Entrepreneurship training model for competency-based training (CBT) concept at skills training centre in Malaysia

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Abstract---Entrepreneurship is an increasingly sustainable field in Malaysia. In particular, among students to realize the country’s aspirations to make Malaysia an ‘Entrepreneurial Nation’. In line with the desire of the country to transform students into successful entrepreneurs and the goal of creating more job creators is achieved, this article explores concepts related to the entrepreneurship training model in TVET training centres in Malaysia especially for the Malaysian Skills Certificate (MSC) programme. This effort is expected to create a conducive entrepreneurial training system suit with Competency-Based Training (CBT) in shaping competent entrepreneurs among MSC trainees or alumni.

Keywords---entrepreneurial competency, entrepreneurship training model, competency-based training (CBT), Malaysian skills certificate (MSC).
Introduction

Competence refers to the knowledge, skills and personal characteristics necessary to perform a task and responsibility. Boyatzis (2008) defines competence as "ability, proficiency and skill". While the Ministry of Higher Education (2010) explained, competencies involving the teaching process include personal, professional and social related matters such as teaching, expertise in subjects, expertise in related theories with teaching and learning, managing processes learning, adaptation in the community and personality. Past studies have proven that competencies possessed by an individual have a relationship with their willingness to do something (Barjoyai 2000; Boyatzis 1982 & 2008). Someone who can recognize surely the opportunity can create self-readiness based on the ability to generate ideas and act towards realizing those ideas. The nature of competence belonging to this individual rank can finally contribute to the resulting behaviour. Therefore by having entrepreneurial competence allows an individual does a task positively in improving a situation in the organization. Emphasizing these aspects, a combination of core education along with entrepreneurial knowledge is expected to encourage students towards producing output practically for the needs and wants of life.

Entrepreneurship is an element that must be nurtured through a good educational structure. This is reinforced by Che Rugayah and Noor Hanisa (2013) who asserted in their study that entrepreneurial careers can be nurtured through effective entrepreneurship education. This clearly shows that education plays an important role in shaping the entrepreneurial culture of students. Other studies argue that entrepreneurship education is also one of the main strategies to help improve students become entrepreneurs (Solesvik, 2013). It clearly shows that education that emphasizes the concept of entrepreneurship to students should be given due attention. Based on Barjoyai (2000) who stated that due to the lack of appreciation of the concept and philosophy of entrepreneurship, the achievement of programs to create entrepreneurs through the New Economic Policy (NEP) among unemployed graduates is limited.

Entrepreneurship is an important element that needs to be inculcated in students because it is one of the human capital needed by the government to achieve Malaysia's target as a developed country (Ridhuan, 2007). In other words, entrepreneurship can be defined as mixing and combining social processes with a business image such as discipline, innovation and determination, and it aims to benefit both parties, namely entrepreneurs and consumers (Dees, 2001). However, the argument made by Abdul Mumin and Suhaili (2005) states that the term entrepreneurship is based on the word entrepreneur. This entrepreneur refers to an effort and endeavour that must be done by every human being. This polemic of the meaning and purpose of entrepreneurs is emphasized by Rosli, Lily Julienti, Mohamad Yusop, Muhammad Shukri, Norita, Norbia, Syahrina, Rosli and Azrain Nasyrah (2007) who stated that the element of entrepreneurship is an agent who can buy a production tool and able to produce tools purchased on goods that can be sold and marketed. In the education system in Malaysia, the process of applying entrepreneurship has been implemented through co-curricular activities. It is one of the ways carried out by the government to ensure that the education system in our country is holistic. Entrepreneurship activities
through this co-curriculum are not only implemented at the school level but it is also implemented at the tertiary institution level.

Entrepreneurship

Entrepreneurship is defined as the willingness of an individual to seize an opportunity regardless of the current resources available to him or her (Stevenson, Roberts & Grousbeck, 1989). According to Dollinger (1995), entrepreneurship is the formation of innovative economic companies for profit or development as well as the willingness to face risks and uncertainties. Jeffrey Timmons (1989) states that entrepreneurship is the ability to produce and build something from it that does not exist. It is starting, doing, achieving and building an enterprise or organization rather than just seeing, analyzing or explaining. Opportunities are sought and require the ability to build teams to equip skills and talents. It also knows how to control resources and ensure financial resources are always in good condition. Entrepreneurship, according to him, is the willingness to take risks and be willing to do everything to get something.

According to Harbison and Myers (1964), entrepreneurs are those who perform important functions in economic development that are human agents needed to mobilize capital, exploit natural resources, market and trade. Joseph Schumpeter (1934) believed that the economy was driven by the activities of people who wanted to promote new goods and new methods of production, exploit new sources of materials or new markets. It is not only for profit but also for creation. Moreover, Arthur W Lewis (2003) argues that economic growth will be slow unless there is a supply of new ideas of entrepreneurs who are willing to take risks. Studies conducted in the United States show a positive relationship between economic development and entrepreneurship. It is felt that entrepreneurship itself is the mind of a person who is open to doing or developing something on his own business whether it is business or other things with the willingness to accept the risk of what he is doing (Syahira, 2017).

Entrepreneurship Education in TVET

Technical Vocational and Education Training (TVET) consists of full-time technical and vocational education and training. Apart from that, TVET also consists of lifelong learning offered to individuals of all walks of life from various ages and aims to provide employment opportunities and contribute to the economic growth of the country. This means that TVET education is a path to produce highly-skilled, knowledgeable, innovative and able human beings to face competition and risks globally and regionally in line with current needs while placing the country on a strong performance for future development (Mohammad Affendy, 2019). United State of America has started practising this TVET education in 1971 (Samual, 2015). The system provides skills related to problem-solving methods in industry, agriculture, and enhances economic development by using trade, technology, and science at the sub-professional level. Developing countries began to practice this TVET education system after seeing the positive results of TVET’s impact on economic development. In Malaysia, TVET is increasingly important, not only providing technical knowledge but more than that because it involves all aspects of knowledge such as entrepreneurship.
knowledge to produce more entrepreneurs in line with the needs of globalization today. TVET is closely related to entrepreneurship education and is very important in the process of producing skilled human capital (Mohammad Affendy, 2019; Romy Abd Kadir & Azhar Hashim, 2017). One example of TVET education in Malaysia is the Malaysian Skills Certificate (MSC) programme. Although TVET education is an important element in the national education system, TVET education is always faced with the challenge of institutional management costs and the quality of teaching staff who do not have or lack the required skills experience.

The National Education Philosophy emphasizes the development of the potential of individuals in a comprehensive and integrated manner that can contribute to society and the country. Entrepreneurship is one of the areas that can develop this potential and further meet the requirements of the National Education Philosophy. This field of entrepreneurship can be applied to the field of education especially the field of technical and vocational education. The people cannot just rely on the government to provide the economy because the work culture in Malaysia at this time is more to work with the private sector or self-employed. In the technical and vocational education sector, there are facilities, skills and knowledge required for any job whether mechanical, electronics, automation, clothing, graphics, agriculture and many more. As a result of globalization, everything is changing rapidly in industry, manufacturing and so on (Jeffrey Timmons, 1989). Therefore, action must be taken for Malaysians to easily get a job. Cathleen (2006) stated entrepreneurship is a creative act that causes entrepreneurs to be people who bring about change. According to him, entrepreneurship gives a creative and innovative response to the next environment and this response will result in the introduction of new products and services to the economy. Entrepreneurship education as part of the TVET curriculum is a wise move to teach students about change. This TVET education can teach students to change not to be afraid of change because those who are afraid to change will just sit in a comfortable zone and make it difficult for them to succeed. Furthermore, according to Cathy (2005), entrepreneurship education is also about having a livelihood in addition to teaching students to start a business. Students are also exposed to learning to take risks, manage and learn from the result. Entrepreneurs like what they do. They will resist if they accept challenges in business.

Ashmore and Printz (1983) stated that TVET aims to make students employees. Entrepreneurship education is very important to be developed and combined as one that is different from other subjects but in line with all technical and vocational education programs. According to them, there are several rationales for the need for entrepreneurship education in TVET education. Among them is that entrepreneurship education is greatly reduced in schools. Existing entrepreneurship education is only included in existing courses or vocational discipline programs. In general, educators provide individuals as employees rather than as employers. Therefore, it is necessary to have a program held to help educate employees as employers. Career education is less effective to contribute in making individuals aware of the field of entrepreneurship as a career of choice. The content of the entrepreneurship program must be based on the findings of the study. Training to form an entrepreneur covers three main
areas namely awareness to cultivate the personality of an entrepreneur, knowledge of what is needed to set up a business and the application of entrepreneurial principles to manage and manage a business. Provide and obtain study materials from the government as well as business publishing bodies to provide the main source of daily teaching in the classroom. Ida Kamalawati (2008) on the other hand stated the rationale of entrepreneurship education in TVET which is like TVET prepares students to be easily accepted to work in an organization. Students intending to start a business will follow different career paths and require different skills that need to be applied specifically in entrepreneurship education. In addition, entrepreneurial skills are secondary education, therefore, it is necessary as an elective in educational programs.

**Competency-Based Training (CBT)**

Many views and studies have found that competency-based education and training successfully provide the basic skills needed by most industries (Percy J Worsnop, 1993). Generic skills combined with the specific and exact skills required in the work embodied in competency-based education can make the individual/student more marketable locally and internationally. The competency standards set and to be achieved by these groups are the standards set by the industry to meet the skills needs of certain industries (John W Burke, 1989). In general, the education system that has been using a conventional approach on a time-based basis has shown success, especially in testing cognitive achievement and knowledge but the competency-based education approach is very effective for education aimed at producing and training individuals/students in terms of job-related skills and test aspects of values and attitudes. Therefore, to implement competency-based education and training, the high commitment of the organizations involved and the key features of the competency-based training program need to be considered. To introduce competency-based education and training programs, some of the key features of competency-based education and training as suggested by Foyster (1990), Delker (1990) and Norton (1987) should be considered namely:

1. Competencies are identified and carefully selected according to industry needs
2. The theory is integrated with skills. Knowledge learning is delivered to support the implementation and achievement of skills
3. Learning materials are carefully prepared to achieve defined competencies and are designed to acquire knowledge that supports the production of skills
4. The instructional methodology involves mastery learning (knowledge) and contextual (skills) and is carried out until an individual/student has mastered sufficient and appropriate knowledge and skills
5. An assessment of an individual knowledge and skills achievement is conducted at the beginning of learning and mastery of previous learning and skills is taken into account to support ongoing learning
6. Learning according to an individual/student ability rate (self-paced)
7. Learning and training is carried out flexibly through learning activities in large, small groups or individually
8. Adequate learning materials and resources are adequate and provided to achieve competencies
9. Individual/student performance is determined through the achievement of competencies acquired compared to the set of criteria set
10. Competency achievement is reported based on established competency standards whether ‘competent’ or ‘not competent’
11. Satisfactory termination of learning and training is based on the achievement of all competencies determined through competency assessment evidence collected throughout the educational and training process.
12. Integration of Competencies in the Competency-Based Vocational-Technical Education and Training Curriculum

**Malaysian Skills Certification (MSC)**

In Malaysia, CBT has applied for one of the prominent TVET programme known as the Malaysian Skills Certificate (MSC) programme. MSC is a certificate granted by the Department of Skills Development (DSD), the Ministry of Human Resources Malaysia for skills programs offered by the public and private accredited centre. Each stage or level in this MSC shows the recognition of the ability and level of knowledge of a person in technical and vocational fields. Department of Skills Development (DSD) originally was known as Lembaga Latihan Persijilan Perindustrian Ketukangan Kebangsaan (LLPPKK) and established in 1971. The LLPPKK was responsible to produce skilled workers to fulfil industry requirements in Malaysia. This department was rebranded as National Vocational Training Council (NVTC) on 2 May 1989. Since the implementation of a new act in 2006, the National Skills Development Act in (Act 652), NVTC was given a new role and new title namely the Department of Skills Development (DSD). The major roles of DSD are to promote and coordinate skills training programs and strategies in efforts to empower the skills field. In addition, DSD’s primary responsibility is developing flexible and dynamic National Occupational Skills Standard (NOSS), registering DSD accredited centres, upskilling and reskilling trainers, recognized industry experts, organizing national skills competition and enforcing the National Skills Development Act (NASDA) related laws.

Through the Skills Malaysia agenda announced under the Economic Transformation Program (ETP) by YAB Prime Minister on 11 January 2011, the Government intends to achieve 50 per cent of the highly skilled workforce by 2020. Strengthening this effort, the Government has recognized the Malaysian Skills Certificate (MSC) for admission into 13 public service schemes. DSD has outlined 5 levels of competency in the Malaysian Skills Certification System which ranges from certificate level to advanced diploma level to produce skilled workers for the industry in Malaysia. There is having a few advantages MSC compared with other TVET certificate in Malaysia. MSC is the most recognized vocational certificate by industry in Malaysia because all MSC programmes were conducted based on the standard developed by industry experts, namely National Occupational Skills Standard (NOSS). MSC also provides a career path and an exciting personal development parallel with career paths based on academic qualifications. At the top of that, MSC is capable of producing skilled and
qualified workers and enhancing the competitiveness of the local industry for the current market.

Table 1: Level of Malaysian Skills Certification (MSC) Competencies

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<th>MSC Certification</th>
<th>Competency</th>
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| Level 5 Malaysian Skills Advanced Diploma (MSAD) | • Competent in applying the basic principles of complex work and techniques widely, across complex tasks including unexpected situations  
• Be responsible and take autonomy for self-employment and with others, and have high responsibility for analyzing, designing, implementing and evaluating assignments |
| Level 4 Malaysian Skills Diploma (MSD) | • Competent in performing various complex tasks or professional assignments conducted in various contexts of assignments with high self-esteem and autonomy values  
• Being responsible for others multitask and showing a good resource management  
• Display high technical skills in the task |
| Level 3 Malaysian Skills Certificate (MSC) | • Competent to perform various tasks in complex and not routine tasks  
• Displays autonomy and accountable value with a guide from others |
| Level 2 Malaysian Skills Certificate (MSC) | • Competency to carry out expected duties and tasks in various contexts  
• Certain tasks are not routine and need autonomy and accountable value |
| Level 1 Malaysian Skills Certificate (MSC) | • Competency to carry out routine and expected duties and in various contexts tasks |

**National Occupational Skills Standard (NOSS)**

The National Occupational Skills Standard (NOSS) is a document outlining the competency units required by a skilled worker who works in Malaysia for a particular field and job level as well as the path to achieving such skills (Department of Skills Development, 2019). NOSS developed with few characteristics such as it is based on job requirements, according to the career structure in a field of work and provided by industry experts and skilled workers. Referred to be a useful tool in improving work quality, NOSS is provided by specialist workers and industry players appointed by DSD, and with vast experiences in such field, they are responsible for identifying the competencies required in their respective occupations. The DSD’s accredited centre that runs a skills training programme will use NOSS to develop their training syllabus and teaching and learning materials as well as assessment materials to be taught to trainees. This means that all the Malaysian Skills Certificates (MSC) holders have been competent to all competency units outlined by NOSS after passing the theory and practice assessment at DSD’s accredited centre. There are currently
have 1,942 NOSSs registered by the DSD covering various fields of occupation. (JPK, 2019)

As described by Norlidah et al. (2018), the introduction of NOSS in the training system will benefit three groups namely employers, workers and training institutes. According to DSD (2016), through the implementation of the NOSS, the training institute can understand the real market situation and the required skills that are not limited to a certain company only. In addition, NOSS can benefit the structure of the task list and scope of work related to the sector, to assist the students training structure. NOSS can also be used to assess the performance of trainees at the training centre. In terms of the benefits to the employees, DSD (2016) explains NOSS can be used as references to the competence required for self-development and professionalism as well as the understanding of the work to be undertaken. Hence, NOSS will also help reduce the problem of lack of understanding among workers. The benefits of NOSS on employers are it is the best platform to inform competencies from time to time that needs to be applied in the training system to maintain its suitability system in fulfilling current market and industry requirements. This concept is in line with Tabbron and Yang (1998) opinion that the rapid changes in the industrial sector have to be taken into account in the training system. The result of exposure in the training system will be in line with the needs of the industry in the future.

The Malaysian Standards Industrial Classification (MSIC) 2008 Ver.1.0 is a classification of all economic activities in Malaysia developed based on the International Standard Industrial Classification of All Economics (ISIC) Revision 4 which was issued in December 2006. (DSD, 2018). The main objective of MSIC is to provide a set of activities that can be used during statistical gathering and presentation of the activities. The industry is formed by merging units that have the main activity equality according to specific criteria. MSIC can be used to manufacture activity or industry for enterprise and growth by type of activity unit. Therefore, the development of the NOSS from 2016, the adoption of the NOSS-compliant MSIC code has been applied and registered in the NOSS Register referring to NOSS's purpose of restructuring the NOSS sector in line with any of its universal and international standards generally. MSIC data is also used by key regulatory agencies such as EPU and PEMANDU to record skilled manpower data, several national labours and so on.

**National Competency Standard (NCS) – Core Abilities**

National Competency Standard (NCS) - Core Abilities is a document outlining generic skills required by a skilled worker for all fields of occupation in Malaysia. NCS Core Abilities has been developed by the Department of Skills Development in 1996. The use of NCS Core Abilities has commenced on 01 June 2006. NCS Core Abilities (Z-009) has been revised and improved to Z009: 2015 and extended to Malaysian Skills Advanced Diploma (MSAD) Level 5 to improve marketability MSC graduates will then produce competitive skilled workers at national and global levels. Implementation of NCS Core Abilities is mandatory for all certification programs of MSC (Level 1,2 and 3), MSD (level 4) and MSAD (level 5) through an accredited Center. The execution method is in accordance with the suitability and capability of the accredited centres.
Entrepreneurship Training Model

The entrepreneur Training Model is designed in addition to the generic skills available in NSC-Core Abilities. This training model is proposed to balance existing competencies so that MSC graduates are exposed to entrepreneurship from the very beginning of MSC training. Along with the government’s goal to produce quality, an innovative and creative human capital to drive the country’s economic transformation into a high-income economy and further achieve the status of a developed country, education and programs, as well as entrepreneurial culture activities among TVET students, need to be strengthened holistically. There is no denying that every element of an individual’s soft skills such as communication skills, competitiveness and resilience as well as having high leadership values are a subset of the values found in an entrepreneur. In addition to the need to produce entrepreneurial graduates or graduates with entrepreneurial thinking, attributes and values, more organized and integrated efforts need to be taken in providing entrepreneurship and infrastructure strengthening programs as well as a conducive environment for students who truly have the interest and desire to become an entrepreneur. Here are the components found in the entrepreneurship training model suitable for MSC programs that use the concept of Competency-Based Training (CBT).

Entrepreneur Competency (NOSS)

An entrepreneur competency has been developed for this unique profession, which combines several facets of business, which include politics, economic, social and technology. This NOSS is focusing on managing a micro and small business as defined by NSDC (National SME Development Council). The scope of work includes product/services development, business incorporation, innovation
and managing risk and managing corporate matters. All these require leadership, creativity and persistence.

**Competency Curriculum**

Competency-based curriculum development is a system that is designed to allow a learner to demonstrate their ability to attain attitude, skills and knowledge in a holistic occupation competency. The competency documents are Course of Study (CoS), Learning Guide (LG) and Curriculum of Competency Unit.

**Training Materials**

Teaching and learning materials development is the essential application for trainers to examine training plan and available resources depending on the training objectives, training duration and requirements to develop training materials which include information sheets, worksheets, assignment sheets, lesson plans, audio-visual aids and training facilities as a material requirement for training implementation in fulfilling with the CBT implementation.

**Instructional Delivery**

Instructional delivery is a critical function in training execution. It is to develop a lesson plan, organize and deliver programme learning objectives in accordance with predictable outcomes.

**Competency Assessment**

Competency assessment development is the application and executive function for trainers to develop and conduct an assessment on evaluating trainees’ competencies based on reliability, validity, and sufficiency of the evidence in achieving the learning outcome of CBT training implementation.
Figure 2: Conceptual Entrepreneurship Training Framework for Malaysian Skills Certification (MSC)

Discussion

This model is expected to produce flexible and competent MSC trainees as an employee and also as an employer (entrepreneurs). To yield quality human capital and have entrepreneurial thinking, attributes and values, the appropriate training model is very important to ensure that its objectives are achieved. MSC programs that use the concept of CBT in their implementation require an entrepreneurial training model that also uses the same concept. This is to avoid any duplication of concepts that will invite confusion. Components in this concept model have been proposed based on previous studies. A specific study needs to be conducted to obtain expert views on its effectiveness.

Conclusion

Entrepreneurial skills need to be inculcated in each individual, especially students so that they can be independent to find employment opportunities after the end of the study period. These skills are important not only to be easily accepted to work under the employer but to work on their own with the willingness to accept the risks of what they are working on. These skills are especially important in technical and vocational education, which is in line with the goals of the MSC programme to meet the demands of the industry.

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