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Realigning SD goals for Industry and TVET Training Programs: A Crucial Undertaking

Abstract

In the wake of the ASEAN Economic Community's (AEC) vision to develop a highly integrated and cohesive economy, enhanced connectivity and sectoral co-operation within the region as well as the evolution of a dynamic, competitive and innovative ASEAN, TVET is once again a fundamental instrument to achieve this goal. TVET is no doubt a major supplier of labour and human capital. Hence, it is important that workers with the right repertoire of skills are trained to take on job roles in their respective vocations and occupations. Integrating sustainability into training programs becomes very crucial to ensuring that workers develop sustainability skills necessary to carry on sustainable practices. Research literature reveals that integrating sustainability into educational and training programs is multidimensional and takes on a wide range of approaches leading to a variety of perspectives within the Sustainable Development (SD) discourse. Research literature also suggests that industry perspectives and approach to SD may be substantially different from vocational education perspectives and approaches. A fact that may indicate TVET training institutions and industries are pursing independent goals of SD. This has critical implications for the SD agenda and may limit the AEC's vision from coming to fruition. Hence, it becomes expedient that both industry and TVET training institutions realign their goals for SD and work towards a common agenda to improve cohesion and quality. This paper would explores industry and TVET professional's perspectives in relation to SD and discusses strategies to realign SD goals for the mutual benefit of producing competent vocational professionals.

Keywords: *ASEAN economic community blueprint, industry demands, sustainable development goals, TVET.*

1 Introduction

With the rapid environmental, social and economic changes happening around the globe (Majumdar 2005; Pavlova 2006), it is hardly surprising that the concept of sustainability is gaining much attention and debate globally. The world recognizes that practical actions and strategies need to be taken in order to transition people and places from presently unsustainable terrains to a more sustainable terrain and future (Armstrong 2011; Birdsall 2011; Majumdar 2009, 2012; Reid & Petocz 2006; UNESCO 2005). But the problem has never been that the world does not recognize the need to make Sustainable Development (SD) a priority, one of the major challenge has been the varied and multiple ways in which sustainable development has been conceptualized and interpreted by different people and institutions. UNESCO (2006b) posits that SD has been made to represent and reflect visions of the

institutions or organizations that spearheads them. For instance, the Organization of Economic Co-operation and Development (OECD) promotes more of economic sustainability over other dimensions of sustainable development because economics aligns with its vision as an organization. Similarly, the World Health Organization (WHO) promotes social and perhaps environmental sustainability in terms of promoting health standards and improving the quality of life for people.

The implication of this is that these institutions/organizations develop SD goals which reflect their visions which may not necessarily reflect the basic principles of SD. This results in their pursuing independent goals, developed from distinct and peculiar interpretation of the concept of SD, which may not align with those developed by the United Nation's (UN) SD agenda (Summers et al. 2003). The consequence of this is that SD, in the light of each institutional/organizational context, becomes an apparatus for extending the ideals of the organization which may or may not reflect the core and basic principles of SD. Research literature has emphasized that for SD to become practical, real and substantial, as well as contribute towards the goal of transitioning the world to a more sustainable future and develop an SD literate citizenry, the three SD dimensions (i.e. environmental, social and economic dimensions) must be holistically integrated and mutually developed within the cultural contexts of each locale (Birdsall 2014; Majumdar 2009; Reid & Petocz 2006).

The underlying principles of SD as contained in Agenda 21 (the report of the Rio conference on Environment and Development held in 1992) emphasize equity, ecological balance and environmental protection, education, improved quality of life, responsible production and consumption, peace, conflict resolution and human security as well as international collaboration and partnerships for SD as key areas which SD is meant to address (Beder 2000; Birdsall 2014; Brown et al. 2013; Cebrián et al. 2015; Effeney & Davis 2013; Egan 2004; Essel 2013; Evans et al. 2012; Everett 2008; Faucheux 2001; Majumdar 2009; Sleurs 2008). These principles collectively depict what the SD agenda is set out to achieve, but when organizations and institutions set out independent SD goals that do not directly reflect these principles as a result of the vague understanding or dimension with which SD is perceived in such organizations/institutions, then there are issues regarding the viability and substantiality of SD in creating the needed impact and awareness.

Zolkifli et al. (2016) explains that there is still a vague understanding of what SD skills are in vocational education institutions and industries alike. In their qualitative study that involved exploring industry and academic's perspectives of what green skills entails and how the latter is understood in both vocational and industrial context, they drew the conclusions that industry personnel and vocational academics affirm to being aware of the terminology for green practices but do not necessarily understand what is entailed. Similarly, Sharma (2009) conducted a qualitative case study to explore SD perceptions from vocational academics and industry professionals. Findings from the study revealed that both vocational academics and industry professionals had very low awareness of the SD concept and saw no relevance of SD to vocational education. Zolkifli et al. (2016) emphasized that academics and industry professionals were only familiar with the terminology "green skills", but did not necessarily under-

stand what these entail. Industry professionals reportedly understood it to mean green practices that involved engaging in the 3R concept of reduce, recycle and reuse.

Sharma (2009) also explains that the notion that sustainability had no relevance to vocational education as held by most vocational academics and industry professionals was an indication of the level of understanding vocational academics and industry professionals had about SD. An analytical view of these findings reveals that as much as green practices contribute substantially to the SD agenda, it is not enough to stop there. Summers and Childs (2007) opined that most industries and workplaces engage in green practices for several reasons, but common to these reasons was that it helped them reduce operational cost and increased profits. This is no doubt an incentive for engaging in SD practices. However, how much more could be achieved if workers were not just mandated by organizational polices to engage in SD practices, but rather that they were trained to become knowledgeable, skilful, and proficient in applying the principles and fundamentals of SD across workplaces. This action would result in the development of workers who engage in self-reflective practices to determine strategic ways to reduce the environmental, social and economic impact caused by unsustainable practices by themselves and their workplaces also. Similarly, workers would become conscious of the dire implications of unsustainable patterns of work and behaviours and begin to develop skills in applying appropriate technologies to solving real world problems encountered either in production or service related professions.

For all of these to happen, graduates from vocational institutions as well as workers who are already employed in various industries need to be educated and trained to develop such knowledge and skills that would enable them function as competent SD vocational professionals in their various industries and workplaces. But for this education and training on SD to happen, there is also a need for vocational institutions and industries to foster collaboration and partnership for SD. Research literature shows that industries and vocational education institutions have been known to collaborate and partner on issues that would help synchronize workplace requirements in terms of skills, knowledge and competencies with those of vocational training programs, but not with respect to SD (Majumdar 2011; Sharma 2009; Summers & Childs 2007). The exception for SD collaboration between industries and vocational academics stems from the notion that both groups perceive SD to be of no relevance to Technical and Vocational Education (TVE).

Hence, it becomes crucial to reiterate the role of Technical and Vocational Education and Training (TVET) can play with regards to transitioning the world to becoming more sustainable. Consequently, as a step further in the right direction, there is also the need for vocational academics and industry experts in various cultural contexts and locale to come together and discuss SD in all its ramifications, especially with regards to the role TVE can play in attaining the SD agenda. As well these groups could develop congruent SD goals with which vocational education institutions and industry training could adopt for the overall objective of equipping vocational graduates and workers, not just to be SD practitioners but also to become SD competent workers. Therefore, this study aims to explore academic and industry perspectives on SD and the implication it has on the ASEAN Economic Community's (AEC)

vision of developing a highly integrated and cohesive economy, enhanced connectivity, and sectoral co-operation within the region. The paper concludes with a reflective analysis of the AEC's vision and how TVET can substantially play a crucial role by realigning SD goals for industry and TVET training programs.

2 Perspectives of SD from Industry professionals and TVET Academics

SD has no doubt been a concept that has been talked about and debated for the past three decades. Surprisingly, with the amount of time that has passed, one would have thought SD awareness would have reached at least a median level across vocational institutions and industries alike, but the literature suggests otherwise. One's perceptions reflect one's understanding and perspective regarding an issue, therefore it is crucial to explore the perceptions of SD as held by vocational academics and industry professionals in order to highlight specific problems and hence find creative solutions to resolve them.

Findings from studies conducted to gain insight into the perspectives of vocational academics and industry professional from the literature (Majumdar 2009; Pavlova 2012; Reid & Petocz, 2006; Sharma 2009 & 2011; Zolkifli et al. 2016) can be summarized into the following headings namely: relevance of the concept of SD, responsibility for SD in TVET program curriculums, cost infeasibility of SD, sustainability as a burden versus sustainability as a solution, and the economic value of SD. The following headings will be discussed briefly to highlight vocational academics and industry professionals' perspectives of SD.

2.1 Relevance of the concept of SD

Evident in the literature is the notion that some academics and industry professionals see no relevance of SD to technical and vocational education (Sharma 2011; Zolkifli et al. 2016). They believe that SD is more of a social skill and should not be placed above or side by side with technical skills. Thomas (2004) explains that this lack of reluctance by academics and industries to implement SD into training programs could be attributed to their limited knowledge and lack of understanding of the SD concept as well as their not understanding the importance of their engagement. Similarly, Reid and Petocz (2006) corroborate the views of Thomas (2004) when they also state that university academics failed to see the relevance of SD in the subjects they teach because they do not understand it. Owens (2010) opines that just because educators were taught using the same old irrelevant pedagogies, sitting in rows in higher institutions of learning, taking notes and memorizing some disconnected facts for regurgitation in multiple choice questions, does not mean that teachers and academics of today must continue with same old traditions. Similarly, just because issues which the world faces now did not occur some three to four decades ago does not also mean they do not exist now. Hence not recognizing the value of SD in bringing about the desired changes we seek in our environment, social and economic life is no doubt a limitation to implementing SD fully within TVET.

2.2 Responsibility for SD in TVET program curriculums

A notable tradition in TVET has been the inclusion of industry feedback in the planning and execution of training programs. Usually, the demands for skills in industry are considered and broken down into specific skill areas that each vocational training program is expected to help students develop. But such traditions are not considered substantial and relevant when it is about SD. Sharma (2011) opines that both parties play the "blame game" for taking responsibility for incorporating SD into TVET programs. Some academics posit that they only teach skills that are required in industries and SD skills are not a demand. Industry professionals on the other hand claim that educating for SD was the responsibility of TVET institutions and the government. The lack of consensus between vocational academics and industry professionals as to who is responsible for SD is also one of the reasons why SD integration in TVET programs is extensively slow. Fien and Wilson (2005) suggest that for change to occur in industries and workplaces the curriculum of TVE programs must be revised while recognizing and emphasizing the need for workers with SD skills.

2.3 Cost infeasibility of SD

Vocational academics and industry professionals believe that being sustainable is an expensive practice to undertake. While academics perceive that industries feel reluctant to use sustainable products because standard products were cheaper, industries affirm that being sustainable was impractical and expensive (Sharma 2011). The problem is that they overly stress short-term economic gains from the use of standard products rather than consider the long-term environmental, social and economic gains from the use of sustainable products. This in essence defies the fundamental principle of SD which strives to balance all aspects of human life, i.e. the environment or ecological life, social and economic life etc. SD emphasizes that no singular dimension is superior over the other and efforts to ensure that the environment, social and economic life are kept in harmony are thus needed. Understanding the fundamental and guiding principles of SD would help those with these notions to rethink their stand, and appreciate that we are at a point where short term economic gains should not be overly considered above the wellbeing of people and the planet.

2.4 Sustainability as a burden versus Sustainability as solution

Thomas and Nicita (2002) posit that academics are busy people with demanding schedules and as such any attempt to incorporate SD into the curriculum of vocational education inappropriately would result in a burden for these academics. This conclusion reveals that some academics are reluctant to implement SD because there are fears about the cumbersome and additional workload of preparing and teaching SD contents within their subjects. Some academics opine that the TVE curriculum is already crowded and that they would rather teach specific technical skills than educate for SD. Research literature (Arsat et al. 2011; Owens 2010; Sterling and Scott 2008) have enumerated several approaches to educating for SD that vocational academics have at their disposal. Notably, among such approaches to teaching SD concepts is either the method of integrating SD into existing subjects or teaching SD as stand-

alone courses. But Sharma (2009) reports that academics believe SD skills are social skills and cannot be placed over technical skills in their subjects. This shows that the concept of SD is still a foreign concept to some academics and its relevance to vocational education is still not understood. Academics and industry experts need to be enlightened to consider SD as a long term solution to the various developmental and environmental concerns the world face today and not as curricular burden with which they are mandated to implement in their subjects or courses.

2.5 The economic value of SD

Sterling (2001) argues that Technical and Vocational Education programs aim mainly at preparing individuals to develop capacities for economic life and primarily for meeting material needs. As vocational academics and industry professionals view SD as social skills with no viability for economic prosperity, SD does not seem to be under the radar of these academics as Sharma and Monteiro (2016) opine. The problem is that the understandings of these academics and industry professionals are one that dissociates SD from economic value and improved living conditions. They have considered SD to mean just environmental protection without consideration and understanding of the other dimensions of SD, i.e. the economic and social dimensions. SD emphasizes a balance between these three dimensions and when one dimension is promoted over the other, then it does not reflect the ideals of SD. Sharma (2011) also reports that industry professionals recommend that if SD is to be integrated into the TVET training curriculum, then it needs to show the economic gains and monetary benefits to be derived from it. SD goes beyond economic gains and values, and therefore, attempts must be made to get vocational academics and industry professionals to see the relevance and benefits of their programs and how TVET can contribute to the SD agenda.

3 A reflective Analysis of the AEC's vision

An analysis of the ASEAN Economic Community's blueprint 2025 reveals that the region has set out targets to become a cohesive, dynamic, resilient economy capable of withstanding global economic shocks and volatilities, promote equitable and inclusive economic growth, proceed with development that is cautious and within the carrying capacities of the ecosystem, eliminate or reduce poverty, foster responsible robust productivity through technology, innovation, research and human resource development etc. These targets envisioned by the AEC reflect the fundamental principles of SD discussed in the introductory section of this paper. The AEC is no doubt aligning its targets with those of SD principles, having recognized that for today's economy, effective strategies need to be taken to ensure sustainability in all its ramifications.

The AEC needs human resources and capital, who have been trained to understand the ideals of SD and the value it brings. Therefore, as a starting point for the attainment of the AEC vision, the education of workers with regards to developing competencies and skills for

sustainability is mandated. Without workers who understand the targets set by the AEC within its member countries, then there is only little that could be achieved with regards to the target the AEC has set out to achieve. To reach out to a nation's workforce about SD, which field stands a better chance than TVET? TVET is a major supplier of labour and this is an agreed upon fact across nations (Hofmann & Strietska-Ilina 2013; Marsden et al. 2013; Sivapalan 2016; UNESCO and ILO 2002a, 2002b; Zolkifli et al. 2016). Therefore, the AEC's vision coming to fruition largely depends on how its member countries are able to sensitize and enable TVET providers to educate workers for SD.

4 The Role of TVET in the SD agenda

Some scholars have written and questioned the role of educating for SD in Technical and Vocational Education. The literature has provided many expositions in such regards, explaining why education for sustainable development (ESD) is particularly suited for TVE (Majumdar 2005, 2009, 2011, 2012; Pavlova 2006; Pavlova 2007, 2008, 2012, 2013; Wagen 2007). Rather than ask what ESD can do for TVE, a more crucial question is what role can TVE play in the transition towards SD? An attempt to answer this question would exemplify understandings of the vital role TVE plays in the transition towards a sustainable future.

UNESCO (2006a) reports some of the crucial roles TVE can play in the quest towards a sustainable future. The following sections discuss and exemplify these roles.

- TVE, as a fundamental component of lifelong learning, has a mandatory role in transitioning nations towards SD by acting as an effective tool in the promotion and realization of the objectives of a culture of peace, international citizenry, social cohesion and environmentally friendly culture. The question is how TVE can play this role. The answer is not in recognizing what TVE ought to do to contribute towards a more sustainable future, rather it is in answering the question how can TVE be structured and made to play this role. The specificity of the "how" is not an exact science, but research into various aspects of TVE can help provide meaningful insights to understanding the "how". Lifelong learning occurs through TVE for youths and adults alike, if then the training of youths and adults through lifelong learning and vocational training is one that aims to inculcate certain SD values and knowledge, then TVE would have succeeded in developing a human capital that is both SD literate and proficient.
- The UNESCO (2006a) report also resolves that TVET of the future must not only be capable of preparing individuals for employment in the information sector, but must also make them responsible citizens who give due consideration to preserving the integrity of their environment and the welfare of others.
- TVET can play an instrumental role in developing a new generation of individuals who will face the challenge of achieving sustainable socioeconomic development. The implication is that a number of new subjects (SD concepts) therefore need to be incor-

porated into TVET teaching and learning content. But then again, there is the issue of how do we integrate new courses into an already overcrowded TVE curricula. This is the concern of most TVE educators. In addressing this concern, some scholars have provided various ways and strategies by which courses can be added to reflect SD into the curriculum. Arsat et al. (2011) suggested that instead of developing specific new courses to address all aspects of SD issues, existing courses can be reoriented to reflect SD issues that are closely related to the existing course content in the TVE program curricula. This would provide an integrative method of making SD visible throughout the whole fabric of the TVE training program. It has also been established that a well-trained technical workforce is essential for any country to achieve sustainable development; hence a well-trained technical workforce is a necessity for the SD agenda and the AEC's targets. Consequently, competent teachers need to be trained to be able to develop and train the desired human capital that would constitute the needed workforce to transition the world to become more sustainable.

- UNESCO (2006a) also resolved that there is an urgent need to renew TVET and this should be the top priority for every country. The task of renewing TVET is one that can only be accomplished if a country can succeed in articulating and aligning TVET to the global sustainable development strategy developed by the UN and its relevant agencies.

Consequently, after exemplifying the crucial role TVET can play in the transition towards a sustainable future, three fundamental goals were developed to serve as guides for TVET in the SD agenda. UNESCO (2006a) reports the following as the three central goals of TVET in the SD agenda:

a. Contribute to the achievement of societal goals specifically in social, environmental, cultural and economic development, while at the same time developing the potential of all individuals, both men and women, for active participation in the establishment and implementation of these goals, regardless of religion, race and age.

b. Lead to an understanding of the scientific and technological aspects of contemporary civilization in such a way that people comprehend their environment and are capable of acting upon it while taking a critical view of the social, political and environmental implications of scientific and technological change.

c. Empower people to contribute to environmentally sound sustainable development through their occupations and through other areas of their lives.

5 Towards a unifying goal for SD in TVET training institutions and Industries

Becoming more sustainable begins with understanding the role TVET can play in achieving this goal. Understanding the role TVET plays is crucial but taking strategic actions that can stimulate and reinforce the role of TVET is even more crucial. One of such strategic action

that can be taken is to develop SD goals for TVET training programs with contributions from vocational academics, industry professionals, governments, and Education for Sustainable Development (ESD) experts.

Such attempts need to begin with sensitizing vocational academics and industry professional to the relevance of SD in TVET. Such sensitization should attempt to dissuade erroneous perceptions of SD and stimulate the interest of vocational academics and industry professionals to engage in SD. Member countries within the ASEAN region should make SD in TVET a priority area and garner all the needed support and attention it needs to thrive. With the thriving of SD in TVET and the development of SD competent workers, ASEAN member countries are better equipped with the capacity to attain and contribute to the AEC's vision of a cohesive, dynamic and resilient economy capable of withstanding global economic volatilities and shocks.

As most scholars rightly point out the reluctance of academics and industry professionals in implementing SD within TVET program curricula is one that sterns from the lack of knowledge about the SD concept. Therefore, a more rigorous approach is needed to increase SD awareness. This can be attained by first educating academics and industry professionals alike about SD concepts and practically establish and demonstrate how these SD concepts relate to the subjects they teach. Another area of concern is the approach with which SD can be integrated into the curriculum. Academics consider the integrative approach as a much more cumbersome and burden-like approach as it increases their already exhausting workload. The stand-alone approach on the other hand requires additional manpower particularly an ESD subject expert to teach SD concepts in relation to the vocational area.

The limitation with this approach is that the general concepts of SD would be taught and not necessarily in relation with the topics of the particular vocational area. Therefore, a more suitable strategy would be the integrative approach because with this method, vocational academics first learn about SD concepts and then find intersections between these SD concepts that need to be taught with those of the subject or courses they teach. They do not necessarily have to include new topics or content into their subject matter, rather they can address SD issues within pre-existing courses. The beauty of this is that the issue of workload would have been dealt with substantially. But then again academics would have to be educated first about SD for the integrative approach to be successful.

6 Conclusions

The authors have been able to provide a reflective perspective of the relevance of realigning SD goals for both industries and TVET training programs especially to aid member countries within the ASEAN region become better prepared to achieving the AEC's visions. The paper also highlights industry and academic's perspectives on SD from the literature and discussed the underlying role TVET can play in fostering the transition towards a more sustainable

world. The paper concludes with some exemplary cases on how a unified goal for SD in both industries and TVET training programs can be fostered.

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