TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) AND ITS INTEGRATION INTO GENERAL EDUCATION AT THE UNIVERSITY LEVEL

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This paper seeks to demonstrate the progress that technical and vocational education and training (TVET) has made in cementing its place in general education (at the tertiary level) as a legitimate component of the education process for economic development and prosperity. It explores the reasons for the separation of liberal arts education from professional education in an earlier period, and the continued attempt to maintain the separation between general education and TVET in the 21st century. With the inevitable move towards a knowledge-based economy in developed and developing countries, the role of both general education and technical education is being heralded as vital to the performance of this modern approach to economic development. The paper also examines the factors that are driving these changes and the potential benefits to be derived from the integration of general education and TVET. Finally, the paper concludes that based on the growing symbiotic relationship between general education and TVET, it can be safely predicted that, increasingly, the distinction between general education and acquisition of skills for work will gradually disappear and will cease to be an issue for the education system in the long run.

Introduction

Technical and vocational education and training (TVET), which has remained on the periphery of the school system in both developed and developing countries for many years, is gaining recognition on an international scale. (Hutton, 2009). Notwithstanding the progress being made, for some countries in areas such as Africa, the stigma against TVET remains a significant problem and its integration in the school system is more challenging (African Union. Division of Human Resource and Youth, 2007). However, focusing on the schools in Europe, Lasonen and Manning (2000) pointed out that those in England and France have embraced vocational education with the same level of importance as the traditional academic programmes. Further, in

the case of Sweden and Scotland, policymakers are removing the obstacles that separate technical and vocational education from general education. With the school system making gains internationally with integration, higher education has become the new frontier for the integration of TVET. And, as Leney and Marcella (2000) explained, "these changes are partly a reflection of economic and labour market demands, but also, and more immediately, a response to student pressure and popular aspirations" (p. 141).

It is within this context that the authors seek to examine the efforts made to raise the profile of TVET in the arena of higher education, and specifically in the traditional liberal arts or general educational institutions. For readers in the Caribbean and other developing countries, it is important to appreciate the fact that TVET is rapidly moving from being an incidental aspect of the education process to becoming an integral part of higher education, especially in many developed countries. Also, there are lessons that can be learned from the experience gained and steps taken to facilitate the mainstreaming of TVET. At the same time, the efforts being made locally and the challenges we face should be of interest to policymakers and educators in the international community. This article first takes an historical perspective by examining efforts to limit the inclusion of professional education in liberal arts programmes and institutions. It then explores the integration of TVET and liberal arts education, and discusses some of the ways higher education is benefitting from TVET learning strategies. The article then explores the integration of TVET in higher education and the conflicts arising, followed by an examination of the implementation of the Leadership Programme in TVET and Workforce Development in higher education in Jamaica. The article ends by addressing the TVET options available to students in higher education, and highlights the point that the objective reality brought about by current economic realities is the main driving force propelling the full integration of TVET at all levels of the education system.

Professional Education and the Liberal Arts Institution

The role of career education or TVET[1] in traditional liberal arts universities[2] has been an area of continuing discussion. In the early years of the university, liberal arts education was unchallenged until a number of factors, including the need for university graduates to be prepared with adequate skills for the workplace (Maclean, 2007), pointed to the need to re-examine this focus. In fact, the training of professionals such as lawyers, doctors, economists,

engineers, and dentists, among others, was seen as a type of education to be kept separate from the undergraduate liberal arts, which was more about education for its own sake. In other words, the aim of learning at the level of the university was to provide the individual with a rounded education for his/her intellectual acumen and personal prestige (Gutmann, 2011). It should be of interest to note that in the United States, for example, liberal arts education was the "exclusive domain of the American elite, who looked down on all practically oriented education. Practically oriented professional education[3] grew up, separately, alongside liberal-arts education in the United States" (Gutmann, 2011, p. 8). So the division between practical education, which prepares one for a career, and the liberal arts or general education,[4] which focuses on providing education for its own sake, was well entrenched in the education system for many decades.

But a compromise came about because of the need to have education at the university level that prepares the learner for the world of work. It was only then that the undergraduate programmes were designated as the prerequisite for graduate programmes (Gutmann, 2011). This approach provided a "safe haven" for liberal arts education to continue within its traditional framework. Over time, though, the liberal arts programme declined, even though it was established as a stand-alone degree and became the purview of undergraduate education. It is now apparent that the role of a good undergraduate degree cannot be discounted because it also provides critical skills that are needed to perform both at the graduate level and at the workplace. In fact, these skills are relevant to the rapid growth of the knowledge economy, which is replacing one that was based on industrial production. Van der Wende (2012) saw the change toward an increased interest in liberal education as a response to employers who emphasize the need for graduates to be "creative thinkers, and [who] should be able to communicate, to reason, create, write and speak and to provide leadership. Increasingly, they also recognize that a liberal arts and science education nurtures these skills and talents" (p. 6). Altbach, Reisberg, and Rumbley (2009), before, pointed out that there is an increased interest "about the value of and potential need for liberal education….emphasizes a broad interdisciplinary curriculum focused on creativity, critical thinking, cultural awareness, problem solving, and communication skills" (p. 115). The re-emergence of liberal arts universities is taking place in countries across the world, but especially in the United States. Van der Wende (2012) identified three factors that are driving the re-establishment of liberal arts universities and programmes in higher education:

1. The need to take a multi-disciplinary approach to address critical and complex issues faced by society

2. The need to prepare persons with skills related to creativity and problem solving among others

3. The need to educate persons who demonstrate high ethical and moral values which are rooted in democratic principles and social responsibility

These are factors that are necessary to support the economic activities of all countries. So it is not unexpected that Van der Wende (2012), also citing Nussbaum (2010), pointed to the fact that renewal of interest in liberal arts education is not only occurring in the United States but also in universities in other parts of the world. Also, the importance of liberal arts education is linked to the need to respond to the complex societal problems and challenges, such as pluralism, fear, and trustworthiness, which have become important concerns of developing countries.

Integrating Liberal Arts and Technical and Vocational Education

It was Altbach et al. (2009) who said that the revision of the university curriculum would be "salient in developing regions where emerging economies require both specialists trained for science and technical professions as well as strong leaders with generalist knowledge who are creative, adaptable, and able to give broad ethical consideration to social advances" (p. 115). So the pendulum has moved back and forth, starting with the challenge to liberal arts education by the professional programmes. And now with the professional programmes firmly in place, there is the move to have a greater emphasis on liberal arts education; the latter emerging within the context of a global knowledge economy that requires higher order skills (Altbach et al., 2009) in order to succeed.

For developing countries, the separation of technical from academic/general education was justified by the fact that remnants of colonialism were still influencing how they saw technical and vocational education. Tikly (2013), commenting on the historical basis for this separation in some developing countries, said "that the academic/vocational divide created under colonialism remained intact in the post-independence period, and that academic qualifications were perceived to lead to more and better opportunities in the labour market" (p. 5). This view continues to persist even today in many developing countries, including Jamaica and the rest of the

Caribbean. This divide was clearly a replication of the actual situation that existed in Europe during the colonial period. The difference now is that many countries, including England and Germany, are able to respond to the new economic requirements, and make efforts to change the relationship between TVET and general or liberal arts education. It was also argued that it was much more cost effective to provide basic academic education than TVET, and the return on investment for basic education was much better than investments in TVET (Tikly, 2013). These positions, although persistent, seem to be receding as greater attention is being given to the use of skills development and training to address issues such as poverty alleviation, unemployment, income inequalities, and promotion of social welfare issues. In addition, the increased attention to TVET is also being driven by the need for developing countries to participate in the emerging knowledge economy (Tikly, 2013).

While there is a greater awareness of the value and worth of technical and vocational education and the need for the education system to emphasize both, the call for skills-focused education in higher education was directly reflected in the economic needs of many developing countries (Maclean, 2007). The Korean experience provides a good example of education matching the needs of the productive sector. The United Nations Educational, Scientific and Cultural Organization [UNESCO]–International Bureau of Education [IBE] (2006) traced the route to respond to the skills requirements at each juncture of its economic development, which included the expansion and "universalization" of "elementary education followed by secondary education, and only after achieving this, shifted its emphasis to the expansion of higher education" (pp. 1-2) in response to the higher technical needs of the economy and workforce. The influence and impact of the economic imperatives driving the need for higher education to re-orientate its focus has fundamentally been born out of the shift in the economic pathway taken by many developed and developing countries in the 21st century. The new pathway for higher education is driven by shrinking of the welfare state and the rise of "competition" or the market orientated state (Cerny, 1997; Maclean, 2007). This has resulted in what is called the vocationalization of education, which is essentially the provision of the skills to function in the new market-oriented global economy. In addition, "the "competition state" seeks talent and requires new skills, in particular, skills of employability....Thus, the process of vocationalisation is backed up by the changing nature of the state" (Maclean, 2007, p. 3).

Maclean and Pavlova (2013) provided the material basis and explanation for the incorporation of TVET at all levels of the education system, including secondary and tertiary. They outlined that expansion of access to secondary education, or "massification of secondary education," was stimulated by the achievement of universal primary education by many developing countries. Secondary education was the natural pathway for larger number of young people to access further education. As they further explained:

> In the past it was widely accepted that secondary schooling and higher education were for a relatively small number and proportion of students who were mainly concerned with receiving an academic-type education and (in the case of universities) obtaining entry to the higher-status professions. (p. 43)

This has resulted, according to Adams (2007), in the move towards articulation of vocational education at the secondary level with higher education, thus essentially removing the terminal nature of TVET beyond post-secondary education for many countries and allowing for TVET specialists to access higher education. As Adams pointed out, "The trend in advanced countries has been to move toward blending instruction, so that vocational students receive more academic content to broaden their occupational focus and general students are given more opportunity to apply academic principles to practical problems" (p. 2).

So with TVET being rooted in secondary education, which has expanded significantly since the 1970s, many developed and developing countries moved to the next stage of the process. That is, the provision of a variety of skills training options to meet the needs of the job market requiring university level qualifications and competencies. For example, countries such as Japan and the United States have revised the curriculum of 4-year institutions to offer programmes that are a direct response to their labour market needs (Adams, 2007).

But in addition to the objective factors supporting vocationalization, the debate regarding the role of TVET in higher education also continues on an even higher plane. Maclean and Pavlova (2013) said that "current discourses on vocation [sic] and higher education relationships can be viewed at a number of levels – political/economic, epistemological and individual" (p. 70).

At the political level, there is recognition that the university has as its primary responsibility the preparation of students to gain meaningful employment; therefore, the separation of the university and its offering from the source of employment for many graduates

is a failure to recognize the mandate of the university, at least in the present economic and employment dispensation. In other words, universities should not fail to provide their students with the skill set to benefit from the employment opportunities provided and available.

Regarding the epistemological level, the issues are related to the kind of knowledge that should be imparted and the relevance and significance of the knowledge to university students. A number of dichotomous positions are advanced, including, but not limited to, the following: "the universal versus the particular, formal versus experience-based, the search for truth versus utilitarianism, context-free versus context-dependent, position university knowledge much closer to the individual than the discipline, depending on a person's subjectivity, needs and experiences" (Maclean & Pavlova, 2013, p. 70).

For the individual's view, the authors noted that the interest of the learner is being subsumed by the emphasis on the economic-oriented view advocated by the Organisation for Economic Co-operation and Development (OECD), or the human-oriented approach as advanced by UNESCO. With the stridency in advancing the provision of one or the other approach by the OECD and UNESCO, the interest of the learner/individual is not prioritized. Maclean and Pavlova (2013) proposed that "structural changes, requirements of the globalized economy and interpretation of knowledge, and the repositioning of individuals and their actions in the centre of the educational process, need to be considered to harmonize higher education within counties' [sic] economies" (p. 71). Gutmann (2011), however, cautioned that while the separation of liberal arts education from professional education is a serious concern, it would be an error if students select their majors essentially for "professional reasons, rather than because they want to be both well-educated and well prepared for a likely future career" (p. 6). Notwithstanding, with the reorientation of how economies operate on a world-wide basis, the increased number of persons accessing higher education with a vocational background, and the need for the majority of persons to acquire an education in support of a career path, "most students need to prepare for gainful and socially productive employment, and there is not a scintilla of shame in choosing a major because it helps to prepare you for a profession" (Gutmann, 2011, p. 6).

Higher Education Learning From TVET

Insertion of Soft Skills in Higher Education

The Benelux Bologna Secretariat (2009) provides a framework for the curriculum that "promote[s] the learning of competencies and skills that are needed in tomorrow's economy" (p. 10). It involves employers and reaffirms the role of the institutions themselves in the curriculum development process. In practice, the integration of TVET in general and liberal arts education at the university is evidenced by the integration of TVET content into the curriculum of higher education. For example, universities are introducing the teaching of soft skills at the university, which is well established in traditional technical vocational programmes, especially at the pre-university level. The American Association of Colleges of Teacher Education (AACTE) and the Partnership for 21st Century Skills (2010) divide core skills into three categories: (1) learning and innovation skills; (2) information, media and technological skills; and (2) life and career skills:

- The learning and innovation skills include: critical thinking and problem solving, communication, collaboration, and creativity and innovation.

- The information, media and technological skills include: information literacy; media literacy; and ICT (Information, Communications, and Technology) literacy.

- The life and career skills will assist the learner to function with greater confidence in a complex and amorphous work environment. These skills include: flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, and leadership and responsibility (AACTE & Partnership for 21st Century Skills, 2010, pp. 9-10).

Malaysia, for example, applies the Soft Skills Scale to assess the soft skills for students pursuing higher education. These include "communication skills; critical thinking and problem solving skills, team working, lifelong learning and information management skills, entrepreneurship skills, ethics and professional moral skills, and leadership skills" (Salleh & Sulaiman, 2014, p. 27). In the case of Vietnam, the soft or life communication skills are as follows: "Communication skills, Teamwork skills, Skills of Leading others, Public speaking skills, Skills of conflict resolution and reconciliation, Skills of understanding and empathizing with others, Negotiation skills, Selling Skills, Team building skills, Influencing skills, Listening skills, and Skills of wisely refusing" (Hung, 2014, p. 48). The crossover of transferrable or soft

skills to higher education represents a major gain for TVET in an area that is in keeping with the recognition that these skills are necessary, or even vital, to perform at the higher technical and administrative levels in business organizations.

Competency-Based Assessment

Competency-based education had its roots in early TVET, which originated in "early behaviorist models for vocational training….has evolved over the decades to encompass higher education degree programmes and curriculum that emphasize demonstrable workforce relevant outcomes or the application of acquired knowledge" (Ford, 2014, pp. 15-16). Competency-based education is focused on what the learner knows and can do. In addition, competency-based education does "not assume that successful completion of a series of courses results in the achievement of learning outcomes; rather, they confirm student learning through individual assessment" (Klein-Collins, 2014, p. 4). As Klein-Collins indicated, competency-based education is a response to the call for education, including higher education, to account for its planned outcomes both in the areas of productivity and effectiveness. At the university level, a competency-based approach has been adopted in the Bologna process, which involves 47 European countries adhering to the European Qualification Framework, and which seeks to standardize the offering of degrees by the countries involved by specifying the required programme content and learning outcomes (Benelux Bologna Secretariat 2009; Bünning & Shilela, 2006). In the United States, a similar initiative resulted in the Global Learning Qualifications Framework (GLQF), which is based on the framework of 90 other countries; the Lumina Degree Qualification Framework (LQF); and the Association of American Colleges and Universities Essential Learning Outcomes. As Travers and McQuigge (2013) explained:

> As colleges/universities and students continue to search for and use nontraditional modes of education, learning has become increasingly untethered to time, place and modality….provides a structure for assessing nontraditional modes: online learning, open education resources (OER), massive open online courses (MOOCs) and experiential/prior learning. (p. 1)

As an outcome of the initiative, the Lumina Foundation (Adelman, Ewell, Gaston, & Schneider, 2011) advanced a competency-based degree profile, which recognizes the professional or applied fields as well as the traditional areas related to arts and science. In addition, it provides a

"common source of understanding and as a point of departure for agreement on more detailed and specific expectations regarding the development of programs, courses, assignments and assessments" (p. 2). Klein-Collins (2012), citing Adelman et al. (2011), summarized well the five areas of learning outlined by the degree profile: broad, integrative knowledge; specialized knowledge; intellectual skills; applied learning; and civic learning:

- Broad, integrative knowledge, which stresses the acquisition of more complex and advanced knowledge in areas such as English, mathematics, science, history, social sciences, languages, and the arts, as well as the creative integration of knowledge about science, culture and society with the students' specialized interests

- Specialized knowledge, which is related to the specific discipline or field of study (terminology, tools, and technologies related to that field, principal features, core theories and practices, etc.)

- Intellectual skills, which includes oral and written communications and quantitative applications

- Applied learning, which stresses the importance of students being able to do something with what they learn

- Civic learning, which focuses on students' ability to understand diverse positions and develop responses to social, environmental, and economic challenges at the local, national, and global levels (p. 11)

Klein-Collins (2012), comparing the existing system in higher education, demonstrated that the accumulation of credit hours over a predetermined period of time would assist students to earn their degree. Students have to follow established guidelines that are specified by the university. The competency-based proposal would see a transformation of the process for granting degrees based on credit hours to one in which the students are required to demonstrate competencies in specific knowledge and skills as against the earning of a prescribed number of credit hours. As Klein-Collins said, "In this system, the combination of courses and credit hours is no longer relevant. What is most important is the demonstration of pre-defined competencies, or the students' ability to apply college-level skills and knowledge" (p. 8). Inherent in the competency-based approach to assessment is one that seeks to emphasize the principle of

objectivity, that is, a greater reliance on what the learner can do as against the assessor's interpretation of how well the student/learner masters the content or knowledge.

Teaching and Learning Approaches

The transformation of the curriculum in traditional liberal arts universities will inevitably impact how teaching and learning is conducted. As Altbach et al. (2009) pointed out, "theoretical developments that prioritize learning outcomes have led some participants in the higher education community to shift from a teacher-centered input model, to one that is student-centered and based on outputs" (p. 114). Of course this is consistent with the TVET approach to teaching and learning where the focus is on demonstrating competencies or outcomes. This inevitably means that the teaching approaches being emphasized are increasingly developed within a work-based framework. Thus, the learning in the new dispensation is more about the quality of the preparation that the students have encountered, and ultimately mastered. This will determine the value of the university experience. In the final analysis, it is students who will ultimately have to face and engage the working environment, and therefore must be able to demonstrate the ability to perform in accordance to standards that will be under constant scrutiny.

Implementation Modes for Learning

Maclean and Pavlova (2013) identified what they referred to as the implementation modes in higher education, which have incorporated many of the practices that were traditionally used in TVET. They include:

1. redesigning of programmes to include content that is essentially vocationally oriented. These include but are not limited to workplace problems and placement options—internships, work experience, work-based learning initiatives, and work placement schemes;

2. the establishment of cross-faculty courses and research that is based on interdisciplinary research centres which seek to take an integrated approach to the development and acquisition of knowledge;

3. the promotion of programmes by higher education institutions that are geared towards marketing needs;

4. greater focus on activities that assist with the employability of graduates;

5. increased involvement of employers in programme development and the policy strategy and implementation stages of university activity;

6. making on-the-job training a requirement for postgraduate programmes such as medical education;

7. incorporating prior learning to account for experience gained in both vocational and higher education and an increased emphasis on lifelong learning. These institutions are also recognizing programme articulation and bridging courses for those who do not have a background in higher education; and

8. increased collaboration between technical colleges and traditional liberal arts institutions.

Daud (2013) posits the view that problem-based learning (PBL), which is active learning, has proven to be effective in teaching both in vocational education programme and also at the university. Prince (2004), contrasting active learning with traditional approaches to learning, said that the students assume a relatively passive posture in the traditional learning approach, while in the active learning approach they are constantly in an engaging learning mode. A number of active learning approaches that require higher level thinking can be used at the university level. These include collaborative learning, cooperative learning, experiential learning theory (ELT), problem-based learning (PBL), project-based learning, and community of practice. In each of these approaches the learner is an active participant in the learning process, which is occurring at a higher level of cognitive engagement.

The TVET approach to teaching and learning naturally channels the learner towards work-based and student-centred methodologies. With higher education paying greater emphasis to preparing the learner for a career or the world of work, it is understandable that a TVET approach to the acquisition of competencies would be chosen by universities.

The Jamaican Experience

TVET and Role of UWI and UTech

While the School of Education (SOE) at the Mona Campus of The University of the West Indies (UWI) took steps in 2009 to introduce TVET as part of its programme offering, the Mona Campus has been making changes in response to the market needs of the country. The Faculty of

Natural Sciences has been restructured to become the Faculty of Science and Technology, and UWI has taken steps to offer new programmes, a number of which would normally be the domain of the University of Technology (UTech), Jamaica. Likewise, UTech, Jamaica has implemented a programme in law and programmes in medical sciences, including dentistry. What is clear is that both universities are responding to the job market. UWI, Mona has maintained most, if not all, of the traditional liberal arts programmes, although for some of them there has been a decline in enrolment. While there has not been any public resistance to the market approach being taken by the university regarding its programme offerings, there are those who see this change as alarming and have expressed concerns that UWI, Mona may be losing its direction.

So in Jamaica there are clear signs of the integration of technical and technological education and liberal arts education, at least in the two major universities. The SOE introduced the Master of Arts (MA) in Leadership in TVET and Workforce Development, with the specific aim of training persons to be leaders at TVET facilities, which include technical schools, vocational colleges, and other institutions. UTech, Jamaica has since established its own law and pharmacy programmes, which some feel should be the rightfully located at UWI (The law programme, in particular, is in direct competition to the one existing at UWI for many years.). It is interesting to note that most of the new programmes established at both universities are self-financing; therefore, the students are required to pay the economic cost for accessing these programmes. In the meantime, the traditional liberal arts programmes, some of which were established when the universities opened, are heavily subsidized. This has placed the TVET programme at a disadvantage because the cost of accessing it is prohibitive for many applicants.

The establishment of the leadership programme at UWI was resisted for a number of years until the arrival of a principal who had significant experience working in some of the major Jamaican industries, including power generation and bauxite. But even with the acceptance and implementation of the TVET leadership programme, there continues to be resistance by some leaders in the Faculty of Humanities and Education. They publicly expressed the view that the programme should be offered by UTech, Jamaica and not at UWI. What is evident is that the cost factor is having a negative impact on the programme and the number of students accessing the programme has declined. The point is that programmes such as TVET should be provided

with visible and tangible support in order to for them to overcome the built-in advantages that the liberal arts programmes have at the UWI.

Mainstreaming TVET at UWI

The SOE has articulated its role in strengthening and mainstreaming TVET as one of its new programme offerings. It started with the master's degree programme in Leadership in TVET and Workforce Development, and a cohort of PhD students is now pursuing the TVET degree (The University of the West Indies, Mona. School of Education, 2009). The programme was developed based on feedback received from a public consultation held with TVET stakeholders including UTech, Jamaica; the Ministry of Education; HEART Trust/NTA—the national training agency; technical schools; and agencies such as the Planning Institute of Jamaica (PIOJ). From the public consultation, the programme needs were identified. It was also decided that UWI was the institution best positioned to offer this programme, which in many ways would be aided by its strong liberal arts background and history of research and scholarship. Some of the areas identified during the consultation, which ultimately informed the composition and delivery of the programme, include: (a) leadership in workforce development, (b) entrepreneurial development, (c) linkages with industry and commerce, (d) research and development, and (e) providing TVET practitioners with skills needed to address policy formulation and implementation matters. The development of the programme was accomplished by local TVET experts working along with colleagues in career education from the United States. The programme is divided into six broad areas:

1. TVET and Workforce Development core courses

2. Applied science courses

3. Optional courses (Electives)

4. Research

5. Field experience

6. Seminar

Some of the courses offered included:

- Philosophical Foundations of TVET and WFD

- Workforce Occupational Analysis

- Budget Planning and Financial Management

- Comparative Studies of TVET & WFD in Developed and Developing Countries

The students are required to complete 42 credits, which include a research project, in order to satisfy the requirement for the master's degree. The programme is currently delivered on a face-to-face basis, but at least one course was delivered online, with plans for the full programme to be delivered in blended mode—face-to-face and online simultaneously—by the 2016-2017 academic year.

Related to the implementation of the academic programme is the research work being conducted by both students and lecturers. The number of publications related to TVET has been increasing exponentially. It should also be pointed out that the St. Augustine Campus of UWI in Trinidad and Tobago has graduated a cohort of TVET master's students who completed the TVET leadership programme. The first international conference on TVET in the Caribbean, led by UWI, was held in March 2012; while the 2nd international TVET conference was held in May 2015, also led by UWI. The role of UWI in supporting the development of TVET is significant because, as a tertiary institution with a liberal arts background, this would have been unheard of even 10 years ago. The conferences were regional in nature and included all the other English-speaking Caribbean countries, with significant support from agencies such as UNESCO and the Caribbean Development Bank. The second conference had an even broader partnership base, which, in addition to those indicated for the first conference, included HEART Trust/NTA; Caribbean Association of National Training Agencies (CANTA); UTech, Jamaica; and the Ministry of Education, Jamaica. The publication of an online TVET journal is planned to commence in 2016. This will follow the two TVET special issues that were published by the *Caribbean Journal of Education* in 2012 and 2013. The SOE has decided to carve out its role as it seeks to mainstream TVET in the traditional university framework. However, there is no guarantee that the current successes cannot be reversed. The introduction of TVET was directly related to the fact that at least three of the lecturers at the SOE had a strong TVET background. If these persons are not replaced by capable TVET advocates in a timely manner, and the programme is unable to overcome its economic constraint, there is a real possibility that it could go into decline, as has happened in some other countries (e.g., Australia).

Interim Evaluation of the Programme by Participants

A modified SWOT[5] inventory (see Appendix) was used to elicit feedback from eight participants who had just completed or were currently involved in the programme. The inventory identified 10 areas related to strengths, eight areas related to weaknesses, 12 areas related to opportunities, and five areas related to threats. In addition, opportunities were provided for respondents to provide additional information about the strengths, weaknesses, opportunities, and threats of the programme. All participants *agreed* or *strongly agreed* with the design of the programme, which includes a seminar series that students are required to participate in, and the provision of a written report by the students which synthesizes their experiences and knowledge gained. In addition, there was agreement that the programme required students to participate in a furlough in which they are scheduled to spend up to 40 hours participating in assigned activities in a business setting. The students also *agreed* or *strongly agreed* with the mentoring support provided by the university. Other areas of agreement included the positive impact on administrative skills development, personal growth experiences, and research skills development. Their greatest area of weakness was the fee structure, which is four times more than for other students in master's level programmes in the SOE. This was also seen as one of the threats to the continuation of the programme. In fact, the cost of the TVET programme has led applicants to pursue alternative programmes that are more cost effective.

Another area of weakness identified was inadequate enrolment, which is a real threat to the future of the programme (This must be seen in light of the fact that an existing policy of the university is that programmes which do meet enrolment targets should be discontinued.). Among the areas of opportunities on which the students expressed agreement are: preparation to lead TVET institutions and facilities, conducting research in TVET, exposure to TVET activities nationally and regionally, and opportunities to participate in TVET seminars and workshops. Other areas of possible threats identified include timely replacement of lecturers who will be retiring soon, opportunities for employment outside of education, and the change in administration that is not supportive of TVET in higher education, either at the SOE or university level. Table 1 presents some of statements made by participants about the strengths, weaknesses, opportunities, and threats.

The concerns raised by students in the SWOT analysis have to be taken seriously by both stakeholders and the university responsible for the delivery of the programme. One of the single most important threats to any academic programme is its ability to maintain student numbers.

Table 1. Participants' Response to Additional SWOT

Participants	Strengths	Weaknesses	Opportunities	Threats
Anne*	Highly qualified and specialized tutors/lecturers	Registration process needs to be seamless; study/relaxing atmosphere needed for Grad students	Scholarships and grants from industry and government needed	Lack of industrial atmosphere within which to pursue furlough
Dan*	Strongly supportive of the promulgation of the Jamaican TVET policy, and the regional TVET & WFD Strategy		Promotion of sustainable national/regional development overall	May be overstepped due to the emergence of STEM education, instead of highlighting the importance of integrating TVET & STEM
Mark*	Potential to drive positive change in the economy of Jamaica if sustained	No research basic economic courses are taught as core cores	Industry sponsorship of students should be encouraged to formally create the education and industry partnership	The shifts in the world economy may affect the curriculum therefore constant surveillance of the new and emerging economic models should be monitored and timely introduced in the programme
Pat*	Very applicable to individual TVET experience	Cost of the programme	Continued build out of TVET Human Capacity	
Raxon*	Facilitates students of different background and culture	Limited assistance in gaining access to companies for furlough	Builds working relationship between TVET practitioners locally and regionally	
James*		It is difficult for students to be accepted to do their furlough with companies. The department should have in place a list of participating agencies and institutions in	The UWI should have the pool of former students on contact in which they can invite them to be considered to replace the retired lecturers instead of having new	

Participants	Strengths	Weaknesses	Opportunities	Threats
		which students have the opportunity to choose and be placed with ease in these participating agencies and institutions instead of the students finding them on their own	lecturers who have no appreciation, love and understanding of TVET	
Clark*		Need more exposure to TVET institutions locally and internationally		
Stan*		Courses could be offered through distance education so that persons from outside the parishes of Kingston and St. Andrew, St. Catherine can be part of the programme	Provide opportunities for persons to move on to do their MPhil/PhD programme	

* Pseudonyms have been used

Who Benefits From the Integration of TVET and Liberal Arts Education?

The move towards an integration of vocational and general education is certainly having a positive impact, although there are those who see danger in the move. Hoelscher (2005) highlighted the fact that in Germany higher education is more oriented towards vocational education than in the case of the United Kingdom. Moreover, vocational education is geared towards the development of skills that are linked to occupations in Germany, while in the case of the United Kingdom, the university degree provides general skills. Harris, Rainey, and Sumner (2006) reported on a study in Australia that looked at the pathways related to career choices by students. These choices, which were made within and among sectoral areas, arose because of the efforts to integrate general education and vocational education and training, which is occurring at all levels of the education system, including higher education. What is significant for higher education and the students who access it at this time is that a variety of choices are made

available to them because they are in position to "mix and match" based on both market and personal needs. The following are the five pathways:

1. Interest chasers: when describing this pattern of movement, the terms used might be *multidirectional*, *searching*, or *yo-yo*—bouncing between different fields of interest.

2. Career developers: some participants showed consistent interest, even though they may have made several sectoral moves. Sometimes this looked like a domino pattern, where an element of one learning experience led to a sectoral move to further develop this as a career. This pattern was more linear, being less of a "jump" than a "flow" into another course of study.

3. Career mergers: having explored interests in other areas, some participants then drew different experiences together to move into a more focused course of study. This was different from the "career developer" pattern, in that it was usually non-linear.

4. Forced learners: sometimes participants undertook what appeared to be a completely different course of study for professional development reasons. Sometimes this change was due to some practical factor, which obliged them to undertake a particular course, such as affordability, location, or entry requirements. This might appear like a detour or side step.

5. Two-trackers: some more experienced respondents attempted to develop an alternative career as insurance for a time when their current career was no longer possible. This pattern also occurred when students were trying to improve their chances of earning an income while studying. (Harris et al., 2006, p. 9)

The fact is that with the integration of liberal and technical education, the opportunity is provided for those who access higher education to have the latitude to fashion their programme to suit their personal needs as well as their career preference. This type of flexibility is changing the whole framework that traditionally guides the way higher education is presented and accessed. In fact, with the globalization of the economic activities of the world, both the universities and students alike have to respond to the needs of the economy on a global, regional, or local stage. There seems to be a "win-win" situation for students, who must acquire an education that provides learning to be a rounded citizen, while at the same time acquire skills to both support their economic needs and to some extent the needs of the society. TVET, which has been marginalized for many decades, is now better positioned to be integrated at all levels of the

education system, including higher education. In addition, methodologies that are popularly used in teaching TVET, including project-based learning, are being used to enhance the effectiveness of teaching and learning in higher education.

Conclusion

The role of TVET in strengthening the education system is being driven by a number of factors including economic, social, political, and so on. For example, higher education with a focus on professional skills has been offered on a parallel track by universities in the past. There was little need for both to cross over. With the massification and vocationalization of education, especially at the secondary level, the academic achievement level and skills needed for the students arriving at the tertiary level have changed dramatically. That is, the need for universities to serve a larger number of students accessing higher education, coupled with the need to prepare them with the skills to access the job market, has been a challenge and will continue to be a challenge for all universities—a challenge that they have to address with urgency. The restructuring of the economies in both developed and developing countries (especially those operating in Western democracies) to a more market-driven model necessitates that employees have skills which reflect their workplace needs. Additionally, with the world's economy rapidly moving towards a knowledge-based formation, critical skills related to communication, critical thinking, problem solving, technology, decision making, and leadership are best presented in a liberal arts platform or setting. These conditions have provided the platform for the growing symbiotic relationship between general education and TVET. Thus, it can be concluded more confidently that, firstly, the distinction between general education and the acquisition of skills for work is gradually disappearing; and secondly, the divide between liberal arts and skills-based education will cease to be an issue for the education system in the not-too-distant future. Based on the economic realities of Jamaica and the rest of the Caribbean, especially having their unique features and context, a more pointed article examining the factors driving the need for UWI and other tertiary institutions to integrate TVET would be appropriate in order to understand both the threats and benefits that are on the horizon.

Notes

1. TVET or career education is the acquisition of skills, knowledge, and attitudes by the workforce in order to function effectively and efficiently in their careers or occupational areas of employment.

2. Liberal arts colleges/universities provide a general education that focuses on the humanities arts, social sciences, mathematics, and natural sciences.

3. Professional education is usually done at the university level, and it provides skills/competencies for employment in specific career areas such as law, medicine, and engineering, among others.

4. General education prepares the learner with higher levels skills/competencies necessary to display strong intellectual, ethical, and aesthetic qualities in order to function as responsible and productive citizens.

5. The four areas designated for SWOT analysis were used in an inventory form to elicit feedback from students who were currently involved or graduates of the master's programme in TVET Leadership.

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APPENDIX

TVET SWOT ANALYSIS INVENTORY

The purpose of this inventory is to conduct a modified SWOT analysis to determine the prospects of the newly introduced Masters in TVET Leadership and Workforce Development programme. The need to continuously evaluate the performance of new and existing academic programmes is a vital goal of the School of Education. This is more important for the TVET programme with its status as an income earning programme, making it more expensive than other Masters programme being delivery by the School of Education. The information obtained will assist in making structural and curriculum changes. Your name will remain anonymous and all response will be treated confidentially.

Instructions: Kindly complete the following element of the SWOT analysis by using a tick to indicate your response.

	ELEMENTS FOR SWOT ANALYSIS	*Strongly Agree*	*Agree*	*Neither Agree or Disagree*	*Disagree*	*Strongly Disagree*
A	*STRENGHTS*					
1.	• *Supports mentoring relationship with academic staff*					
2.	• *Meets students' expectations regarding TVET content*					
3.	• *Meets students' expectations regarding teaching methodology*					
4.	• *Satisfaction with graduate experiences*					
5.	• *Seminar series providing relevant exposure and knowledge*					
6.	• *Furlough with private company*					
7.	• *Support from the School of Education*					
8.	• *Personalized growth experiences*					
9.	• *Administrative skill development*					
10.	• *Research skills development*					
B	*WEAKNESSES*					
11.	• *Students enrolment are inadequate*					
12.	• *Students' basic academic needs not met*					

13.	•	*Satisfaction with graduate experiences disappointing*					
14.	•	*Personalized growth experiences limited*					
15.	•	*Administrative skills not developed*					
16.	•	*Research skills development curtailed*					
17.	•	*Length of programme*					
18.	•	*Fee Payment prohibitive*					
C		*OPPORTUNITIES*					
19.	•	*Prepares persons to lead TVET facilities and institutions*					
20.	•	*Conduct research in TVET*					
21.	•	*Provides exposure to TVET activities regionally and nationally*					
22.	•	*Provides opportunities to participate in TVET conferences*					
23.	•	*Provides opportunities to participate in TVET seminars and workshops*					
24.	•	*Builds working relationship between TVET institutions regionally*					
25.	•	*Builds working relationship between TVET institutions locally*					
26.	•	*More students are being attracted to TVET courses*					
27.	•	*Stem Integration has enhance interest in TVET*					
28.	•	*Support from the central Ministry – Chief education officer*					
29.	•	*Support from international agencies—UNESCO; Canadians*					
30.	•	*Support from regional agencies-- CANTA*					

D	THREATS					
31.	• *Cost of programme in not competitive*					
32.	• *Potential applicants may seek alternative programme*					
33.	• *New lecturers to replace those who will retire within the two to three years*					
34.	• *Opportunity for employment is mainly in education*					
35.	• *Change of leadership in the School of Education*					

Instruction: If you have addition comments, please indicate below.

1. Indicate additional Strengths

_____

2. Indicate additional Weaknesses

_____

3. Indicate additional Opportunities

_____

4. Indicate additional Threats

_____