is several other skills needed other than specific technical skills in each industry. Thus, programmes offered, course outline and also curriculum use must be aligning in producing high skilled workforce for industry. Cooperation between the Government and industry is critical in ensuring the curriculum produced is counterpart each other.

Keywords : *Curriculum, TVET, Technical Skills, Employability, Technology Literacy, Skilled Workforce, The Government, Industry.*

ABSTRAK: Malaysia sedang pesat membangun dengan pelbagai perubahan dan cabaran yang telah dialami. Kejayaan demi kejayaan dicapai dalam pelbagai bidang yang diceburi. Pelbagai anugerah telah dicapai menjadi batu loncatan kearah menvapai statu negara maju. Teknologi baru beserta kepakarannya di bawa masuk untuk membantu dan mencapai lebih banyak kejayaan. Walau bagaimanapun, salah satu faktor penting untuk menarik pelabur asing adalah kemahiran dan kecekapan teknikal dalam tenaga kerja tempatan. Kerajaan sangat peka terhadap keperluan ini di mana ia tidak sahaja bergantung kepada tenaga kerja yang berpendidikan malah mempunyai sumber tenaga kerja mahir. Pendidikan Teknik dan Vokasional (PTV) adalah bertanggungjawab terhadap tuntutan ini. Literasi yang tinggi dalam kendalian teknologi, bahasa asing, perlengkapan dengan kemahiran pekerjaan dan keusahawanan adalah antara beberapa kemahiran lain yang diperlukan selain daripada kemahiran teknikal khusus dalam industri masing-masing. Oleh itu, program-program yang ditawarkan, panduan kursus serta kurikulum yang diguna-pakai mestilah menjajarkan ke arah melahirkan tenaga kerja berkemahiran tinggi bagi industri. Kerjasama antara pihak kerajaan dan industri adalah sangat penting dalam memastikan kurikulum yang dihasilkan adalah menepati keperluan masing-masing.

Kata kunci : *Kurikulum, PTV, Kemahiran Hidup, Kebolehpasaran, Literasi Teknologi, Berkemahiran, Tenaga Kerja, Kerajaan, Industri*

1.0 INTRODUCTION

Malaysia is developing in rapid rate confronted drastic challenges with fundamental changes. Successful stories created after one another in various fields. New technologies and expertise from other countries brought in to create brighter story. At this rate, public and private sectors should continue their collaboration and initiatives in developing the nation and becoming high income and developed country in achieving Vision 2020. Involvement of Government Transformation Programme (GTP) and Economic Transformation Programme (ETP) is fundamental for Malaysia in embarking integrated approach. These programmes play major role in intensifying human resource development to produce well-equipped workforce. This is vital for Malaysia to be able to face a competitive global market.

Through ETP, 3.3 million job opportunities will be created which is more than 40 percent of the poll will require technical and vocational education and training (TVET) qualifications (PEMANDU, 2010). However, there is only 28 percent skilled labour force available in 2009 compare to 37.6 percent of OECD average. The importance of human resource development in industry is clearly shown by Saglam and Oral (2010) that manpower is one of three main elements needed other than materials and machinery. Thus, Malaysia's main responsibility lies with the development of human and intellectual to produce adequate supply of support and sustain a flexible, agile and mobile workforce with relevant knowledge and skills (Halimah, 2004).

Consequently, TVET is widely known to be responsible in providing competent workers, fully equipped with technical skills, high literacy towards technology and also generic skills (Ayuba and Gatazi, 2009). It is also one of the most critical drivers for national's transformation from middle-income nation to high-income nation. Nevertheless, course outline and curriculum design in TVET is most important part to ensure production of skilled workforce. In consequence, this paper will discuss on TVET background and trends in Malaysia, major role played by development of curriculum in TVET, challenges of curriculum in TVET and impact of curriculum in TVET.

2.0 MALAYSIA ECONIMIS DEVELOPMENT

Malaysia has reached turning point of its development track. Achieving Vision 2020 is unfeasible without economic, social and government transformation. Therefore, the government has introduced a framework consist of four pillars to drive change (Figure 1). An Economic Transformation Programme (ETP) will be a drive force in achieving New Economic Model (NEM). In addition, ETP will be accompanied by two other pillars that have been launched earlier which is 1Malaysia Concept and Government Transformation Programme (GTP) mainly focusing in strengthening public services in the National Key Result Areas (NKRAs). Furthermore, another pillar, 10th Malaysia Plan 2011-2015 supporting together towards Vision 2020.



Figure 1 The four pillars of national transformation Sources: New Economic Model for Malaysia Part 1

Malaysia has gone through from an agricultural and commodity-based low-income economy to a successful middle-income status. Poverty has reduced to 0.9 percent in 2010 compare to 6.9 percent in 1984. The United Nations Human Development Index has risen from 0.67 in 1980 to 0.83 in 2007 with development of education, health, infrastructure, housing and public amenities. This has surpassed the 0.8 score benchmark for countries with high standards of human development. However, Malaysia’s growth is slowing down due to aftermath of Asian Financial Crisis – about half of the average of the previous decade’s performance.

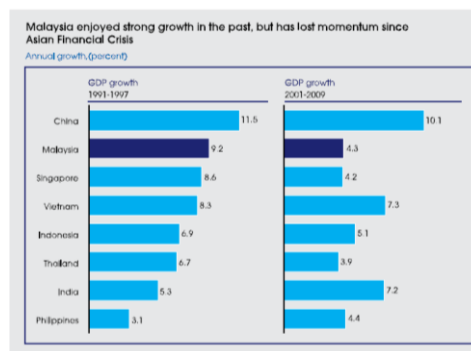


Figure 2 : Comparison of Malaysia’s Growth Source: Economic Transformation Plan

Therefore, significant improvements in two areas, increasing level of business investment and enhanced investments in human capital is required to ensure the transformation is delivered successfully. Private investment is importantly needed to actively encourage national economic growth, where there is only 2 percent growth after the crisis compare to 10 percent projected in Ninth Malaysia Plan.

Competition of global economy has significantly increased with emergence of regional and global companies; it erodes strong position of Malaysia-based companies in the manufacturing and service sectors. Thus, Malaysia needs to increase its strength in order to be more competitive and need to work harder to achieve and sustain competitive advantage. This could be realized by investing in infrastructure and human capital.

Malaysia will need a large pool of human capital to support an economy based on high-skilled labour, knowledge and innovation. Malaysia will not be able to actively grow by maintaining its reliance on low-skilled workforce. Thus, to educate and train high-skilled workforce is essential in facing global competition. Education will be main key factor to fulfil Malaysia’s labour market (Figure 3) with ideal resources.

Major Occupational Group	Target				Job Creation				Average Annual Growth Rate (%)	
	2012		2015		Estimate		Target		9th MP	10th MP
	000'	%	000'	%	000'	%	000'	%	2006-2010	2011-2015
Senior Officials and Managers	1,000.9	8.1	1,097.7	8.3	103.1	11.7	155.8	10.7	2.3	3.1
Professionals	827.9	6.7	1,031.6	7.8	142.6	16.2	289.9	20.0	4.4	6.8
Technicians and Associate Professionals	1,915.3	15.5	2,248.4	17.0	287.5	32.7	588.4	40.5	3.9	6.3
Clerical Workers	1,210.9	9.8	1,256.4	9.5	63.6	7.2	114.4	7.9	1.2	1.9
Service Workers and Shop and Market Sales Workers	2,112.9	17.1	2,274.8	17.2	330.5	37.5	332.2	22.9	3.8	3.2
Skilled Agricultural and Fishery Workers	1,297.4	10.5	1,230.0	9.3	-77.4	-8.8	-65.1	-4.5	-1.2	-1.0
Craft and Related Trade Workers	1,272.7	10.3	1,322.6	10.0	17.9	2.0	62.9	4.3	0.3	1.0
Plant and Machine Operators and Assemblers	1,371.6	11.1	1,362.2	10.3	-193.2	-21.9	-133.0	-9.2	-2.4	-1.8
Elementary Occupations	1,346.9	10.9	1,401.9	10.6	205.9	23.4	106.8	7.4	3.5	1.6
Total Employment	12,356.5	100.0	13,225.6	100.0	880.5	100.0	1,452.3	100.0	1.6	2.4

Figure 3 : Employment by Major Occupational Group, 2006-2015 Source: Tenth Malaysia Plan

3.0 EDUCATION AND ITS ROLE

Developing human capital require essential recipe of prosperity which is education. Education has long been viewed as an important determinant of economic well-being (Hanushek and Wößmann, 2008). In addition, there are three significant relation of education towards economic growth. Through education, it will increase the human capital inherent in the labour force, which increases labour productivity. Besides that, education can increase the innovative capacity of the economy and the new knowledge on new technologies, products and processes promotes growth.

On top of that, education can facilitate the diffusion and transmission of knowledge needed to understand and process new information and to implement successfully new technologies devised by others, which again promotes economic growth. Hanushek and Kimko (2000) found that there is statistically and economically significant positive effect of the quality of education on economic growth.

In macro level, education is giving benefits towards an individual to increase productivity. With higher competition in labour market, an individual will be able to stand out among others with high qualification or education level. Therefore it increases the opportunity to secure a job and get employed.

In Tenth Malaysia Plan (2011-2015), education and training was given the largest allocation of the total development budget which is 23 percent compare to other fields. It illustrated that the Government is committed to enhance the quality of education, which in bigger picture in developing human capital. Raising national's capacity for knowledge, creativity and innovation is one of the key thrusts included in the Plan. Education and training has become a central role in raising the capacity for knowledge and skills and the right value system.

On the other hand, through education especially in technical and vocational education, an individual will be prepared with various skills, not only in academic but also with technical and technology competency. Various researchers found that TVET is one of the education streams that successfully provide employment to its students (Anuwar, 2011). In addition, as a mean to raise the overall quality of the workforce by enhancing skills that have immediate applicability in the labour market, TVET is now commonly considered a mainstream education option where it has been linked with the contributions to skills training that are the focus of many education providers throughout the world today. Therefore, it is important to the formal academic pathway in the country to improve the availability, access and quality of

lifelong learning through TVET. The concept of lifelong learning, also a nascent focus for many countries, is one that has solid connections to TVET (Anuwar, 2011).

It has been strengthened by the Government on TVET by increasing TVET facilities in establishing more polytechnics, community colleges, skills training institutions and centres of advanced technology. Through the Plan, the Government sets high priority in developing TVET system which knowingly to increase national skilled workforce in line with the demands and requirements of the work environment and industry.

4.0 CURRICULUM DESIGN IN TVET

As governments, industry, NGO's and the general public become more aware of the urgency of development of human capital to cater current labour market, a vital role for education in learning and teaching become more evident. This urgency has become a key element in TVET development to adjust its flexibility so that it responds to market demand for skilled workers. This is especially important for TVET providers in Malaysia to be aware the needs of industry in skilled workforce poll.

Focusing in student outcomes will be ensuring that skills inculcate from the programmes that student enrolled is effectively grasped. Improving literacy and numeracy skills at beginner level is fundamental to reduce drop-out rates due to the inability of students to cope with the syllabus being taught. Besides, perking up soft skills such as work ethics, communications, team work, decision making and leadership skills is the primary factor enhancing employability among graduates. This is proven through a case study conducted by National Research Institute for Higher Education (2007), communication skills with personal attributes and knowledge in ICT is required by employee.

However, these skills are dependent on programmes outline offered by institution. The outcomes of the programmes are based on curriculum designed for each course. Traditionally, TVET curriculum in Malaysia has developed by a number of agencies, each with their own capabilities and objectives. Pang (2011) found that various TVET providers in Malaysia often operate as silos and do not taking into account programmes offered. Consequently, it resulting in overlapping courses and institutions as well as creating confusion for students and employers. Thus, it will affect on students outcome and therefore demand-mismatch occurred where it contributes to unfilled employment vacancies in industry.

There is an opportunity to increase the quality of the curriculum and improve alignment with latest industry requirements and to standardise the curriculum. Supported by Reid and Loxton (2004) suggested the approach to internationalisation should expand to focus on teaching and research, including the provision of quality learning experiences for all students using the curriculum as the main vehicle.

In bigger picture, Encyclopaedia Britannica (2006) constructed that curriculum has responded to social issues through ethnic or multicultural education, environmental education, sex and family-life education, and substance-abuse education. Global issues addressed in the curriculum will be able for student to see the local issues in the wider global context (Hicks, 2004). With this awareness, student will then possibly to realise the importance of self-development.

However, according to Patrick (1998), to ensure curriculum has characteristic mentioned above, it then would seem important that the curriculum is taken into the classroom and developed by the teacher; well in this case, it required more than just that. Discussion with industry and education institution is important as well to ensure the curriculum developed is precisely as what the industry needs. It may be a tedious process

because involving participation of several parties but it surely worth the price for future benefits.

The curriculum designed must gone through the process of putting together all those strategies and plans of the institution to achieve the stated learning outcomes (Child, 2004). This will ensure that each curriculum designed and developed is satisfy the needs to provide various learning styles while at the same time, it able to stimulate students to evoke interest in the gist of the constituent.

Additionally, for curriculum to be more effective, it may be beneficial if designed and developed in a way that encourages students and teachers to engage in discussion of important issues that lead to both the acquisition of deep intellectual knowledge and practical skills to apply that knowledge to solving problems in the real world (Child, 2004). Consequently, student will then realise the importance of current issues especially national economic development which also give impact in their daily life. Preparation towards facing the challenges can be prepared before they enter the real world. Curriculum integrated with and ontological focus will result on competent and confident graduates (Bowers, 2006).

Lastly, the result of developed curriculum will not be seen in few years time. It requires one batch of student to completely follow the developed curriculum from the beginning of study until the end of course. However, it is not measureable just yet. It only measured objectively when students able to get employed for themselves. Supported by Bowers (2006) that mentioned, 'effectiveness of curriculum can only be measured when students become professional entities'. Thus, effective planning should also be integrated during the development process of the curriculum.

5.0 CONCLUSION

TVET has play major role in national development especially in Malaysia focusing on building human capital with skilled workforce. It has received better recognition than before. Developing a knowledgeable workforce is a vital effort involving investment in skills and competency training. Driving towards achieving Vision 2020, Malaysia as developed country, it is obvious that TVET has become a vital opportunity in developing its human capital.

One of the important issues Malaysia facing is mismatch in the type of graduates from TVET institutions which contribute to unfilled employment vacancies in industry. Collaboration between industry and education and training providers must be taken seriously to overcome mismatch problem. This problem should be taken seriously in order for Malaysia to cater with its development and satisfy labour market with skilled workforce.

Development of curriculum with assistance of industry is able to overcome mismatch problem as it included the needs of industry. With this cooperation, it helps teachers, policy makers and curriculum designers to understand well the needs of industry. Thus, thorough discussion and planning is possibly to construct which successfully later create more systematic plan and curriculum design in order to produce high capacity human capital with skilled workforce.

As a result, human capital development in Malaysia will be in right track with proper curriculum development. It later will assist in educating and training skilled workforce. Consequently, with high competence of workforce, achieving Vision 2020 will become a reality where it is a successful story that everyone look forward to.

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