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ASSESSMENT OF THE CONTRIBUTION OF ENTERPRENEURSHIP EDUCATION AND TVET TO THE SOCIETY

BEING PAPER PRESENTED
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Abstract
Practical-oriented education strives to offer students with requisite technical know-how, skill, and drive to be successful in the real-life stage of entrepreneurship. Comparatively, TVET centres on the provision of instruments/apparatus and platform for the acquisition of such technical know-how, skill, and character requisite for their employability – whether as self-employment, or as paid employee. Thus, Entrepreneurship education and TVET have been found to share some sought of similarity – in that, both possess the pivotal capacity in mitigating unemployment and poverty in the country. Therefore, this study wished to assess the significant role of entrepreneurship education in the efficient performance of TVET. In doing so, different practices and models of entrepreneurship education are examined.

Keywords: Entrepreneurship, Tertiary Education, Curriculum, TVET,

1.0 INTRODUCTION

It is no gain-saying that the globe is presently dealing with an avalanche of multidimensional problems – of an unprecedented nature. The challenges encompass a wide array of areas, including: international and domestic economy, social issues, politics,, health, , ethics, connectivity, energy, technology, and sciences [Brookings Global Economy and Development, 2007; Millennium Project, 2014). The globe is also presently facing a range of problems, such as diminution of oil resources, dimensional regional upheavals, economic and security (e.g Terrorism, Banditary, Kidnapping and Armed Robery, *et cetera*) pressures, and ever increasing wealth gap between the poor and the rich. Despite these challenges is hope for a volte-face, as recent Internet technology innovations, and economic liberalization are busily transforming the world into a 'global village'. Advancements in technology and innovation have empowered humanity to progress and flourish as modern societies. These achievements would not be possible without the contributions of those who possess a strong sense of creativity.

Be creative and approach problems from a fresh perspective to tackle the aforementioned obstacles. Thus, entrepreneurs are individuals who take action and bring ideas to life. They excel at transforming ideas into action. They possess a unique ability to think outside the box, constantly pushing boundaries and taking calculated risks. Their exceptional project management skills ensure that they see tasks through to completion, achieving their objectives with precision. (European Commission, 2009). According to NIRAS (2008), prio studies have found 'entrepreneurship' to have played a pivotal role in encouraging and promoting competitiveness, innovation, and economic growth. Just as opined by World Economic Forum (2014), many countries around the globe have indeed acknowledged the relevance of entrepreneurship and creativity in fostering transition to knowledge-based business environment, and economic growth. This assertion is corroborated with the argument of Sichiyako (2012), that such education has been proven to be a vital indicator in transforming a country into a knowledge-based and viable economy. Thus, *Technical and Vocational Education and Training (TVET)* alongside Entrepreneurship Education have shown to be essential sharping students and individuals with the requisite technical know-how, skills, and positive characters for self-sustenance and development [European Commission, 2009; Sichiyako, 2012].

2.0 THE PLACE OF ENTREPRENEURSHIP EDUCATION, AND TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET)

Over the years, different researchers have interpreted entrepreneurship education differently. For example, Fayolle (2009) have described entrepreneurship education as incorporating a myriad of activities aimed at instilling foster entrepreneurial skills, understanding, mindsets, and character. These activities cover various aspects – generation of ideas, establishment of business, viabilty, and creativity/innovation. Entrepreneurial education has also been posited to cover a diverse range of skills and characteristics that can bolster individuals to generate newer and innovative ideas (Jones and English, 2004). Its emphasis has been on the inculcation of skills and technical know-how necessary for the conceptualization and marketing of entrepreneurial opportunity. It is for this same purpose that Rae (1997) – as cited in Kirby (2004) - opined that *entrepreneurship education* imbibes in students with an entrepreneurial mindset. Students are encouraged to develop a wide range of skills that are pertinent for recording success in business endeavors, creative thinking, effective communication, effective leadership capabilities, analytical and quantitative skills, outstanding negotiation methodologies, problem-solving capabilities, the ability to build and maintain social networks, and efficient time-management skills. The emphasis is on motivating students to utilize their entrepreneurial skills and qualities in various settings, such as both established and emerging businesses, non-profit organizations, government agencies, and other enterprises [Quality Assurance Agency for Higher Education, 2012]. Existing literatures have disclosed that the overall goals of entrepreneurship include producing self-employed graduates, acting as catalysts for economic growth, and creating employment opportunities.

According to UNESCO (2015), TVET incorporates the pedagogy of science cum technologically related practical skills, understanding, character, and know-how related to employment in different sphere of business and/or economy. Thus, TVET covers a diverse range of wide range of educational and training programs, including vocational and technical pedagogy and training, apprenticeship, and on-the-job development/ training. According to NICHE (2010), these programs can be handed via either non-formal or formal *modus operandi*. Little wonder "skills development" of recent time is increasingly being the focus, and seen to be synonymous to the larger definition of TVET [NICHE, 2010]. Therefore the primary and overall goals of TVET, as outlined in FRN 2004 – as cited in Anaele et al. (2014), are as follows:

- TVET aims to help in providing skilled human resources in the fields of applied science, technology, commerce, and particularly at the level of sub-professional.

- To equip students and individuals with pertinent and requisite vocational and technical know-how skills necessary for the advancement of industries, commerce, agriculture, and the economy.
- To provide the industry with students and individuals who are highly skilled in the effective application of scientific and vocationary knowledge in addressing and resolving environmental challenges.
- To provide a basic understanding of different technologies in a professional setting.
- To offer training in essential skills for a wide range of skilled individuals.
- To help young people develop a strong understanding of science and technology, and adapt them to their growing complexity.

Thus, Sichiyako (2012) has argued that the preponderance of the available information, evidently shows that TVET and *entrepreneurship education* work in tandem in equiping students and individuals with the requisite skills for multiple career endeavors, such as paid employment, cooperative work, self-employment, business establishment, social, volunteer, and family work. With this premise, Entrepreneurship education has could then have the potential to widen the employment opportunities for individuals and TVET alumni. Badawi (2013) posits that these acquired skills, viz-a-viz entrepreneurship education, can also facilitate the integration of TVET into general education and workplace on-the-job learning. Prior researchers have found both TVET and entrepreneurship education to be effectively capable of addressing the question of poverty and unemployment. For example, a study conducted by Badawi (2013), it was highlighted that a juxtaposition of workplace-specific skills and entrepreneurial skills is capable of playing a significant role in forestalling unemployment, create avenues for self-engagement/ employment, and the development of small and medium enterprises (SMEs).

3.0 OBSTACLES ENCOUNTERED IN THE DELIVERY OF ENTREPRENEURSHIP EDUCATION IN TVET

The empirical review below is based on a careful scrutiny of related literatures, and never does it intend to make a comparative study among countries:

Results of the percentage of TVET graduates who choose to pursue entrepreneurship

There is a range of outcomes when it comes to the percentage of TVET graduates who choose to pursue entrepreneurship. According to Atkinson (2011) – as cited in Badawi (2013), Australia has approximately 20% of individuals (with a majority being TVET graduates) that are self-employed. In a survey carried out in China in the year 2010, it was found that a significant number of vocational high (secondary) school graduates elected to be

self-employed by starting their own medium and/or petty businesses [China Integration of Vocational and Technical Education, 2011 – as cited in Badawi, 2013]. However, the statistics for Malaysia are not much promising.

Table 1: Shows the percentage of students who participated in the program, as well as the TVET entrepreneurship graduates.

	2010	2011	2012	2013
Number of students attending entrepreneurship programme	12.3%	15.2%	23.6%	17%
Number of students would like to become entrepreneur	71.4%	69.3%	53.7%	53.8%
Polytechnic Graduates entrepreneur	2.0%	1.8%	2.1%	1.8%

Source: 2010 – 2013 Polytechnic Tracer Study.

According to the Polytechnic Tracer Study Report from 2010 to 2013, the percentage of Malaysian polytechnic graduates who ventured into entrepreneurship within one year of graduating ranged from 1.8% to 2.1%. The percentage is relatively insignificant.

Emphasis on Breeding Workers who are highly Skilled

One possible explanation for the insignificant number of graduates opting for self-employment could be the emphasis on developing highly technical and skilled human resources. This seemed to be corroborated with the suggestion of Siachiyako (2012) - that the present focus of TVET programmes is principally on equipping graduates and individuals for paid employment, with a particular focus on opportunities within large enterprises. Thus, European Commission (2002) – cited in European Commission (2009), recommends an increased emphasis on entrepreneurship in TVET.

Non-incorporation of Entrepreneurship in some Academic Programmes

Quantitative data and statistics from some European countries (such as, Spain and the UK)in recent times revealthat a reasonable number of courses in entrepreneurship subsist in economic and business studies *(see figures 1 and 2).*But, in some quarters, it is quaried if *Business Schools* are the most suitable academic esterblishments for entrepreneurship pedagogy. Technical, scientific, and creative studies often serve as

fertile ground for generating innovative and viable business ideas. In Germany, the majority of spin-offs originate from technical universities/colleges anduniversities of applied sciences. Hence, the true task at hand is to foster interdisciplinary methods, ensuring that entrepreneurship education is available to every student. Additionally, it is crucial to form teams that consist of individuals from various fields and diverse backgrounds, such as economics, business studies, and other faculties. According to European Commission (2008), this method allows for the cultivation and utilization of innovative business ideas.

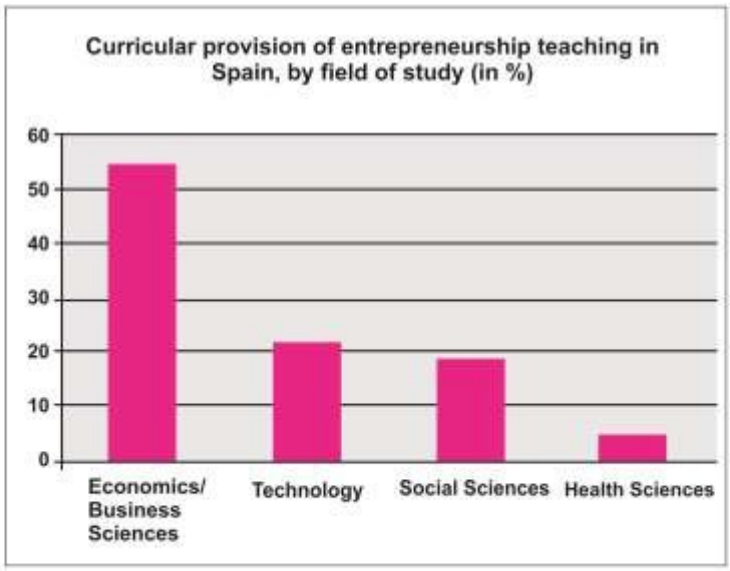


Figure 2: Entrepreneurship embedded in Programmes in Tertiary Institutions in Spain.
Source: Authors' Compilation based on European Commission (2008).

Non-Integration of Entrepreneurship Education in Curriculum, and Absence of Lucid Framework

A study by European Commission (2009), it was revealed that in 24 European countries, initiatives on entrepreneurship education were being implemented at various levels**. However, these initiatives were not fully incorporated** into the some of the cohesive framework and/ocurriculum. Hence, the preponderance of students becomes unable to participate in entrepreneurship programs and courses. (European Commission, 2009). A study in China corroborate the above position – of non-incorporation and non-emphasis of entrepreneurship education.

Although there are evidence of Initiatives are independently and constantly pursued by various academic establishments. Li &

Li(2015) and Li, Zhang, Matlay (2003) have also argued that *entrepreneurship* often is taught as a distinct subject or viewed as an extracurricular endeavor. A research in Chinese universities found that greater number of these academic establishments do not have a well-structured curriculum for teaching entrepreneurship (Li & Li, 2015). Entrepreneurship is considered as a category within career planning or career guidance.

On the other hand, certain countries have before now established connections between TVET and entrepreneurship education. For example, and as opined by UNEVOC(2010), a country like Kenya has been at the front-burner of integrating entrepreneurship education into its training and educational institutions, by the introduction of Technical, Industrial and Vocational Entrepreneurship Training (TIVET) in1985 – this ranked entrepreneurship as core principle of TVET. The objective has been to provide individuals, students, and TVET graduates with the requisite skills and technical know-how for a successfully career in the labour market, and/or self-employment (UNEVOC, 2010).

Observed loopholes in the Entrepreneurship Education Delivery

Studies in Europe have confirmed the lack in the standard of entrepreneurship education. The following instances were identified: the ineffective teaching procedure and methodology, the dearth of practicality in the delivery of entrepreneurship, and limited competencies of available pedagogues (European Commission, 2009). More also, pedagogues are also said not to be vast in experience to take on entrepreneurship education, which can sometimes make their delivery much of theory than practical (NIRAS, 2008). A similar results were observed in China as well. This study found that the conventional model of pedagogy remain in use in delivering entrepreneurship, with little or no entrepreneurship courses available in universities, coupled with dearth of qualified professionals. A study in Malaysia also lends its credence to the above position. Zahari (2010) examined the place of entrepreneurship education in Polytechnics, and revealed that the available entrepreneurship framework and curriculum does not sufficiently covered and drafted to effectively hone students' entrepreneurship skills and character. It also found that current teaching procedure and methodology were not always and entirely in tune to meet the yearnings of entrepreneurship, with some academic staff lacking in requisite technical know-how, skills, exposure and training in this field of entrepreneurship. All the above revelations could be enough to push one to question the readiness and effectiveness of academic institution in the quest to deliver entrepreneurship education to TVET students.

Limited Students Participation

The European Commission (2009) recognized that there are limitations on students' involvement in Vocational School, non-tertiary education and post-secondary schools. According to a study conducted by NIRAS Consultant in 2008, it was discovered that over 50% of European students at the higher education level lack access to entrepreneurial education. According to the data in Table 1, a significant number of graduates from the Malaysian Polytechnic express an interest in pursuing entrepreneurship. However, the attendance rate for entrepreneurship programs reached its highest point at 23.6% in 2012. The data clearly demonstrates a significant lacuna between students' entrepreneurial education demands versus the skill and training they finally received at the end of their respective programme.

4.0 ENTREPRENEURSHIP EDUCATION PRACTICES INCORPORATED IN TVET

Entrepreneurship Education Module

Entrepreneurship has been incorporated into the recently developed DAE curricula in Pakistan, as part of the 2000 – 2004*Technical Education Project* by the National Institute of Science and Technical Education (2009). Additionally, , Entrepreneurship courses are found to be introduced into technical institutions and polytechnic in Bangladesh to motivate individuals and students to commence micro, small and medium businesses, and self-employment as a viable option for poverty alleviation and employment (Economic Policy Paper - Entrepreneurship Dev. through Educational Reform). More also in Malaysian TVET institutions, students irrespective of choosen career-paths, are expected to offer a entrepreneurship basic module. Zhao (2012) conducted a study – where he suggested that introduction of entrepreneurship as a distinct course may not be the most effective way to cultivate students' entrepreneurial skills. He proposed that students should have the freedom to choose what they want to learn, and introduce a more dyanamic method and/or approach of learning and development that would be fixated on the actualization of goals than laying emphasis on the process.

Co-Curriculum Activities

Entrepreneurship education can be enhanced through various extracurricular activities, including business plan competitions, visits to real-world enterprises, guest lectures by successful entrepreneurs, specialized training programs, organizing entrepreneurship events, and engaging in hands-on entrepreneurship projects. These activities align with the content covered in academic courses. Business Plan competitions are a popular activity that often take place in TVET institutions. Either the institution itself organizes it or one can participate in events organized by business

community and/or government parastatals.

Kenya's Know about Business(KAB) Initiative

Know about Business (KAB)was originally the brain child of Kenya, put-up during the late 1980s. through to beginning of 1990s. It would be impressive to learn that KAB is now accessible in approximately twenty different languages of the world, and successfully put in practice in a little over forty different countries of the globe, including CPSC countries such as the Philippines, Sri Lanka, and Papua New Guinea. However, it was found that there is a variation when it comes to the level of implementation across these countries. For instance, a country like Sri Lanka, and since the year– 2006, has found it worthy for the integration of KAB initiative/program into the country's national curriculum for vocational training and education.

It is observed that the official version of KAB is updated at a given and specified time range so as to capture the lesson of its national execution endeavor, and newer content(s). Example of such update is the one successfully done, and published in the year - 2010, and covers areas such as: cooperative mainstreaming, disability, and gender; and an unprecedented social entrepreneurship module. Thus, this initiative/program has been recently adapted to be suitable for a wide range of educational institutions, including vocational and training institutions, as well as tertiary institutions, and general secondary (high) schools.

Table2: Kenya's *Know about Business* (KAB) Module

Module 1	What is Enterprising?
Module 2	Why Entrepreneurship?
Module 3	Who are entrepreneurs?
Module 4	How do I become an entrepreneur?
Module 5	How do I find a good business idea?
Module 6	How do I organize an enterprise?
Module 7	How do I operate an enterprise?
Module 8	What are the next steps to become an entrepreneur?
Module 9	How to develop one's own business plan?
Business game	Enables students to understand economic processes and transactions within an enterprise and between enterprises in the market. The game provides an opportunity to experience the effects of business decisions in a simulated business environment.
Learner's workbook	Worksheets, handouts and exercises from all teachers modules are compiled into the student's workbook. The workbook also contains a glossary explaining the terms and concepts used in entrepreneurship and business.
Facilitator's handbook	Provides a basic introduction to entrepreneurship education and the objectives of the KAB programme along with an overview of the course structure, the duration of the modules and related topics and the teaching methodology of interactive action learning.
KAB CD-ROM	Self-learning resource package for KAB key facilitators, promoters and school teachers. The CD-ROM contains five sections: (1) Interactive training: preparation for a training course or review of the material after training; (2) Trainer's material: manual for the GAME, instructions for other games to be used for the training, reference to other ILO products and additional readings; (3) Tools for delivery: tools for preparing lessons (transparencies, handouts and worksheets); (4) Monitoring and evaluation: proposals and forms for monitoring the delivery of training courses, the performance of the trainees and a guide on impact assessment; (5) Archives: relevant documents, pictures, and video clips.[2]

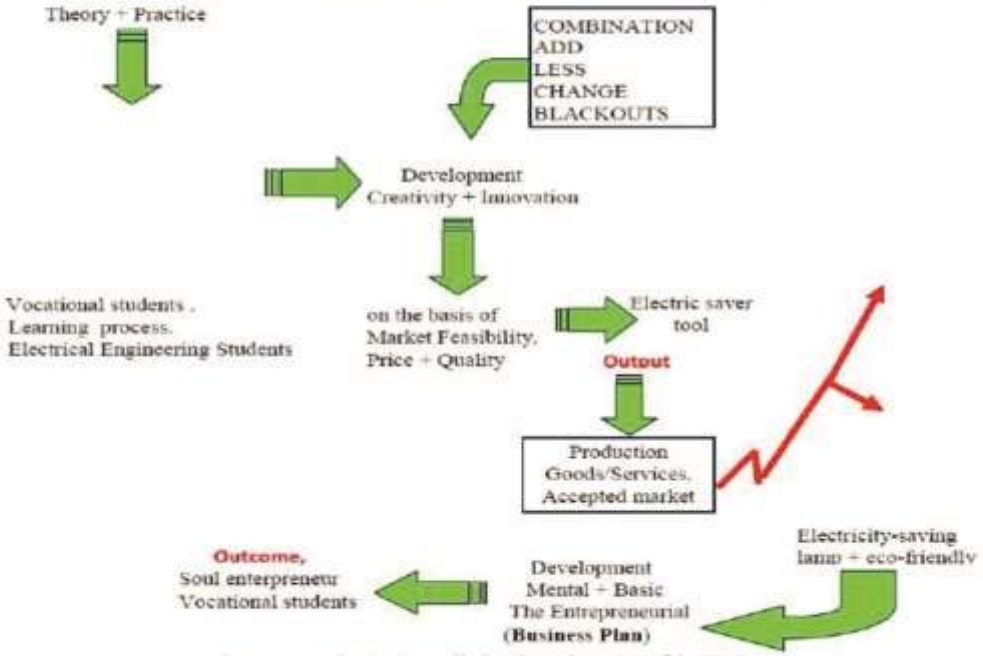
Source: Author's Compilation based on International Labour Organization(2009)

Kenya's *Know about Business* (KAB)*training package* has interestingly been drafted to be delivered to students for approximately 80 to 120 credit hours, constituting9 modules, each being centered on a distinct segment of entrepreneurship. The titles of each module are designed as questions, encouraging learners to discover the answers as they progress through the module. Additional resources are provided in the KAB package to enhance instruction in entrepreneurship field.

Learning Method/Approach based on Production

Learning Method/Approach based on Production has been regarded as an approach or a method that focuses on the creation of tangible products as a result of vocational education and training. Here, individuals and students invent or manufacture items or products – that is both market-appealing and functional. In that, the businesses, organizations, and/or industries partner with a school in the invention or manufacturing of such item or product. Example of such approach could be evident in at Faculty of Engineering, UniversitasNegeri Padang, Indonesia, and PoliteknikManufaktur (POLMAN) Bandung, Indonesia (Ganefri 2013; Ilyas & Semiawan, 2012). Additionally, this approach of learning was also integrated into the curriculum of Vocational College in Malaysia (Education Ministry, 2014).

Figure3: Learning Method/Approach based on Production



Source: Author's Compilation based on Ganefri (2013).

Thus, the aforementioned entrepreneurship model of learning depicts, according to Ganefri(2013),how individual and students can enhance their technical know-how, skills, innovation, and creativity – and further translate into the creation of valuable and sustainable items and/or products.

Centre of Incubation

Incubation as it relates to business (i.e, Business Incubation) has been regarded to be training and/or tutorship ideology where students that are desirous to be future entrepreneurs are availed aids (including financial) to commence their own business before venturing the competitive market. This Business Incubator, has proven to have the capacity and impact to foster the speedy development of entrepreneurial companies, viz-a-vis the provision of diverse support training and capital – which could include the provision of work/business position and platform equipped with requisite facilities; coaching, and funding (Lesakova, 2012).

In some other clime, there have been varying practices of the concept of incubation centre. For instance, in Thailand, Office of Vocational Education Commission (OVEC)establishes an incubator centres, domiciled in colleges, and targeted students in the vocational option (Vocational Education Commission, 2012). Another example is in Polite knik Ungku Omar – here, such centre was established as Retail Simulation Centre and Entrepreneurs Park, and saddled with the responsibility of providing desirous students with a real-time practical management, sales, and business exposure. "Ideawerkz" is another Incubation centre idea in Ngee Ann Polytechnic, which proffers aides, coaching, and support to students in innovation, entrepreneurship, and SMEs set-up. The concept of "Ideawerkz" was also programmed to provide funding support, and practical exposure to innovative projects. (Tucker, 2012).

Apprenticeship

The practices of Apprenticeships, in most quarters, have been pictured as a avenue and platform for the juxtaposition of practical and theoretical know-how. By that, the participants in Apprenticeship (Apprentices)are exposed to acquire resourceful and pertinent experience, and work-specific skills – right communication skills, ethical compliance, problem solving, good inter-personal relations, working in a multi cultural environment, and excellent management of business and limited resources. A6-month advance diploma and apprenticeship program (in *Entrepreneurship*)run by Polite knik Ungku Omar, and in partnership with Permodalan Usahawan Nasional Berhad (PUNB), and National Entrepreneur Development Corporation (NEDC),Malaysia avails individuals and students the privilege to meet and learn from experienced and seasoned

entrepreneurs - who do equally serve as guardians, mentors, and coaches to these individuals and student while the programme last. At the end of their programme, these individuals and student get accessed and examined by their tutors. With the tinge of practicality, these individuals and student get also exposed to well structured module that is geared at coaching them on business networking, business plan development, innovation and creativity in entrepreneurial. And so far, an outstanding and incredible results and impacts have been reported recorded in the programme. Among them are: 9out of 36 individuals and students who alumni have furthered to develop themselves in different courses (such as: food preparation, franchise ownership souvenir sales, building contracting, and printing, *et cetera*) in other reputable institutions;25 others became fully and/or partly committed in full-time employment; And as these alumni venture in other productive business endeavors, they continue to maintain tab with their mentors and/or models; and 2 others were reported to have proceeded for a postgraduate programme (M.Sc) in domestic varsities.

Models of Implementation

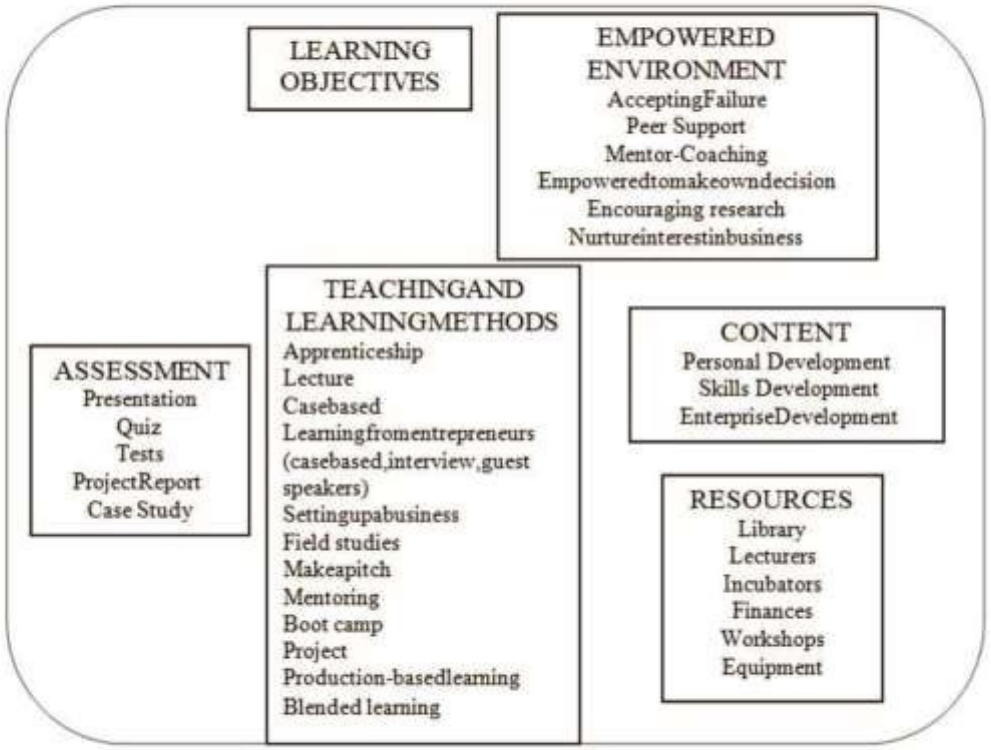


Figure4: TVET Model's Entrepreneurship Education

Source: Author's Compilation, based on Taatila (2010); Mc Kimm (2007); Jones & English(2004)

TVET Model in the above *figure 4,* is anchored on the main classes of curriculum – in entrepreneurship education(McKimm, 2007);Jones & English (2004); Taatila (2010). Developing learning outcomes/objectives is crucial to ensure the successful production of entrepreneurial and competent graduates. Learning outcomes provide students with clear expectations regarding the technical know-how, character, and skills they should acquire at the successful completion of program.

According to McKimm (2007), the educational environment and student learning are influenced by various factors that are not clearly pointed out but are connected to the philosophy and norm of the organization. A business environment that fosters a culture of learning from mistakes is crucial, along with ongoing support from peers, to thrive as entrepreneurs. A mentor or coach is essential for providing inspiration and guidance in the world of entrepreneurship. An empowered environment fosters independence and encourages individuals to make their own decisions, conduct research, and pursue their business interests.

TVET model is mainly made up from the objectives and goals that act as pillar for the development of its programmes – widely seen as the technical know-how, skills, character, and culture expected to be learned by students. Thus, the make-up of content of TVET'sentrepreneurship education in institutions are commonly classified into 3 divisions: the emphasis on students' individual growth, building of skill, and encouragement/promotion of entrepreneurship spirit and ventures. The students' individual growth centres on the basis entrepreneurship concepts – among which are the features of an entrepreneur, entrepreneurship culture, inculcation of innovative and creative skills, bargaining power, ethical compliance, deal striking, and networking. And these epitomizes the culture, character, and skill expected to be acquired across various fields or discipline. Therefore, *Development of Skills* is an inevitable and pertinent segment of TVET, centering on optimizing core field. Whereas, the demand for *Enterprise Development* encompasses the different activities of beginning, owning, and managing a business venture. Example of these activities are among others: finding and examining opportunities and platforms, putting up a market penetration strategies, business plan building, capital sourcing, bring up the business to life, and applying the strategies for harvesting returns.

Therefore, any method put-up for the delivery of this skills and knowledge should be capable of focusing, effectively, the question of affective, cognitive, and psychomotor sphere of learning, in consonance with curriculum and learning goals. Even though not

comprehensive, the methods and/or approach aforementioned in the model are just but few options. It is thus the lecturers' prerogative to ascertain the most relevant and suitable for a learning and subject.

When it comes to creating assessment methods that accurately gauge students' performance, it is crucial to begin with the outlined outcomes of learning. Examination should endeavor that individuals and students have successfully met the learning objectives in various situations, indicating that the material has been thoroughly addressed. It is crucial for learning and pedagogy approach and methodology are in consonance with the outline strategy of examination. Examples of outlined examination are: tests, quizzes, presentations, case studies analysis, and project reports writing.

Learning resources are crucial for creating an environment that promotes effective student learning. It is important for educators to carefully consider the necessary resources and how to utilize them in the most effective and efficient manner. Some of the resources that require careful planning and management include libraries, finances, incubators, lecturers, instruments, seminars, and workshops.

The aforementioned TVET model centers principally on the learning and pedagogy sphere of education in entrepreneurship. It is important to take into account the institutional framework in order to effectively deliver entrepreneurship education. In a study conducted by Jackson (2015), it was discovered that certain factors such as strategies, resources, and institutional structures played a significant role in distinguishing the excellent performing varsities from least performing ones – when rated on the basis of entrepreneurship training. If is found that the positive impact of entrepreneurial training differs based on the extent of economic growth and development, as stated in the Global Entrepreneurship Monitor Report. According to Kingombe (2012), it seems to have the most significant impact on earliest level of entrepreneurial activity in environments with favorable and well-structured programmes. Hence, it is crucial to establish a framework that effectively connects the various elements of the entrepreneurship education curriculum with the institutional dimensions. Below, we will outline a framework for developing entrepreneurship education.

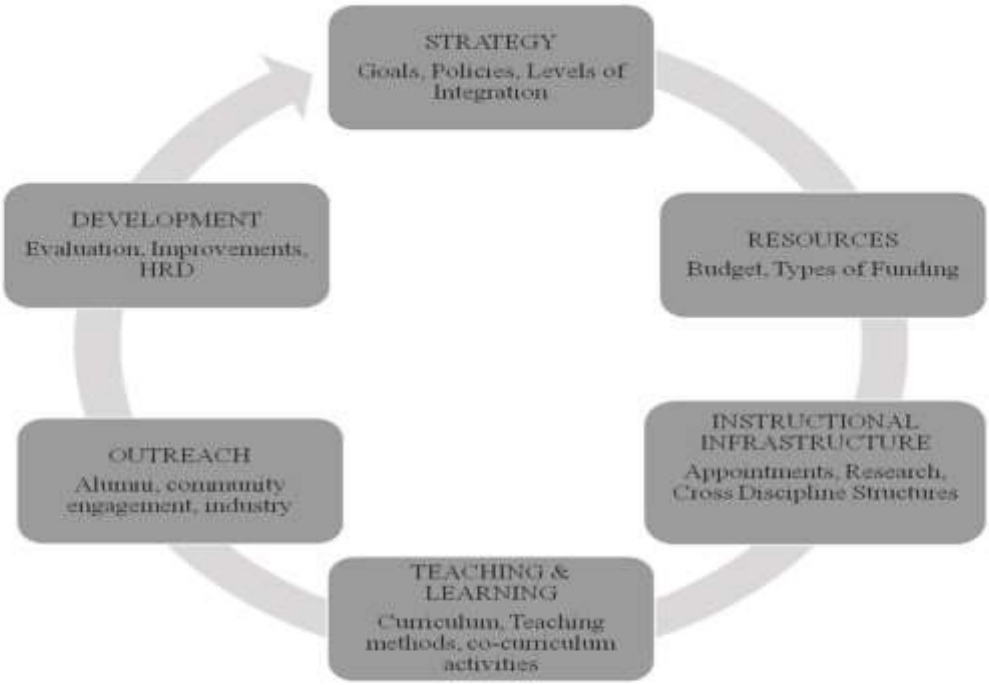


Figure5: Entrepreneurship Education Development's Dimensions
Source: Authors' Compilations, based on NIRAS Consultants (2008); Fayolle (2009)

Embedding entrepreneurship education in varsities' entire strategy would indeed be crucial for facilitating sustainable and effective entrepreneurship education. In the past, entrepreneurship education was mainly associated with management and business. However, there is now a greater understanding that entrepreneurship education should be a more comprehensive concept, leading to a greater emphasis on the integration of entrepreneurship across all departments. More also, possessing holistic action plan by a varsity has proven pertinent in achieving the objectives outlined in the overall entrepreneurship strategy. Also, the backing and support of management echelon is pertinent for the repositioning and incorporation education in entrepreneurship within a varsity.

Majorly, learning and Teaching encompasses the practical aspects of education in entrepreneurship. This encompasses the programme and courses offered in entrepreneurship, as well as a variety of extracurricular activities related to entrepreneurship. In addition, the effectiveness of the entrepreneurship instruction is also influenced by the specific teaching materials and methods employed.

The outreach dimension recognizes the

importance of fostering entrepreneurial mindsets among students, going beyond mere theory. In many educational environments, students are often disconnected from the real-world business landscape. Outreach engagements and exposures – that is capable of providing hand-on-tools experiences - can be utilized by vocational varsities for inculcating the mindset and spirit of entrepreneurship, and practical skills to students. The alumni of various can serve as veritable stakeholder (due to their perceived staunch tie to their respective alma maters) at positively impacting on institution's culture toward incorporation of practical entrepreneurial education. A great partnership can also be struck with other stakeholders, such as industries, multinational and government agencies, and the host communities.

The concept of *development* stresses on the persistent fostering of entrepreneurship activities by institutions. It is important to consistently evaluate entrepreneurship educational activities. It is important to ensure that the activities have the desired educational impact, such as fostering entrepreneurial behavior, skills, knowledge, and mindsets, and attaining long and medium-term impact, such as: social entrepreneurship and venture creation and. Thus, the emphasis of *development* is also the training, support, and improvement of lecturer – as to improve their delivery of entrepreneurial education.

Education geared towards entrepreneurship is expected to thrive with the allocation of dedicated funding, particularly if the funding is long-term rather than a project-based or short-term kind of funding. Additionally, the volume of financial support would spontaneously impact the level and quality of entrepreneurship tutelage programmes within varsities. However, it would be more impressive when entrepreneurship ventures and activities can command their independent cash inflows and/or sourced externally. This is how some great institutions like the *Business School* of *Singapore Polytechnic* run, with the inclusion of company-sponsored projects. Students will engage in practical projects, such as conducting feasibility studies for new products or services, and will deliver comprehensive reports and presentations to the company by the end of each semester.

The institutional infrastructure encompasses the various components that enhance the development and support of entrepreneurial-related education at vocational institutions. This could include the physical spaces like entrepreneurship centers or incubators, as well as the individuals responsible for managing and operating these structures. More also, the components could inter-discipline and research structures – which are

seen to provide additional enhancement and support to entrepreneurial-related education in varsities institution. In the past, entrepreneurial-related education was mainly associated with management and engineering fields. However, there is now a greater understanding that entrepreneurship education encompasses a wider range of disciplines. This has led to a shift in focus towards the importance of interdisciplinary approaches in delivering and developing entrepreneurship education. Students have the opportunity to take entrepreneurship courses regardless of their academic background and participate in a wide range of interdisciplinary and entrepreneurial engagements.

5.0 CONCLUSION

This paper has earlier established the relationship between TVET and entrepreneurial-related education in their common goal of aiding the amelioration of unemployment and poverty in a country. Entrepreneurship education should be seen as a way to harness the potential of students, regardless of their academic background. Therefore, it is only logical that entrepreneurship is incorporated into various fields of study – with the inclusion of vocational fields. This is the same recommendation that aligned with that proffered by European Commission and United Nations Commission on Trade and Development. Different methods of teaching entrepreneurship in a TVET environment were equally outlined, some of which are: apprenticeships, academic subjects/fields/ courses, learning based on production, co-curricular activities, incubation centers, and specifically developed entrepreneurship modules. It is crucial to ensure that entrepreneurship education is integrated seamlessly. It is crucial to establish a strong institutional framework to promote the growth and accomplishment of entrepreneurial-related education in various educational institutions, including TVET institutions.

References

Anaele,E.O.,Adelakun, O.A.,Dem,I. I., &Barfa,G.I.(2014).Strategies for Revitalizing the Implementation of Entrepreneurship Education in Technical,VocationalEducationandTraining(TVET)toEnhanceSelf-Employment in Nigeria. *British Journal of Education, 2 (4):* 50-62.

Badawi,A.A.(2013*).TVETandentrepreneurshipskillsinRevisitingglobaltrendsinTVET*. Retrieve from http://www.unevoc.unesco.org/fileadmin/up/2013_epub_revisiting_global_trends_in_tvet_chapter8.pdf.

BrookingsGlobalEconomyandDevelopment(2007).*Top10GlobalEconomicChallenges An Assessment of Global Risks and Priorities*. Retrieved fromhttp://www.brookings.edu/global/pubs/200702global_topten.pdf

EconomicPolicyPaperonEntrepreneurshipDevelopmentthroughEducationalReform. (n.d). Retrieved from http://www.dhakachamber.com/economic_policy/Educational_Reform.pdf

European Commission (2008). *Entrepreneurship in higher education, especially within non- business studies*. Retrieved from http://ec.europa.eu/enterprise/policies/sme/files/support_measures/training_education/entr_highed_en.pdf

EuropeanCommission(2009).EntrepreneurshipinVocationalEducationandTraining Final Report of the Expert Group. Retrieved from http://ec.europa.eu/enterprise/policies/sme/files/smes/vocational/entr_voca_en.pdf

EuropeanUnion.(2010).*TheSmartGuidetoInnovation-BasedIncubators(IBI)*.Luxembourg:Publications office of the European Union.

Fayolle, A (2009). *Entrepreneurship Education in Europe: Trends and Challenges in Universities,InnovationandEntrepreneurshipGoodPracticeWorkshop*.Retrieved from http://www.oecd.org/cfe/leed/43202553.pdf

Kingombe,C.(2012).*LessonsforDevelopingCountriesfromExperiencewithTechnicaland Vocational Education and Training*. UK: International Growth Centre.

Ilyas, I. P., Transmissia, S. (2012). Production-based Education (PBE): The Future PerspectiveofEducationonManufacturingExcellent,*Procedia-Socialand Behavioral Sciences, 52*, 5–14.

InternationalLabourOrganisation(2009).*SupportingEntrepreneurshipEducation:A Report on the global outreach of the ILO's Know about Business Programme*. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_117393.pdf

Jackson, T. (2015).Entrepreneurship Training in Tertiary Education: Its Development and Transfer. *Local Economy, 0(0):*1-19.

Jones, C., & English, Jack.(2004).AContemporaryApproachtoEntrepreneurshipEducation,*Education+ Training,46(8/9):*416-423.

Li,W.,&Li,C. Entrepreneurship Educationin China. Retrieved from http://cdn.intechopen.com/pdfswm/48258.pdf

Li,J.,Zhang,Y.,&Matlay,H.(2003).Entrepreneurship Educationin China. *Education+ Training*, *45(8/9*), 495 -505.

Lesakova,L.(2012).The Role of Business Incubators in Supporting the SME Start up,*ActaPolytechnicaHungarica*, *9 (3)*, 85-95.

McKimm, J. (2007). *Curriculum Design*. Retrieved from http://www.faculty.londondeanery.ac.uk/e-learning/setting-learning-objectives/Curriculum_design_and_development.pdf

MinistryofEducation(2014).*TowardsaHighlyIncomeNation:MalaysiaVocational Education Transformation*. Retrieved from http://hrd.apec.org/images/e/ea/Malaysia.pdf

NationalInstituteofScienceandTechnicalEducation(2009).*ResearchStudyonTechnical and Vocational Education in Pakistan at Secondary Level*. Islamabad: National Institute of Science and Technical Education.

NICHE(2010).*StrategyonTechnicalandVocationalEducationandTraining(TVET)*.Retrievedfromhttps://www.nuffic.nl/en/library/niche-strategy-on-technical-and-vocational-education-and-training-tvet.pdf

Odora, R.J. (2014). Distigmatisation of Apprenticeship – A Vehicle for Entrepreneurship PromotionandJobCreationamongFurther EducationandTrainingCollegeStudents. *Journal of Asian and African Studies,49(4)*: 457– 472.

Onstek,J. (2003).EntrepreneurshipEducationandVocationalEducation.*European Educational Research Journal, 2 (1),* 74-89

Paul, E.O. (2005). Entrepreneurship Education. In Ezema Priscilla N, Paul Elizabeth O.; AniokeBeatriceO.,GodwinA.G.Okwuolise,Chikwe,A., Eheli,HenriU.Anih(Eds). *Entrepreneurship in Vocational Education*. Enugu: OZYBEL Publishers.

PolytechnicTracerStudyReport(2010-2013).*TracerStudyReport*.Putrajaya:Department of Polytechnic Education.

Sichiyako, C. (2012). *TVET and entrepreneurship education (EPE)*. Retrieved fromhttp://mutame.blogspot.com/2014/02/tvet-and-entrepreneurship-education-epe.html

Singer,S.,Amorós,J.E.,&Moska,D.(2015).*GlobalEntrepreneurshipMonitor2014 Global Report*. Global Entrepreneurship Research Association. Retrieved from http://www.gemconsortium.org/report

Taatila,VesaP.(2010).Learningentrepreneurship inhighereducation. *Education+ Training, 52 (1):* 48-61.

TheMillenniumProject(2014).Retrieved from http://www.millennium-project.org/millennium/challenges.html

The Quality Assurance Agency for Higher Education (2012). *Enterprise and entrepreneurshipeducation:GuidanceforUKhighereducationproviders*.Retrieved from http://www.qaa.ac.uk/en/Publications/Documents/enterprise-entrepreneurship-guidance.pdf

Tucker,M. S.(2012). *ThePhoenix:VocationalEducation andTraining in Singapore*.Washington,DC:National CenteronEducation andthe Economy.

UNESCO (2015).*Technical Vocational Education and Training*. Retrieved from http://www.unesco.org/new/en/newdelhi/areas-of-action/education/technical-vocational-education-and-training-tvet/

UNEVOC (2010). *Entrepreneurship Education as a Tool to support Self-Employment in Kenya*.TVETBestPracticeClearinghouse.Issue2.Germany:UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training.

WorldEconomicForum(2014).*TheGlobalCompetitivenessReport2014-2015*.Retrieved from http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf

Zahari, M. I. (2010). *Developing Entrepreneurship Education: Empirical findingsfrom Malaysian Polytechnics*. Tesis PhD. University of Hull, Hull, UK.

Zhao,Yong(2012).*WorldClassLearnersEducatingCreativeandEntrepreneurialStudents*. California:Corwin.