Preparing Malaysian Youths for The World of Work

Roles of Technical and Vocational Education and Training (TVET)

PROFESSOR DR. AB. RAHIM BAKAR

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ABSTRACT

Technical and vocational education and training (TVET) refers to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, acquisition of practical skills and attitudes, and understanding and knowledge related to occupations in various sectors of economic and social life (UNESCO, 2002b). TVET plays a significant role in providing a highly skilled workforce for the development of many countries. TVET is an instrument of social policy. It assists people in certain social groups such as those in poverty or who lack marketable skills (Basu, 1997) to improve themselves. In fact, TVET can alleviate the socio-economic status of those in poverty. TVET produces human resources that have both soft skills and technical skills or the work skills required by the new economy. TVET is an indispensable instrument that helps improve the quality of the workforce by improving their mobility, adaptability and productivity (Caillods, 1994). Thus, TVET can contribute to the enhancement of the competitiveness of any organization in the globalized world. TVET is well placed to train skilled and entrepreneurial workforce required by some countries to create wealth and emerge from poverty because TVET orients itself towards the world of work with a curriculum that emphasizes on the acquisition of employable skills (Afeti, 2006). As TVET is very important in the development of a nation, it has to be promoted at both secondary school level and post-secondary school level. TVET should be emphasized in the national human-capital development policy because TVET is the key to both economic growth and to providing individuals economic opportunities. The perception of second-class status presently accorded to TVET should be removed by taking steps such as having an articulation agreement with post secondary institutions and giving due recognition to TVET qualifications.

INTRODUCTION

Human capital development is the key strategy in ensuring that Malaysia has a dynamic labor force that is globally competitive because human capital lies at the very core of innovation and high productivity. Investment in human capital is the most important investment for any country. No economy can succeed without a highly skilled workforce that is able to respond with creativity to sudden economic changes, centered on developing and utilizing knowledge (RMK 10). The development of a knowledge-based economy coupled with the emerging technologies and globalization has influence on future growth trends particularly in the worldwide demand for skills and expertise. If Malaysia aims to compete in the world arena, it has to have a workforce that has the ability to adapt and adjust to the changing demands arising from technological advances in the knowledge-based economy. In fact, the thrust of human resource development as outlined in Malaysia's Third Outline Perspective Plan (OPP3) is to prepare a workforce that is capable of meeting the challenges of a knowledge-based economy to enhance productivity and the competitiveness of the economy.

Malaysia, like many other countries with a growing economy, is aiming for a knowledge economy. Malaysia will be able to achieve this aim provided that its large workforce of approximately 12.9 million is comprised mostly of highly skilled workers. Of the 12.9 million Malaysian labor force, those with tertiary education stands at 24.3% as at 2008, compared to an average of 27.4% in OECD countries. This percentage is lower than that in Singapore (35.9%) and Korea (34.8%). Our skilled labor force is also much smaller (28%) than the average in OECD countries (37.6%) and about half of that in Singapore (51%). Currently, the Malaysian workforce is relatively unskilled with 77% educated with only 11 years of basic education and the majority being in non-technical areas.

Career Choices among the Youth

Many Malaysian youths aspire for occupations that may not be related to what the country needs. This could be due to lack of information and sometimes also due to the constant changes arising from economic development. Regardless of the state of the economy, youths have to plan for their future and career aspirations are an important part of their lives. They have to aim for a particular career as otherwise they will not be motivated to work hard in school to attain their future goals.

Career aspiration is a vocational possibility or work preference given ideal conditions (Metz et al., 2009). It is also referred to as an individual's expressed career-related goal or intention and includes motivational components that are not present in mere interests (Silvia, 2001). Schoon & Parsons (2002) and Trice & McClellan (1993) indicate that adolescents' career aspirations are among the most useful predictors of eventual occupational choices made in adulthood. Nevertheless, their aspirations are influenced by their exposure to the world-of-work. Theorists of career development such as Super, Ginzberg and Gottfredson propose that career development progresses through specific stages from childhood through adolescence to later stages. Between the ages of 15 and 24, people are in the exploration phase, according to Super, where they explore all the possibilities and prepare themselves for those possibilities (Table 1).

Occupational choice is an on-going process that begins long before students leave their educational institutions and will continue throughout their working lives. It is a never-ending process. Youths can aspire for many careers, but will eventually have to make a choice among these career options and prepare themselves to attain that very specific career. A teenager always aspires for many careers because the teenage years are always exploratory.

Through educational experience and exposure to a wide variety of occupations, they will then make decisions and prepare themselves for a specific career of their choice. According to Phipps (1995), Super (1980), and Trice, Hughes, Odom, Woods, & McClellan (1995), even though teenagers aspire for a certain career, their career aspirations are, however, believed to be unstable and change many times before adulthood.

Studies that focus on the career aspirations of teenagers are plentiful. These studies have found that career aspiration is a function of gender, culture, parental socio-economic states, the educational experience of the student and a host of other factors. In a comparative study on the educational and occupational aspirations of New Zealand-born Chinese students and their European counterparts, Chung, Walkey and Bemak (1997) found that significantly more Chinese students would like to pursue professional careers compared to their counterparts. They aspired to pursue the medical profession and accounting profession. There are numerous studies done in Malaysia in relation to students' career choices. For example, a study by Zakaria & Ab. Rahim (2004) on engineering students' career aspirations showed that while the students indicate a variety of choices most of them chose engineering-related occupations.

Ab. Rahim and Shamsiah (2002) recorded similar findings. In their study on occupational aspirations of students talented in mathematics, they found that the majority of the students were interested in choosing engineering-related occupations. In another study on factors related to career choice among rural youth, the researchers (2004) found that about 22% chose teaching, 18% would like to be medical doctors, 13% to be engineers, and 13% to be architects. Another study on the career aspirations of rural youths found that the three main professions of choice of the youth were to be entrepreneurs, lawyers and accountants. Sometimes

high school students' aspirations are not realistic. A study on 5000 educational at-risk students found that only 500 students indicated occupational choices based on their abilities. Others indicated occupational choices which were not congruent with their academic abilities. One way to help students make correct career choices is to expose them to TVET because through TVET students are exposed to varied career options.

Table 1 Super's Life Stages

Stages	Age (years)	Characteristics
Growth	Birth-14	Development of self-concept, attitudes, needs and awareness of general world of work
Exploration	15-24	'Trying out' through classes, work experience, hobbies, tentative choice and skill development
Establishment	25-44	Entry-level skill building and stabilization through work experience
Maintenance	45-64	Continual adjustment process to improve position
Decline/disengagement	65+	Reduced output, prepare for retirement

Technical and Vocational Education and Training (TVET)

UNESCO (200b) defines technical and vocational education and training (TVET) as those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences; acquisition of practical skills and attitudes;

and understanding and knowledge related to occupations in various sectors of economy and social life. TVET is known by many other names in different countries and regions. Among the names are: Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workforce Education (WE), and Workplace Education (WE). Even though TVET is known by different names the focus is the same.

Traditionally, vocational education has been identified with educational provision directed at occupational learning of types of work that are seen as requiring only lower-level skills, commonly 'manual' rather than 'intellectual' skills, and which consequently may be taught, through focused 'training' rather than through a more expansive engagement in 'education' (Moodie, 2002). However, with recent developments the orientation of TVET has changed. TVET does not engage itself entirely with the preparation of the workforce for low-level jobs. Now TVET is recognized as one of the most important keys to sustainable development. In fact, TVET enhances human capital development for industrialization. It is through programs like TVET that a country is able to produce the high skilled workers needed to propel economic growth.

Palmer (2009) indicates that TVET has been getting attention from the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank and many bilateral aid agencies since year 2000, due to the important roles played by TVET in the development of a nation. According to Basu (1997), TVET helps develop the economy of a country by providing skilled workers for the labor market. In addition, TVET is an instrument of social policy. It assists people in particular social groups, such as those in

poverty or who lack marketable skills, to improve themselves (Basu, 1997). To achieve all these aspirations, especially in a changing economy, a country needs a strong TVET system and this has been shown to be true in some countries, as described by Barnett and Segerstrom (1998), Jang and Kim (2004). According to these authors, strong economies, such as Germany, Japan, South Korea and Singapore all possess well-developed vocational and technical education (VTE) systems.

Human resource development is an investment that cannot be taken lightly because if it is taken lightly the country may not be able to compete in the globalized world. In fact, according to UNESCO (1999), human resource development through TVET is actually a cycle of investment in human resources to enhance productive capabilities, the utilization of those resources to produce higher output, and the consumption by those human resources of the benefits arising from increased output, thereby leading to an enhanced quality of life. A good human resource development policy must emphasize on the development of highly skilled workers and this can only be done through a good TVET system

It is common knowledge that the nature of occupations served by the vocational education sector has been evolving progressively in recent decades into one demanding more intellectual and higher-order skills commonly associated with traditional professions. The increase of business, communications and service industries, and the evolution of economies into knowledge-based societies have contributed to the transformation of vocational education, especially in the more economically developed countries, into a sector more focused on education than on training (Hyland, 2002). With the changes occurring in the workplace and work environment, a well-educated and highly skilled workforce is needed to achieve success and prosperity.

In the last quarter of the 20th century and continuing into this century, there have been considerable changes in the kinds of work available across and within countries (Handel, 2005; McBrier & Wilson, 2004). As a result, there has been reshaping, transformation and delineation of some occupations. Not only does work change as indicated by Wilson (2005), the workplace itself is also changing from production and/or service orientation, common during the Industrial Age, into knowledge-based and learning enterprises. In addition, Wilson (2005) goes on to say that, the nature of workers is also changing. They are being transformed from *operatives* performing repetitive, assembly line tasks into *knowledge workers* in learning organizations. Knowledge workers as defined by Wilson (2001a) are those who use logical-abstract thinking to diagnose problems, research and apply knowledge, propose solutions, and design and implement these solutions, often as members of a team.

To accommodate the changes that are occurring, the mode of education, especially TVET, has to change in terms of training programs and approaches used. Changes that have taken place in many countries such as United States of America (USA), Britain, Australia, Korea and Malaysia have resulted in changes in TVET. For example, manufacturing works in the USA, Britain, and Australia have declined significantly. However, it has grown significantly in Korea and many other Asian countries. Thus, these countries have reshaped their training programs to accommodate the needs of the new economic activities. Malaysia, for example stressed more on the Multimedia Super Corridor (MSC), and thus it was logical for Malaysia to increase the number of skilled workers in IT-related occupations. Further, if Malaysia is to become the center for the automobile industry, as proposed by the government, then Malaysia has to have a well-trained workforce in areas related to

the automotive industry. Hence there has to be changes in TVET to accommodate these changes .

In many countries, TVET is changing, particularly with regard to the curriculum and delivery approach. Malaysia, for example is converting some of its technical schools into vocational schools. TVET curriculum is becoming increasingly industry and market-driven with an emphasis on new technology. Obsolete subjects that are no longer appropriate for the new economies have been removed. Equipment and teaching/learning materials are modernized and training approaches changed. According to Siriwardene & Qureshi (2009) orienting TVET to the needs of the world of work is therefore, indispensable not only for economic and social development, but also for sustainable development. In line with educating and training knowledge workers for the knowledge economy, changes should not be limited to curriculum and approach alone. Changes need to be made to educational policies, facilities, and above all, teachers. As we know, teachers no longer impart knowledge but facilitate learning. A curriculum is no longer a mechanism to deliver facts, but is a mechanism to promote and facilitate learning and thinking. Educational facilities such as classroom must be reoriented to better facilitate learning. More rooms that are designed to facilitate interaction must be designed in lieu of traditional classrooms and lecture halls. Such a reorientation will increase interaction among the participants (Siriwardene & Qureshi, 2009). Latest equipments are needed to ensure that students get to train using the latest technology. In view of the immense potential of TVET to generate growth, Siriwardene & Qureshi (2009) pointed out that TVET is emerging as a vital empowerment tool to improve living conditions. TVET enhances the capabilities of an individual's employability and ability to obtain decent work and increase earnings.

The Nature of TVET

There is increasing demand for more high skilled workers across many businesses and industries thus, creating new interest and enthusiasm for technical and vocational education and training. As a result, TVET institutions are seen to be making a strong comeback in many parts of the world. In Malaysia, it was estimated that in 2005, 27% of new entrants into the job market were without any kind of skills and by 2020 Malaysia will need 3 million skilled workers. Malaysia needs to ensure that it has a large pool of high skilled workers to facilitate its aim of becoming a fully industrial country with high-income society. As at 2009, TVET institutions in Malaysia managed to produce approximately 120,000 graduates thus indicating that a lot more TVET graduates need to be produced. Currently, Malaysia has 405 public skill-training institutes and 584 private skills training institutes. Various ministries and agencies are working toward ensuring that Malaysia achieves the objective of having 3 million skilled workers by 2020. This includes the Ministry of Human Resources, MARA, Ministry of Youth and Sports, Ministry of Agriculture and Agro-Based Industry, Ministry of Education, Ministry of Higher Education, Ministry of Defense, State agencies and the private sector.

Today, many high school graduates and students are learning to become computer technicians, chefs, graphic designers, technicians, mechanics, nurses and so forth. This indicates that the youths of today are becoming more interested in TVET. Thus, the government and the private sector have made an effort to offer TVET in areas such as IT and computer science, creative arts and designs, fashion and interior design, business and accounting related courses, health care, culinary and tourism as well as technical courses, to meet the aspirations of young school leavers. This is to ensure that the career

needs of many high school graduates can be accommodated and their talents are not wasted.

New Economy and TVET

Globalization and the intensive use of information and communication technology have led to the emergence of a new economy (Boutin, Chinien, Moratis, and van Baalen, 2009). A division of economic and social affairs of the United Nations (2001) defines globalization as a flow, between countries, of goods, services, capital, ideas, information and people, which produces national cross-border integration of a number of economic, social and cultural activities. The use of information communication technology (ICT) has made possible the internationalization of core economic activities such as the exportation of some service sectors from one country to another where labor is cheap or business transactions without the merchant and customers being present at the same place. For example, USA has outsourced many businesses to countries like India which has a large pool of skilled workers. Online businesses are also growing at a faster rate than anticipated. Online businesses were already in existence in the 1980s, but at that time customers had to call the merchants to place an order. This is not the case anymore as now most of the transactions are done online without any verbal communication between the customer and the merchant

The new economy, according to Boutin (2009), is a knowledge- and idea-based economy where the keys to job creation and higher standards of living are innovative ideas and technology embedded in services and manufactured products. In the new economy, risk, uncertainty and constant change are not the exception but the norm. The new economy and globalization have brought about changes in organizations. The structure of organizations has flattened, firms

are downsizing and business process re-engineering is now widely used. Many organizations subcontract and outsource non-core activities, and create multifunctional project teams. They empower their employees and emphasize on workforce flexibility (multi-skilled workers). Extensive use of ICT in business has made all this possible. In an economy that is increasingly based on knowledge, human capital is considered as one of the most important elements to compete successfully in the global market and knowledge is positioned as a competitive resource (Brouti, 2009). Economic prosperity in the global economy depends highly on the ability of a nation to provide a well-educated workforce. Thus, it is the responsibility of the nation to develop, attract and maintain the workforce required by the new economy.

Every time a business is to be established in another country, one question that is always asked is whether the country has a skillful and well-educated workforce. It is very important, as asserted by The Conference Board of Canada (2001), that a country has knowledgeable and skillful employees because they will create value-added products and services efficiently and effectively so that businesses can compete successfully in the global market. As such, human resource is the main asset of any country and consequently investment in human resource is the key to the development of a country. It is as important if not more important than investment in capital or other resources for a business to succeed in today's globalized world, as acknowledged by the UNESCO (1999). In fact, according to Chinien et al. (2009), it is the theme for the development of a national strategy or master plan for TVET in most countries.

In the new economy, human resources that have both soft skills and technical skills or work skills are needed, and TVET can play an important role in ensuring that the workforce is highly skilled and

possess employability skills. Technical knowledge and skill alone has a short life span and is job specific and thus not transferable to other trades. Each employee has to have the desire to upgrade his or her skills (for example) if he or she is to continue to contribute to the progress of the organization. During the recent economic crisis many workers lost their jobs entirely through voluntary retirement or forced retirement. Those who were retained were required to undergo retraining to learn new skills and acquire new knowledge. Some had to change jobs entirely by becoming entrepreneurs for instance. There have been tales such as where a lawyer became an entrepreneur in an area unrelated to his training. All of which points to the fact that lifelong learning will have great impact on the success or failure of such programs and job changes.

Malgen & Hopkins (1998) indicate that there is some strong empirical evidence demonstrating that TVET can indeed help to achieve economic growth by improving workers' productivity. As a result of the new demands on the workforce, many nations (for example, USA, European Union, African Union, Middle Eastern countries, Malaysia included) have modernized, or are in the process of modernizing, their education and training systems in order to ensure an adequate supply of highly-skilled workers (Brouti, 2009). For example, the comprehensive national strategy adopted by Australia, as recommended by UNESCO-ILO, for improving TVET from 2004 to 2010, has captured adequately various worldwide initiatives for re-engineering TVET. The underpinning priorities of the Australian strategy are as follow:

- Increase participation in VET and improve the performance of learners (particularly employed people);
- Improve access to information, guidance, and counseling;
- Raise the image of VET and improve public recognition of its employment outcomes;

- Achieve equality in VET participation and learner attainment;
- Make sustained investment in technical and further education (TAFE) institutions and other registered training institutions;
- Promote partnerships between training providers and industry to drive innovation;
- Implement flexible funding models and planning and accountability approaches;
- Develop sustainable funding and encourage cost sharing;
- Strengthen the industry's role in anticipating skill needs and developing products and services to meet them;
- Improve learning pathways and transition from school to work;
- Improve the quality of VET; and
- Simplify access to international VET markets

(NCRVE, cited in CEDEFOP, 2007)

The Importance of TVET

TVET is an indispensable instrument that helps improve the quality of the workforce by improving their mobility, adaptability and productivity (Caillods, 1994). The author also stresses that TVET indirectly contributes to the enhancement of firms' competitiveness in the globalized world. This is so because one of the most important features of TVET is its orientation towards the world of work and the emphasis of its curriculum on the acquisition of employable skills. According to Afeti (2006), TVET delivery systems are well placed to train skilled and entrepreneurial workforce that some countries need to create wealth and emerge out of poverty. Some other benefits of TVET include the following:

TVET Improves Productivity

With the acquisition of skills, workers are more productive and able to produce more output for a given amount of time and effort. Productivity also depends on the work of team members. Through TVET, especially when they undergo on-the-job training, they learn to work with one another to do the job effectively and efficiently.

TVET Contributes to Capital-skill Complementarities

According to Ashton et al. (2002), a higher level of human capital enables machinery and plants to be used more efficiently, raising the rate of return on investment. According to O'Conner & Lunati (1999), investment in physical capital equipment is an important determinant of growth. However, highly skilled workers are needed to master the technologies in newly acquired capital equipment.

TVET Addresses Technological Change

According to Booth et al. (1996), the acceleration of changes in technologies prompts industries to hire highly skilled workers as without them, it would be difficult to reap most of the returns from technological progress.

TVET Addresses Changes in Work Organization

According to Booth et al. (1996), the demand and effective use of skills within enterprises depend on the ways in which work is organized. The changes in the organization and work practices in high performance enterprises have an implication on the employee skills required. In this type of organization, there are self-managed work teams, multi-skilling, job rotation and cross training and the devolution of decision making (Aston & Sung, 2002). It only works

if employees acquire technical skills in addition to those normally required in a traditional organization (Ashton & Sung, 2002).

TVET Addresses Trade Openness, Competition and Foreign Direct Investment (FDI)

With globalization, skills, rather than the resource base of the region determine their competitiveness (Shakar, et. Al. 2001). Globalization raises the capital flow, which, in turn, raises the demand for skilled manpower. Lack of highly skilled labor may deter the flow of FDI to a particular country.

The Implementation of TVET

In general, most countries implement TVET in three different ways. These include:

School-based TVET

i) Comprehensive high/secondary schools

Here vocational subjects are offered as elective subjects and students undertake these subjects according to their interests and aptitude. In our school system, several vocational subjects (MPV) are offered mainly for those who have no inclination towards the academic field. Some vocational subjects are also offered to students who are good in the academic field, where they may undertake the subject as an elective.

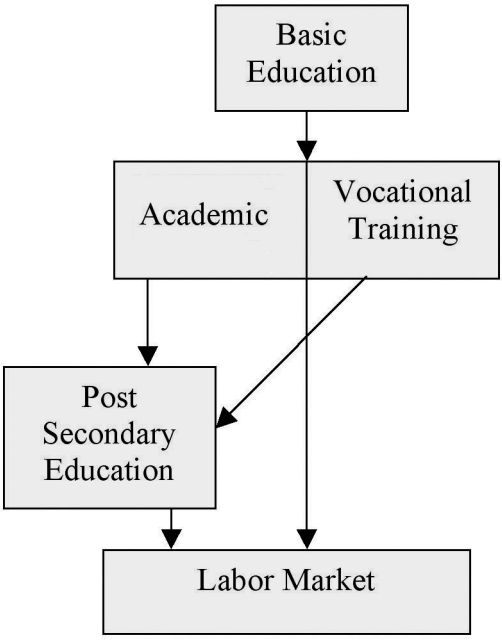

Figure 1 Academic School-based TVET

ii) Vocational and Technical Schools

Here vocational education takes place mainly in vocational and technical schools at the secondary level. These institutions run parrellel to academic schools but in contrast are primarily focused on TVE.

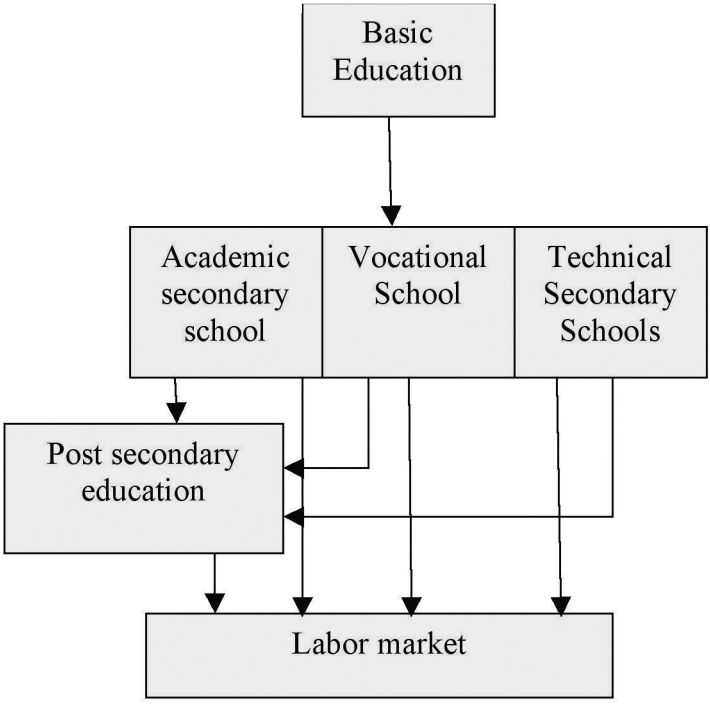

Figure 2 Vocational and Technical School Based

Non-school-based Centers

Typically run by ministries and agencies such as MARA, Ministry Youth and Sports, Ministry of Human Resource, Ministry of Higher Education and state agencies, mainly for youths who have completed secondary education or a part of secondary education. The training can be varied in length, from modular courses to short courses or even last one to three years. At the end of the training certificates will be awarded by the respective institutions.

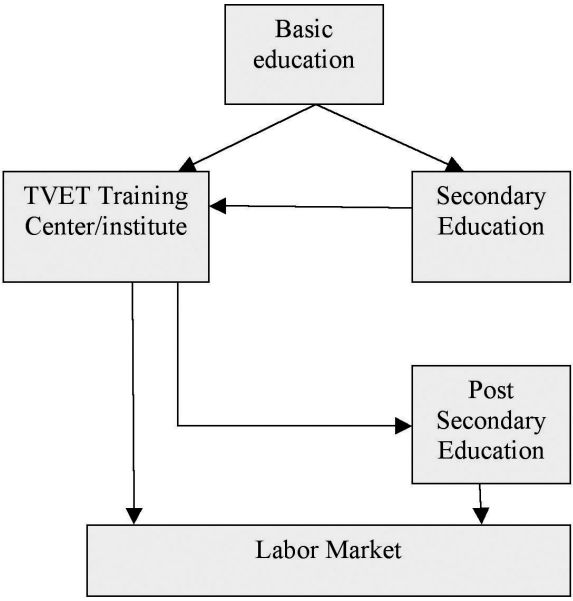

Figure 3 Non-school based TVET

Within Enterprises

Courses are offered within the enterprise through on-the-job training or apprenticeship schemes. These are tailor-made courses offered by experts within the enterprise or by people outside the enterprise. The main purpose is to equip or update knowledge or skills required of the workforce to operate new equipment or manage new projects.

Youths and Employment

The United Nations defines youth as young women and men who are between 15 and 24 years of age. They are in the forefront of social, economic and political developments, and they are the agents of change and innovation. They bring energy, talent and creativity to

economies and make important contributions as productive workers, entrepreneurs, consumers, agents of change and as members of civil society (ILO, 2010), and active citizens and leaders of the community. The world of work provides the environment through which youth can actively participate in society, contribute their talents and vision for the future and develop a sense of commitment and belonging (Bremley & Lyngdoh, 2005). Yet, according to an ILO report (ILO, 2010), youth who represents only 25 per cent of the world's working age population accounts for almost one half of global unemployment (World Bank, 2006). In fact, unemployment among youths was nearly three times higher (13%) than among adults (4.9%) in 2009 (ILO, 2010).

While the overall youth population grew by 10.5% over the last 10 years to more than 1.1 billion in 2003, youth employment grew by only 0.2% to around 526 million. Of some 620 million economically active youth aged between 15 to 24 years, 81 million were unemployed at the end of 2009, the highest number ever recorded. This is 7.8 million more than the global number in 2007. Youth participation in the labor force has decreased by 4% over the last decade (ILO, 2004) and this is mainly due to the longer duration that youths spend in schools, which has caused a delay in their participation in the labor market. The Youth unemployment rate increased from 11.9 percent in 2007 to 13.0 percent in 2009. It is predicted that it will reach an all-time high of 81.2 million at a rate of 13.1 per cent, followed by a moderate decline to 78.5 million at a rate of 12.7 per cent in 2011 (ILO, 2010).

Levy & Murnane (2006), Murnane & Levy (1996), and Partnership for 21st Century Skills (2003) indicate that in the last 30 years, while the skills required for youth to succeed in the economy have changed radically the skills emphasized in schools have not changed at the same pace. Due to globalization and technological advances, labor markets around the world have changed and

continue to change, making it more difficult for many young people to make the transition from school to the world of work. Skills that were appropriate prior to globalization have become obsolete due to the use of advanced technology in the work place. Thus, youths need to furnish new skills to work in new environments as demanded by the industries, or else they will have difficulty in securing employment. In the globalized world and new economy, industries have no choice but to employ those who possess the needed skills that will enable the industries to compete globally.

Morris (2006) states that youth labor force will be in the region of 660 million by 2012 and a great majority of them will be in the Asia Pacific region where based on ILO estimation, South East Asia alone accounts for almost 64 million. The unemployment rate in Asia and Pacific was approximately 17% in 2004. The reasons for unemployment are many. As mentioned by Morris (2006), they may include economic growth, skill mismatch, unrealistic aspirations and inadequate labor market information to reform the education curriculum, training provision, career guidance and job placement. Although young people represent nearly half the world's jobless and 25% of the working age population, halving the world youth unemployment rate would add at least $2.2 trillion to global gross domestic product (GDP) equal to around 4% of the 2003 value, according to a 2004 ILO analysis.

TVET for sustainability issues are particularly important for youths because they will inherit many of the environmental, economic and social problems created over the past decades (Lyngdoh, 2005). However, as indicated by Lyngdoh (2005), we face at least four barriers in imparting TVET for sustainability values/education to young people for employment creation. Following are the barriers:

- Lack of targeted education, employment and training services to serve young people's employment needs;
- Lack of access and appropriate use of new technologies to impart TVET to support youth employment;
- Lack of enabling policies and partnerships for youth employment;
- Discrimination against young people and, specifically, young women.

Preparing Youths for the Transition to Work: The Role of TVET

Secondary education is expanding rapidly worldwide with enrollment climbing from 321 million in 1990 to 492 million in 2002/2003 (UNESCO's Global Education Digest, 2005) and as a result, the demand for post-basic education is increasing simultaneously. Similarly, enrollment of students at the secondary level in Malaysia is increasing as well, as shown in Table 2.

Table 2 Enrollment of students in secondary schools

Years	Enrollment
2010	2.344 mil*
2008	2.240 mil
2007	2.250 mil
2005	2.217 mil
2003	2.098 mil
2000	1.998 mil

Source: MOE (2008)
*MOE (2010)

In Malaysia, the educational system at the secondary level comprises of general education and technical and vocational education (TVE). Students are given the opportunity to choose the education of their choice, be it general, technical or vocational education. However, a majority of them opt for general education with those enrolled in TVE stands at 86,085 as of 2010.

Secondary education accommodates vocational preparation in different ways. Typically, lower-secondary education offers general vocational skills, awareness and appreciation of the world of work, while upper-secondary technical and vocational education includes courses that will prepare the youth for entry-level semi-skilled employment, covering a wide range of occupations (Adams, 2007). This is also seen in Malaysia where at the lower secondary level, all students have to study a Living Skills subject consisting of 4 main areas which include agriculture science, home science, business studies and technical studies. This is in line with the theory of career development, which proclaims that students between the age of 13 to 15 are at the exploratory stage. In relation to upper secondary education, the Malaysian education system differs slightly compared to the one described by Adams, whereby Technical and vocational education at the upper secondary level in Malaysia, can be acquired by either studying vocational subjects in an academic secondary school or by enrolling in technical and vocational schools.

Students who enroll in technical schools in the technical stream are in fact preparing for further education, whereas those who are in the skills stream are the ones who are supposed to be preparing for employment. Although TVE is an approach to prepare youth for the world of work it has not been able to attract youth enrollment due to the negative stigma associated with it by youths as well as parents and society. To many, vocational education specifically caters for those who perform poorly in the national examination. In Malaysian

secondary schools, there are 21 vocational subjects offered in academic schools. Those who take up these subjects are mainly students who do poorly in the Penilaian Menengah Rendah(Lower Secondary Evaluation). These negative perceptions are not without reason. In general, there is lack of recognition accorded to the skills acquired in TVE programs in formal education, where the ability to use this knowledge for entry to further formal education is limited, as well as by industries. Thus, TVE is viewed as having a second-class status. Such negative perceptions have yet to be changed. Changing this established view will not be easy even though the Government of Malaysia has developed a Malaysian Qualifications Framework (MQF) where it has introduced Malaysian Skill Certificates in TVE. The MQF has eight levels of qualifications in three national higher education sectors and is supported by lifelong education pathways. The sectors are (a) Skills; (b) Vocational and Technical; and (c) Academic.

However, only five are relevant for TVET. Levels 1 to 3 are Skills Certificates awarded by the Skills Sectors. Academic and Vocational and Technical Certificates are at Level 3. Meanwhile, Diploma and Advanced Diploma are at Levels 4 and 5. However, a change needs to be initiated to enable a student to obtain Malaysian Skills Certification 1(SKM 1) without having to obtain SPM or other commonly recognized qualifications. It is suggested that students be assessed for SKM1 based on the training that they obtain after the PMR exanimation. Currently assessment is done after students have obtained the SPM certificate. By making such changes, a student who has completed two years of TVET education (at form 4 and 5) would have obtained Malaysian Skills Certification 3 (SKM3).

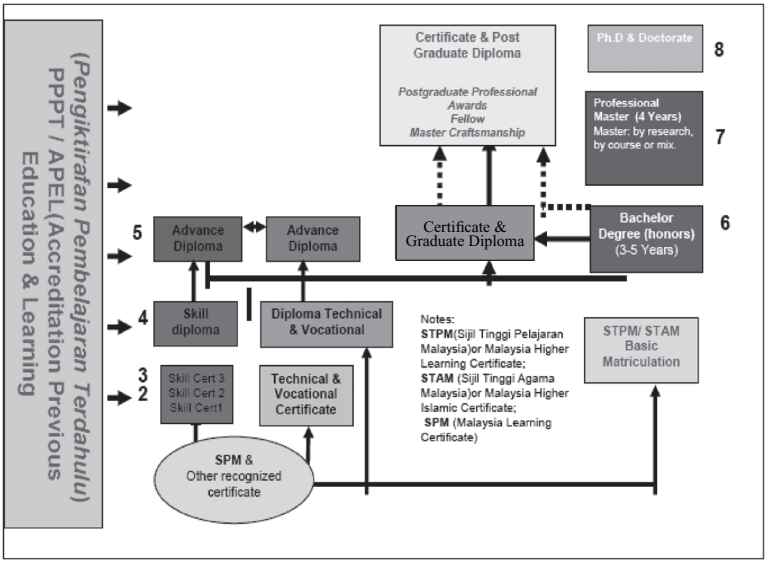

Figure 4 Malaysian Qualifications Framework

Even though there is certification for skill sectors, however there does not appear to be much emphasis among employers to employ workers with SKM certificates. This implies that employers may employ anybody who has a high school certificate regardless of whether that person has a SKM certificate.

The UN Global Education Digest (2005) indicates that enrollment in TVE varies from region to region. For example, European countries have high levels of TVE secondary enrollment, ranging between 59 percent and 54 percent, whereas countries like South Africa, Canada, China, India, Japan, Malaysia, New Zealand, Thailand, and Russia all fall below the 15 percent enrollment level. Most of the TVE enrollment is at the upper secondary level. Recently, the Ministry of Education in Malaysia initiated the idea of enrolling students in TVE as early as at the lower secondary level. Caution needs to be practiced when implementing such a policy

because at that level, learning is exploratory; that is, exploration of opportunities for later enrollment. However, the idea is brilliant particularly when taking into consideration school children who are not interested in academic studies. They will be better off taking up TVE skills training rather than simply staying in class as in this way they gain skills that enhance their employment opportunities.

The goal of all nations is to pursue a policy that continuously improves the wealth and standard of living of its population. Malaysia, for example aspires to be a developed nation in the near future, just like the United States of America, Japan and many others. Malaysia is targeting to achieve per capita income of between US$17000 to US$20000 by year 2020. Currently, the per capita income of Malaysians is US$7000. Its goal is achievable only if Malaysia can develop a high skilled workforce. This was acknowledged by the government whereby it is stated in the 10th. Malaysian Plan that Malaysia aspires to move up the value chain to become a high-income economy, and must therefore significantly increase enrolment in technical education and vocational training (TEVT) and raise overall training quality to up-skill the workforce. This shows that the government has great expectations about what TVET can deliver.

Human capital is generally considered as the most important resource in the new global economy (Thurow, 1996 and 2003). McLean, Osman-Gani & Cho (2004) and Paprock, 2006) suggest that a nation's workforce will determine the degree to which it participates in global economic growth in the long run. Importantly, according to them, a nation's workforce is relatively less mobile than other types of capital, and thus more likely to stay in the country of origin. It is therefore believed that investment in human capital is the best public policy for the future growth of nations. According to Gray and Bae (2009), the common misconception is

that the majority of workers in global high-technology industries will need a four-year college degree. They further argue that firms are not finding it difficult to recruit university-trained engineers or scientists, in fact there is, in general, a worldwide surplus. Instead, the shortage is for those with training typically associated with pre-first-degree qualifications. Specifically, the credentials in demand are for associate degrees or certification in technical fields. To substantiate their claim, they named Korea and China as examples. Thurow (2003) cited in Gray and Bae (2009) explained that the Republic of Korea aggressively invested in developing an excellent workforce in its drive to become an advanced economy. It now has a large post-college educated workforce and high levels of technology, which have resulted in economic success over the past few decades and manifested the 'importance of creating man-made sources of competitive advantage'. This country is now facing a shortage of technicians typically requiring people with two-year college-level education—this problem is faced particularly by small- and medium-sized businesses that are integral to the Korean economy. China is facing the same dilemma. There is a worldwide shortage of technicians though currently the number of university graduates has never been higher. Many who graduate from universities end up being overeducated/ underemployed and many of them accept reverse transfers in order to learn technical skills that lead to high-wage employment (Gray and Bae, 2009).

In the Republic of Korea, the employment rate for four-year college graduates was 56.7% in 2003 while for vocational high school graduates it was 92% (KEDI, 2004). This shows that there is an unemployment issue among students with a four-year college degree. Many of them are not immediately employed upon graduation. Some are employed in areas remotely related to their studies and some are underemployed. Thus, something has to be

done for this group of potential employees. An initiative known as reverse transfer has been implemented in the United States (US Department of Education, 1995) to overcome the issue of unemployment among graduates in the USA. Reverse transfer means enrolling an individual in an associate degree or certificate program after they have completed or dropped out of four-year or graduate degree programs. The aim of reverse transfer is to teach skills that will make them competitive for high-skilled/high-wage employment. The same process is happening in Malaysia whereby many graduates are being retrained in certain skills which are required by industry. In relation to the reverse transfer concept, Malaysia has introduced graduate training schemes such as the SPIKE program as a mean to provide some other technical skills to match industry needs. The SPIKE program was intended to train unemployed graduates to become entrepreneurs and K-Workers. Malaysia's Multimedia Development Corporation (MDeC) initiated such a program with the purpose of providing skill training in ICT-related areas. The concept of degree ++ practiced by many Institutions of Higher Learning (IPTs) in Malaysia is similar to the reverse transfer concept.

To seriously tackle the issue of advancing the nation's economy and at the same time reduce unemployment among university graduates, promoting TVET at both secondary school and post-secondary school levels needs to be considered. TVET should be emphasized in the development of policies for human capital development because TVET is an important element for both economic growth and to provide economic opportunities for youths. The perception of a second-class status unofficially accorded to TVE has to be removed by taking steps such as having an articulation agreement with post secondary institutions. In order to make such an articulation, we need to improve the quality of TVET programs.

The entrance requirements must not be compromised. If the image of TVET is improved, enrollment in TVET may increase. It was reported in the *Education Today Newsletter* April–June 2005, UNESCO, that when Korea wanted to make the big push into export-oriented manufacturing, construction and service-oriented sectors, the country identified a need for a new stream of skilled workers. For that purpose the Republic of Korea began to expand its investment in TVET. Today, about 40 per cent of secondary level students in Korea are in TVET compared to Malaysia, where it is only about 10%. With the expansion in TVET enrollment the government of Korea hopes to satisfy its need for skilled labor.

In Korea, TVET students are now getting a healthy dose of academic subjects so that they can apply for entry into universities. The same should be practiced in Malaysia whereby the TVET curriculum should also include sciences and mathematics comparable to the subjects taught in academic schools. Such a measure will of course change the negative perception towards TVET. The intention is to show that TVET is not only for students who are poor in academic studies and that it is for everybody. If we can make entrance to TVET institutions competitive, people will then appreciate the value of TVET qualifications. Of course, we also need to cater for students who are poor in academic studies. For them we have the skills stream in TVE secondary schools. TVET in Malaysian secondary schools consists of vocational, technical and skills streams. In the skills stream, students are trained in technical skills appropriate for the market with the purpose of producing support staff who are experts in specific areas. For instance, we need people to service mobile phones, computers and air-conditioning, and bricklayers. Therefore, people need to be trained to take up these jobs. If TVET is initiated at a much earlier age, at the form one level for example, perhaps we can produce experts, or even

innovators in some areas. This is possible because these students will be in the lower secondary school for three years and a lot can be achieved within three years.

They are Trained but are not Employable

A nation's workforce will determine the degree to which it participates in global economic growth. If its workforce is not well developed, a nation cannot effectively participate in this competitive world. Importantly, a nation's workforce—its citizens—are 'relatively' less mobile as compared to other types of capital, and is more likely to stay in the country and, thus, human capital investments—or human resource development—is becoming the best public policy for the future growth of nations (McLean, Osman-Gani & Cho, 2004; Paprock, 2006). Human and social capital is now generally considered as the most important resources in the new global economy (Thurow, 1996, 2003). Today, industries and businesses focus on the adaptation and use of new technologies in production and delivery of goods and services. With the adaptation and use of new technology, coupled with cost reduction, business and industries intend to increase productivity. Thus, industries are recruiting people with skills which can assure that they remain competitive, innovative, at reduced cost, and at the same time maintain or improve profitability.

As developed economies rely on knowledge-driven businesses, employability is seen as a competitive advantage as national prosperity depends on upgrading the knowledge, skills and entrepreneurial zeal of the workforce (Brown and Lauder, 2001). According to the Organization for Economic Cooperation and Development (2001), today employees are required to show teamwork spirit, the ability to cooperate in unclear environments, the ability to solve problems, deal with non-routine processes,

handle decisions and responsibilities, have communication skills and the capacity to see workplace developments in a broader context. It is well understood that education and training are the main instruments available to governments and the community to prepare individuals for a rapidly changing, increasingly demanding world of work, and to improve their employability (Kirby, 2000). The two greatest concerns of employers today are finding good workers and training them. The difference between the skills needed for the job and those possessed by applicants, sometimes called the skills-gap, is of real concern to human resource managers and business owners looking to hire competent employees (Robinson, 2000). Slow economic development in many countries, including developed countries, has taken a toll on job growth. The effect of a slowing economy has caused changes in organizations such as downsizing of some corporations, the merger of some corporations and relocation of some industries to more competitive countries. These changes are expected to go on for some time and thus unemployment among youths is expected to be prolonged.

Changes in economic development have resulted in unemployment among school leavers all over the world. To complicate the issue, the number of graduates from higher education institutions has increased tremendously while the number of jobs has not increased in tandem. This has resulted in university graduates taking on jobs more appropriate for secondary school leavers. With the available pool of school leavers, industries, businesses or corporations can be very selective. Even so, as Robinson (2000) indicated, employers are finding it difficult to recruit potential workers who have employability or job readiness skills that help them fit into and remain in the work environment. As the nature and tools of jobs have changed, so have the level of education and skills required. According to Van der Velden et

al. (2008), increasing complexity of work leads to accelerating obsolescence of existing skills. Many educators facing the challenge of preparing young people to participate in the increasingly complex and changing world of work are calling on employers to articulate and communicate their needs better.

The new economy demands new ways of thinking, new ways of managing and new ways of working. The specific skills required to enter and succeed in the workplace have also changed significantly in the past two decades. Technical and technological skills remain important, but must be modified and grounded in employees' ability to think in the context of the big picture (Lync, 2009) to ensure the growth of the organization. In today's economic environment, jobs are not guaranteed where a person with the necessary qualifications may not necessarily be hired for the post for which he or she applies. His or her chance of being employed depends not only on the availability of job openings but also on his or her ability to exhibit the attributes expected to ensure their preparedness for the workforce. Presently, Johnson and Watson (2006) believe that the conception of work is shifting from work as a "career for life" to work as changing careers.

Often school leavers as well as university graduates are highly trained but they are not employable. Why are they not employable? Is it because they do not have employability skills? According to Brown, Hesketh and Williams (2002), employability will vary according to economic conditions. During times of labor shortage, the long-term unemployed become 'employable'; and similarly when jobs are in short supply they become unemployable. This is not because they do not have the qualification, but because of supply and demand inequalities. The larger the number of applicants for a smaller number of vacancies, the more difficult it is to obtain the said job. Thus, it does not mean that those who are not employed

are not employable. Industries rarely admit that there is a lower number of vacancies available for job applicants; instead, they state that graduates are not employed because they do not have employable skills and blame educational institutions for failing to equip the graduates with the required skills. Often graduates are not employed because of a mismatch between what they have learned and the skills demanded by the industry.

Employability: A Definition

The concept of employability first appeared at the beginning of the 20th century in the United Kingdom (de Grip, Andries, van Loo, Jasper, Sanders, and Jos, 2004). Mansfield (2001) states that Beveridge coined the idea of employability in 1909. Philpott (1999) expressed the view that employability is a little more than a 'buzzword' that is more often used than properly understood or "a fuzzy notion, often ill-defined and sometimes not defined at all as stated by Gazier (1998). However, Employability commands a central place in labor market policies in the UK, many other European states and beyond (McQuaid and Lindsay, 2004).

de Grip, Andries; van Loo, Jasper; Sanders, Jos (2004) define employability as the capacity and willingness of workers to remain attractive in the labor market (supply factors), by reacting to and anticipating changes in tasks and work environment (demand factors), facilitated by the human resource development instruments available to them (institutions). Meanwhile, Brown, et al. (2003) posited that a more appropriate definition of employability is the relative chance of acquiring and maintaining different kinds of employment. The new definition seems more appropriate as previous definitions of employability concentrate solely on the characteristics of the individual and fail to encompass economic aspects. Baker & Henson (2010) noted that even the most highly

skilled individual could become "unemployable" during times of national economic decline. Employability is a relative concept that depends on demand and supply within the labor market. If demand is high and supply is low, we can safely assume that all applicants with relevant qualifications will get a job offer and probably some applicants will get multiple offers. To be employed or not depends on the employability of others.

Nowadays, majority of secondary school graduates aim to pursue university education. While a university degree may not improve one's chances of being employed, it will keep one in the race for the job. Universities are built and university programs are offered through distance education because almost everyone thinks that a university degree is a ticket to a bright future. In Malaysia, there has been an increase in the number of universities and the offering of distance education programs, causing an influx of university graduates into the labor market. Yearly, about 80,000 students graduate from institutions of higher learning in Malaysia with a bachelor's degree and thus we are faced with the phenomenon of employability. As mentioned earlier, one's employability depends on the demand and supply scenario. Thus, in this case employers can afford to be very selective.

Whether it is a buzzword or is fuzzy or ill-defined, employability has made an impact on human capital development. It is one of the main topics in the debate on human resource development in a globalizing economy and one of the "pillars" of the European Employment Strategy (European Commission, 2000; ILO, 2000). Employability is one of the four priorities for national policy action on youth employment (along with entrepreneurship, equal opportunities between young men and women and employment creation) for United Nations (UN, 2001). In relation to this, the UN's Youth Employment Network has suggested that all countries need

to review, re-think and re-orient their education, vocational training and labor market policies to facilitate the school to work transition and give young people a head start in working life (UN, 2001).

According to Bridges (1994), lifetime employment with a single employer is no longer relevant. Modern careers are characterized by a high degree of flexibility and employees are meant to become entrepreneurs of their own career (Hyatt, 1996). The development of new technologies and the borderless economy have changed organizations. The changes demand that employees be flexible and adaptable in order for them to move within the organization itself and to other organizations. Such characteristics will enable them to acquire new knowledge and skills if they are to remain productive in the work world. Theorists like Sabel (1982) and Brehony and Deem (2005) opined that in modern industrial societies, work organization has moved from 'Fordism', characterized by scientific management techniques, hierarchical structure, inflexible processes, specialization and mass production, to 'post Fordism', which emphasizes on flexibility, decentralization, teamwork, flat structure and information communication technology (ICT) utilization.

Hillage and Pollard (1998) indicate that for individuals, employability depends on their assets in terms of the knowledge, skills and attitudes they possess, the way they use and deploy those assets, the way they present them to employers, and crucially, the context (e.g. personal circumstances and labor market environment) within which they see work. McQuaid and Lindsay (2005) highlight the existence of two alternative perspectives in the employability debate. One focuses only on the individual's characteristics and skills, referring to the individual's potential to obtain a job. The other perspective takes into account external factors (e.g. labor market institutions, socioeconomic status) that influence the prospects of a person in getting a job, moving between jobs or improving their

jobs. Thus, employability of a graduate is a function of both the graduate himself and the labor market institutions. Even if they possess the needed skills, they may be unemployed if the economy does not permit.

Employability Skills: A Definition

People who have technical skills may not necessarily have employability skills. What are employability skills? There are different definitions of employability skills. Internationally, employability skills are also known as 'key skills', 'key competencies', 'core skills', 'basic skills', 'essential skills, 'employability skills' and 'employment know-how' (Table 4). Although the skills are known differently around the world, they encompass the same concept where there is an overlapping of similar skills. As defined by the Commonwealth of Australia (2002), employability skills are those skills required not only to gain employment, but also to progress within an enterprise to achieve one's potential and contribute successfully to the enterprise's strategic goals. It encompasses the basic skills necessary for getting, keeping, doing well on a job, and possibly remaining productive on the job whereby those with employability skills will have a far better chance of making their way to the top. Unlike occupational or technical skills, employability skills are generic in nature rather than job specific and cut across all industry types, business sizes and job levels, from entry-level worker to the most senior position (Robinson, 2000). It encompasses the skills that a person needs to enter, stay in and progress in the world of work - whether the person works on his or her own or as a part of a team (Conference Board of Canada, 2010).

The Business Council of Australia and the Australian Chamber of Commerce and Industry (2002) defined employability skills as

skills required not only to gain employment but also to progress within an enterprise so as to achieve one's potential and contribute successfully to the strategic directions of the enterprise. Masona, Williams, and Cranmer (2009) stated that from the employers' perspective, employability often seems to refer to work readiness, that is, possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organizational objectives soon after commencing employment. According to Rychen & Salganik (2003), the Organization for Economic Co-operation and Development (OECD) argues that to operate in current environments and overcome the gap between new technologies and current workplace practices, industry requires workers who, in addition to technical skills, have highly developed generic and transferable skills, which optimize the individual's productivity.

Framework of Employability Skills

Each country has its own definition of employability skills. As shown in Table 3, different countries have different concepts about the skills required for employment.

Table 3 A Comparison of generic employability skills as defined by some countries

Australian Mayer Key Competencies	**United Kingdom (NCVQ) core skills**	**Canada Employability Skills Profile**	**United States (SCANS) workplace know-how**
Collecting, analyzing and organizing information	Communication	Thinking skills	Information Foundation skills: basic Skills
Communicating ideas and information	Communication Personal skills: improving own performance and learning	Communication skills	Information Foundation skills: basic Skills
Planning and organizing activities	Personal skills: improving own performance and learning	Responsibility skills Thinking skills	Resources Foundation skills: personal qualities
Working with others and in teams	Personal skills: working with others	Positive attitudes and behavior Working with others Adaptability	Interpersonal skills

cont. Table 3

Using mathematical ideas and techniques	Numeracy: application of number	Understand and solve problems using mathematics	Foundation skills: basic Skills
Solving problems	Problem solving	Problem-solving and decision-making skills Learning skills	Foundation skills: Thinking
Using technology	Information Technology	Use technology Communication skills	Technology Systems

Source: ACER review (2001, p. 51).

Table 4 Terminology relating to employability skills as used in different countries

Countries	**Terminology**
United Kingdom	Core skills, key skills, common skills
New Zealand	Essential skills
Australia	Key competencies, generic skills, employability skills
Canada	Employability skills
United States of America	Basic skills, necessary skills, work-place know-how
Singapore	Critical enabling skills
France	Transferable skills
Germany	Key qualification
Switzerland	Trans-disciplinary goals
Denmark	Process independent qualification
Malaysia	Soft-skills, employability skills

Source: Australian National Training Authority (2003)

Employability skills are further categorized into three main domains (ANTA, 2003). These are, as shown in Figure 5, basic skills, intellectual abilities, and personal attributes. Each of these domains contributes to the development of employability skills.

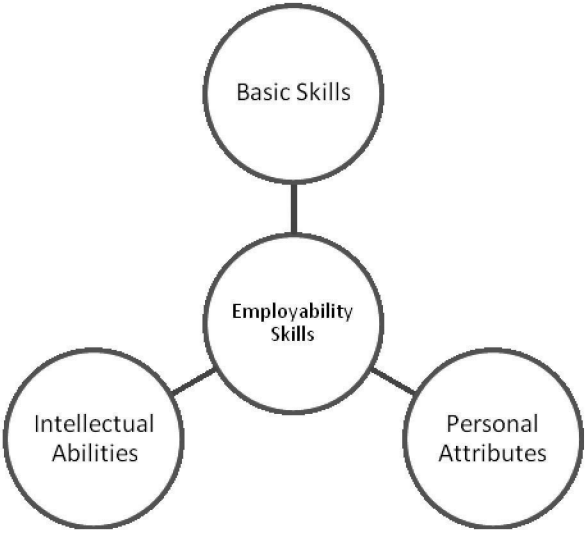

Figure 5 The Domains of Employability Skills

Specific skills for each domain are displayed in Tables 5-7.

Table 5 Components of Basic Skills

Foundation Skills	**Information and Communication Technology**
Listens, understands, and speaks clearly and directly	Is aware of and willing to use a range of technologies
Understands written documents and writes clearly	Uses technology to seek, process, and present information
Understands tables and figures, able to interpret graphs, able to calculate etc.	

Table 6 Components of Intellectual Abilities

Thinking Skills	Contextual Understanding	Organizational Goals
Able to make decisions	Knows own role in the work situation	Is able to manage own time and seek needed resources to complete set tasks
Capable problem solver	Understands the relationships among workplace processes and systems	Establish clear project goals and deliverables
Innovative	Can design, implement, and monitor corrective actions	Allocate people and other resources (budget, material, and space) to tasks
Creative		Set timeliness and coordinate sub-tasks
		Able to adapt resource allocation to accomodate contigencies

Table 7 Components of Personal Attribute

Continous Learning	Personal Attributes	Interpersonal skills
Acknowledges the need to learn in order to accommodate change	Has positive self-esteem	Shows cultural sensitivity
Open to new ideas and techniques	Understands that own actions influence others	Committed to client service

cont. Table 7

Is prepared to invest time and effort in learning new skills	Is self-manager, resourceful, shows inititaive and effort	Works well with others, individually and in teams
	Displays sense of ethics including integrity and honesty	Shows leadership qualities
	Accepts responsibilty for own actions	Can develop strategic vision, set goals and monitor performance
	Seeks and accepts feedback	Communicate goals and targets, engage and motivate subordinates toward a shared vision

The Importance of Employability Skills

Moy (1999) listed out the reasons for a focus on generic skills as given below:

- an increasingly competitive global market,
- rapid technological change,
- new forms of work and work organisation,
- the evolution of knowledge-intensive economies characterised by an increased focus on the service sector and the customisation of products and services.

In addition to the reasons outlined by Moy, Hughes and Stoner (2001) have strengthened the concept with their view: the focus of employment skills is to help avoid social exclusion of certain groups or individuals. Krahn, Lowe, Lehmann (2002) stated that

employability skills are an enduring policy concept because such skills are thought to contribute to both aggregate economic growth and improved labor market outcomes for individuals. According to Clarke (2008), having a pool of suitably skilled employable workers is essential for ongoing competitiveness and growth at both organizational and national levels. At the same time, at an individual level employability skills increase the likelihood of finding suitable employment in the general labor market thus promoting opportunities for job and career success.

Due to the changing work environment and raised skill requirements, Capelli et al. (1997) suggested that workers (current and future) require the competencies and qualities previously associated with more highly educated individuals. Employability is now seen as a person-centered construct based on skills, knowledge, abilities and attitudes, the capacity to anticipate changes and the capacity and willingness to adapt to changes within the work and labor market environment (Clarke, 2008). The employable person is motivated, self-confident, committed, adaptable and flexible. Based on a survey of 40 companies in the UK, Clarke (1997) found that employers would like to employ someone who is a team worker, articulate communicator, innovator, problem solver, decision maker and manager of changes. Further, the person will also have to demonstrate an appreciation of business and commerce, a customer-focused approach and a commitment to the highest quality. The employable person will have a strong desire for self-development and will be curious and analytical in his or her approach.

Employability skills help a nation with sustained economic development and enhanced international competitiveness. The Expert Group on Future Skills Needs of Ireland (EGFSN, 2005) claimed that developing the workforce at all levels is crucial to Ireland's sustained economic development as well as to maintain

and enhance Ireland's international competitiveness. To achieve these objectives, EGFSN suggested that education and training systems must promote the development of human capital, especially through the identification of future key skills needs, and put in place appropriate related learning opportunities. Employability skills are more important now than before due to the fact that the 20th-century workplace is interconnected, complex, and changing rapidly (UK Commission for Skills and Training, 2009). Since employability is so important, the Council's conclusions on a Strategic Framework for European Cooperation in Education and Training (2009) suggests that employability be one of the main goals of education and training systems for the next decade.

CONCLUSION

Technical and vocational education is an important component of the education system. Enrollment in vocational education courses should be seen as a way of exposing students to various areas for further education or employment. Thus, in Malaysia students should be encouraged to enroll in TVET courses while in school and TVET should be made accessible to all students. Through TVET, students can develop talents, interests and skills leading to careers in various sectors or to further education. TVET permits the harmonious development of the whole individual to meet the demands of the world of work.

TVET helps students prepare for occupational fields through the acquisition of broad knowledge and generic skills applicable to a wide variety of occupations. TVET, through its orientation toward the world of work and the acquisition of skills, plays an essential role in promoting a country's economic growth and poverty reduction; ensuring the social and economic inclusion of marginalized communities. TVET helps learners acquire the skills, knowledge

and attitudes needed to develop professional careers and enter the world of work as well as active citizenship and lifelong learning.

The implementation of TVET should be the responsibility of not only the government but also of the business sector. Enterprises should not only train new workers but also retrain (on-the-job training) others to enhance workers' skills in order to keep pace with production and technology changes. To facilitate this initiave, the government, on its part, has set up a trust fund administered by the Perbadanan Pembangunan Sumber Manusia(Human Resource Development Body). All costs incurred by employers in training and retraining of employees can be claimed from this fund. With the setting up of this fund, there is no longer any reason why employers cannot afford to train workers through on-the-job training. On-the-job vocational training gives workers the opportunity to be trained and to improve their skills directly at the workplace.

It is undeniable that TVET plays a great role in the economic development of a nation. As deliberated by UNESCO (2009), Japan and Korea emerged with very strong economies after the Asian economic crisis of 1997, to become the two most successful economies in the world. Japan being the world's second largest economy and South Korea's economy ranking 13th in the world and fourth in Asia. Work skills and skills development are to a large extent at the foundation of this growth, with technical and vocational education and training (TVET) being an important factor in the economic development of both nations. If Malaysia is to follow the footsteps of these two countries, TVET must be reemphasized and promoted to attract more youths to enroll in TVET programs. As stated earlier, efforts must be made to ensure that TVET is not viewed as a second choice in education options. There is a need for high skilled workers all over the world and through TVET individuals have the chance to acquire a combination of knowledge,

practical and social skills, positive attitudes, the ability to think creatively and responsibly as well as to act independently. This is achievable because TVET curriculum combines both theoretical (30%) and practical components (70%).

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BIOGRAPHY

Professor Dr. Ab. Rahim Bakar was born on 13 July, 1956, in Tanah Merah, Kelantan. He obtained a Diploma in Agriculture from Universiti Putra Malaysia (UPM) in 1978. Subsequently, he earned a B.S degree from the Iowa State University, Ames, Iowa, USA and M.S. and Ph. D. degrees from the Ohio State University, Columbus, Ohio, USA. Professor Dr. Ab. Rahim Bakar joined UPM as a lecturer in 1982 and was promoted to Associate Professor in 1999 and to full professor status in 2006. Currently he is the Dean of the Faculty of Educational Studies. Prior to his current appointment, he was a deputy dean at the faculty.

Professor Dr. Bakar's research interests encompass career development, employability skills and vocational education and thus has conducted researches in these areas. His works have been published in various forms including as journal articles, monographs, book chapters and papers for conferences.

Professor Dr. Bakar has also provided invaluable services to various agencies such as the Ministry of Education Malaysia, Economic Planning Unit and the Public Service Department. He is also actively involved as a member of various committees at university level.

LIST OF INAUGURAL LECTURES

1. Prof. Dr. Sulaiman M. Yassin
   The Challenge to Communication Research in Extension
   22 July 1989

2. Prof. Ir. Abang Abdullah Abang Ali
   Indigenous Materials and Technology for Low Cost Housing
   30 August 1990

3. Prof. Dr. Abdul Rahman Abdul Razak
   Plant Parasitic Nematodes, Lesser Known Pests of Agricultural Crops
   30 January 1993

4. Prof. Dr. Mohamed Suleiman
   Numerical Solution of Ordinary Differential Equations: A Historical Perspective
   11 December 1993

5. Prof. Dr. Mohd. Ariff Hussein
   Changing Roles of Agricultural Economics
   5 March 1994

6. Prof. Dr. Mohd. Ismail Ahmad
   Marketing Management: Prospects and Challenges for Agriculture
   6 April 1994

7. Prof. Dr. Mohamed Mahyuddin Mohd. Dahan
   The Changing Demand for Livestock Products
   20 April 1994

8. Prof. Dr. Ruth Kiew
   Plant Taxonomy, Biodiversity and Conservation
   11 May 1994

9. Prof. Ir. Dr. Mohd. Zohadie Bardaie
   Engineering Technological Developments Propelling Agriculture into the 21st Century
   28 May 1994

10. Prof. Dr. Shamsuddin Jusop
    Rock, Mineral and Soil
    18 June 1994

11. Prof. Dr. Abdul Salam Abdullah
Natural Toxicants Affecting Animal Health and Production
29 June 1994

12. Prof. Dr. Mohd. Yusof Hussein
Pest Control: A Challenge in Applied Ecology
9 July 1994

13. Prof. Dr. Kapt. Mohd. Ibrahim Haji Mohamed
Managing Challenges in Fisheries Development through Science and Technology
23 July 1994

14. Prof. Dr. Hj. Amat Juhari Moain
Sejarah Keagungan Bahasa Melayu
6 Ogos 1994

15. Prof. Dr. Law Ah Theem
Oil Pollution in the Malaysian Seas
24 September 1994

16. Prof. Dr. Md. Nordin Hj. Lajis
Fine Chemicals from Biological Resources: The Wealth from Nature
21 January 1995

17. Prof. Dr. Sheikh Omar Abdul Rahman
Health, Disease and Death in Creatures Great and Small
25 February 1995

18. Prof. Dr. Mohamed Shariff Mohamed Din
Fish Health: An Odyssey through the Asia - Pacific Region
25 March 1995

19. Prof. Dr. Tengku Azmi Tengku Ibrahim
Chromosome Distribution and Production Performance of Water Buffaloes
6 May 1995

20. Prof. Dr. Abdul Hamid Mahmood
Bahasa Melayu sebagai Bahasa Ilmu- Cabaran dan Harapan
10 Jun 1995

21. Prof. Dr. Rahim Md. Sail
Extension Education for Industrialising Malaysia: Trends, Priorities and Emerging Issues
22 July 1995

22. Prof. Dr. Nik Muhammad Nik Abd. Majid
The Diminishing Tropical Rain Forest: Causes, Symptoms and Cure
19 August 1995

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The Evolution of an Environmentally Friendly Hatchery Technology for Udang Galah, the King of Freshwater Prawns and a Glimpse into the Future of Aquaculture in the 21st Century
14 October 1995

24. Prof. Dr. Sharifuddin Haji Abdul Hamid
Management of Highly Weathered Acid Soils for Sustainable Crop Production
28 October 1995

25. Prof. Dr. Yu Swee Yean
Fish Processing and Preservation: Recent Advances and Future Directions
9 December 1995

26. Prof. Dr. Rosli Mohamad
Pesticide Usage: Concern and Options
10 February 1996

27. Prof. Dr. Mohamed Ismail Abdul Karim
Microbial Fermentation and Utilization of Agricultural Bioresources and Wastes in Malaysia
2 March 1996

28. Prof. Dr. Wan Sulaiman Wan Harun
Soil Physics: From Glass Beads to Precision Agriculture
16 March 1996

29. Prof. Dr. Abdul Aziz Abdul Rahman
Sustained Growth and Sustainable Development: Is there a Trade-Off 1 or Malaysia
13 April 1996

30. Prof. Dr. Chew Tek Ann
Sharecropping in Perfectly Competitive Markets: A Contradiction in Terms
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Fungi: Friends or Foes
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Food and Its Healing Power
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Advancing the Fruit Industry in Malaysia: A Need to Shift Research Emphasis
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Avian Respiratory and Immunosuppressive Diseases- A Fatal Attraction
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The Endomycorrhiza: A Futile Investment?
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Molecular Plant Virology: The Way Forward
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51. Prof. Dr. Nik Mustapha R. Abdullah
Fisheries Co-Management: An Institutional Innovation Towards Sustainable Fisheries Industry
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Food Safety: Perspectives and Challenges
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