Collaboration in the Integration of Academic and TVET through ODL and Industry: Strategies, Challenges and Opportunities

By

Ignatius Isaac Dambudzo
ABSTRACT

Literature has documented the value of collaboration in open distance education and training due to the challenges facing nations brought about by globalization, increased career changes by workers in their life time, expansion of Multinational Companies globally and technological changes. TVET has also been recognized as an effective process by which quality, up-to-date information literate and knowledgeable workers can be prepared, trained and retrained worldwide. TVET has been singled out as an avenue for the acquisition of practical skills and knowledge related to occupations in various sectors. Review of literature has detailed the advantages of integration and the challenges. Corporate bodies, as consumers of trained staff in search of increased productivity, individuals on the part are becoming increasingly aware of the potential of TVET to improve their employment prospects and future income, and governments have recognized the key role TVET plays in economic success. Thus, users, buyers and policy makers see open and distance learning (ODL) as a realistic way of extending TVET to a much wider public at least cost. The aim of the study was to review literature to find out opportunities, challenges, and factors and to make recommendations for the collaboration and integration of academic and TVET through ODL and industry. Document analysis was the method used to carry out the study. Relevant databases were searched for relevant information regarding collaboration and integration of academic and TVET through ODL and industry. Results indicated that collaboration and integration of academic and TVET through ODL and industry received support from users and buyers. This was because of the economic, social, political advantages derived from such an approach. Different models for implementation were suggested acknowledging the challenges associated with the strategy at country and regional levels. Success however, needed a supportive policy framework. Collaboration and integration were regarded as key to achieving strategic goals; namely, achieving equitable access to education for all the people, improve quality of education, efficient and effective management of resources. ODL and flexible learning were seen as fulfilling core values of accessibility, equity and inclusiveness in which education provision is planned and delivered with the needs and circumstances of learners in mind because lifelong education, personal development and skills development were regarded as basic human rights. SADC on its part has established a solid foundation for collaboration and integration through its Hwange Declaration of 2012. There was however, a need for pilot projects in every country before regional collaboration and integration could be implemented. The review recommended that integration be implemented at different levels of education using a variety of models for high schools, colleges and tertiary institutions. More research is required through field studies in education institutions and industry to establish the best way to plan and implement the initiative.

Keywords: Collaboration, Academic, Integration, Technical, Vocational, Training, ODL, Policy, Education, Globalization.

INTRODUCTION AND BACKGROUND

Unprecedented changes in work, family, community and political life in the 21st century fuelled by a myriad of phenomena such as globalization, market deregulation, worldwide influence of capitalism and a need for knowledgeable workers skilled in information technologies have confronted people in every region of the world. The phenomena have caused significant economic, social and cultural challenges, technical and vocational education and training (TVET) professionals are particularly challenged to develop, adapt or re-design strategies to address the needs of workers and society. (Rojewski, 2009).

The central principle of Distance Education and Flexible learning is to achieve equitable distribution and access to education to as many people as possible. Programmes offered should however, be equivalent in status and quality to traditional modes of education and training, and that distance education should be well supported by government with adequate infrastructure in collaboration with relevant partners. (Solomon island Government (SIG).
On the other hand, the idea of integration is not a new one as described by Bragg (1999), when she said that integration of academic and vocational education as ‘reclaiming a lost legacy.’ She identified economic, educational and societal factors as having combined to create a demand for the integration of academic and vocational education. Modalities for achieving integration and implementation were described. This could occur in high school and colleges operating as within-course, cross-curricular, transdisciplinary and cross-setting. Approaches such as applied academics or the infusion of academic content into vocational courses or vice versa, or interdisciplinary courses, writing across the curriculum (WAC) linked courses, career academies and learning communities. Achieving integration would impact on current and future practices thereby affecting policy as well.

In a study of viewpoints and controversies surrounding reforms of TVET for the changing world, Wilson (2001) described the challenges associated with globalization which justified integration of academic and vocational education. First, he defined globalization as a process that widens the extent and form of cross-border transactions among peoples, assets, goods and services, and that deepens the economic interdependence between and among nations (Lubbers, 1998). He argued that the challenges facing nations in a global economy required increased attention to TVET since most individuals may change careers three to five times during their lifetimes. Each career required new knowledge and skills. On the other hand, Multinational Corporations tended to move their operations to where labour was cheapest, less stringent labour and environmental laws and regulations. Under such conditions, it was only the nations capable of competing successfully are those which invested in worker training and adult continuing education. Consequently, countries perceived as having the type of well-educated labour force that meet their requirements were those to which production would be relocated in future. In turn, rapid technological change and globalization exercise significant influence on TVET. Learning has become lifelong and its foremost skill has become learning how to learn. The task of TVET is to ensure that countries have the desired trained labour force.

Wilson (1999) defined TVET as education and training that prepares persons for gainful employment (Finch & Grinkilton, 1999). The format of TVET was outlined as either taking place in formal schools from Grade 1 to Grade 10-13 and in postsecondary community and/or technical colleges or informally through workplace training. Wilson however, noted with interest how TVET educators seemed to favour the integration of academic and technical curricula. Such training and education of knowledge workers suggests that integration will predominate in the twenty-first century. This is because learning technological concepts required a solid foundation in mathematics, science and communication skills as well as understanding. These are enabling skills. He further clarified the goal of education as: creating independent problem solvers with sufficient depth of knowledge and skills.

In addition to the above, Perin (1999) in a study focusing on the use of academic integration to improve remedial instruction, reported that many students entered college without basic literacy skills necessary for success at post secondary level hence colleges had to provide the necessary remediation. Second, some students undergo such development education and skill experience difficulties in functional literacy. The main challenge was the lack of opportunity for students to practice academic skills being taught in the actual context in which they will be used. It has been noted that compartmentalization of remedial skill instruction has not been successful hence the need for integration. The current study seeks to examine the place of integration, as a fresh start where teachers irrespective of their course content or specialization take the responsibility for literacy development with particular focus on teacher education using two distinct models: the linked or clustered involving more than one or more academic and skill courses. The second is the infused courses involving single courses in which both subject matter and academic skills are taught. The approaches had the advantage of contextualizing skills in content relevant to student educational goals and improvement of basic skills.

The drivers for changes and modifications to TVET Programme need to address questions such as, ‘What is the purpose of TVET Programmes in a global economy that requires highly skilled and highly educated workers? Is TVET solely a means to prepare people for specific types of work or a means of providing academic education for people living in a democratic society? Should purposes differ at secondary and post secondary levels? Where is TVET headed in the foreseeable future? What factors affect the direction? Answers to these questions would depend on the: underlying philosophy, implicit assumptions, common vision held by those responsible for TVET. This, in other words is the conceptual framework which will be considered next.

**Rationale for Effective Collaboration and Integration**

TVET is one of the recognized and effective processes by which quality, up-to-date, information literate and knowledgeable workers are prepared, trained or re-trained worldwide (Saud et al, 2011). According to UNESCO and ILO (2002) TVET is a comprehensive term referring to those aspects of educational process involving, in addition to general education, the study of technologies and related sciences, the acquisition of skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. In short, TVET prepares human resources for the ever changing world of work. Practical skills can be delivered virtually via a well organized ICT set up an important medium of instruction for ODL. This involves the use of programmed instruction in the form of
Conceptual Framework for TVET

People have different views about TVET. Whatever conceptual framework people might have, it should achieve the following goals: (a) explain the general purpose of TVET, (b) reflect on the underlying beliefs and perspectives of its constituents, (c) shape current activity and future direction. It cannot be developed in a vacuum. Involvement of many constituents is vital to come up with a comprehensive view of TVET and its application in the classroom, boardroom, factory and whatever working place. This should be the starting point rather than the destination. Whatever the conceptual framework, it must address the diversity of countries and their conflicting needs, degree of reliance on governments or international agencies to provide guidance and definitions. A sound conceptual framework would contain the following:

(a) Principles or generalizations that state the preferred practices and serve as guidelines for programme and curricula construction, selection of instructional practices and policy development.

(b) Philosophy which makes assumptions and speculations about the nature of human activity and nature of the world thereby helping vocational educators to decide what should be and be different (Miller, 1996). Any conceptual framework should accomplish the following (i) establish parameters of a profession-mission and current practices; (ii) account for historical events to understand the present from the past; (iii) establish philosophical underpinnings of the field and underscore the relationship between philosophy and practice; (iv) provide a form of understanding directions of the field. A conceptual framework does not necessarily solve problems or questions but provides a schema for identifying critical issues and allowing solutions. A good framework should be fairly stable while having the capacity to change over time and adapt to external factors, flexible enough to accommodate differences in secondary and postsecondary programmes and changes in various economies and countries, identifying underlying beliefs, assumptions, and values for all types of programmes not readily subject to change. The country must have a philosophy underpinning TVET: For example, the nature of TVET in the USA (1900s) in public education, consensus over the establishment of TVET as an alternative to classical and academic tradition, the design and implementation of public vocational education. Two theoretical views on TVET—Charles Prosser and John Dewey who had opposing views in Prosser adopted the social efficiency (Miller & Gregson, 1999) as the major goal of the school and not individual fulfillment but meeting the country’s labour needs, that is, preparing well trained, compliant workforce. (Do little).

STATEMENT OF THE PROBLEM

Rapid technological changes and globalization demand that people in the workplace keep pace with the changes in order to remain productive. This demands that workers continue to learn while they work to minimize disruption to productivity and sustain economies of different countries. New knowledge generated for different work places, skills required for more efficient production demand new knowledge and skills. For this to happen it requires that workforce is educated while continuing to work for efficiency and effectiveness. Thus, they will continue to develop their skills in the workplace while gaining the additional knowledge through open and distance learning (ODL). Due globalization and high labour mobility, it is important that countries and regions collaborate in the training of manpower to sustain the economies. This calls for collaboration and integration of academic, TVET and industry among countries. No single country can successfully accomplish this mammoth task. ODL is a cheaper way of imparting the additional knowledge and skills hence the need for countries in any one region to work together. In view of the above background and rationale, the study sought to investigate strategies for collaboration and integration of academic, TVET and industry in preparing human capital for the new challenge hence the research problem stated thus: What strategies can be employed to achieve integration of academic and TVET through ODL and industry? There is very little or no collaboration between countries for education and training between Southern African Development Countries (SADC) though politically integrated. (See Figures 1, 2 and 3).
Figure 1: No collaboration between countries: (Source: Ignatius Isaac Dambudzo, 2013)

Figure 2: Academic and TVET offered separately: (Source: Ignatius Isaac Dambudzo, 2013)
PURPOSE OF THE STUDY

The study seeks to investigate strategies for regional collaboration in the integration of academic and TVET training through ODL and industry in the Southern African Development Co-operation.

The aim is further conceptualized into specific objectives as follows:

The study sought to:

1. Investigate the rationale for collaboration and integration of academic and TVET through ODL and industry;
2. Investigate strategies for collaboration and integration of academic and TVET;
3. Examine the role of policy in achieving collaboration and integration;
4. The challenges confronting efforts at collaboration and integration;
5. Make recommendations for the way forward for successful regional collaboration and integration.

Specific Research Questions

The aim is further conceptualized into specific research questions as follows:

(a) What is the rationale for collaboration and integration of academic and TVET through ODL and industry?
(b) What strategies can be employed to achieve effective and efficient collaboration and integration? (Models of integration)
(c) What is the role of policy in achieving collaboration and integration?
(d) What are the challenges likely to be experienced in establishing collaboration and integration of academic and TVET through ODL and industry?
(e) What recommendations can be put forward for successful regional collaboration and integration?

METHODOLOGY

The study used document analysis and interviews to collect data on what has been done and said about integrating academic and TVET, industry by ODL. Documents with information about what other countries and regions are doing or have done to integrate academic and TVET using ODL, and why they are doing it will be analysed. Challenges
faced in implementing such programmes and the outcomes of their efforts were documented. Regions or countries with contrasting experiences were cited as case studies. This included Zimbabwe which offers teaching diplomas as TVET. Lessons learnt from integration attempts so far would be documented to alert others pursuing the same programmes of the benefits and obstacles in order to enhance success. Interviews involved ZOU staff in the Teacher Development Department asking for their experiences and opinions about TVET and related academic programmes. Information on policy issues, modalities of its implementation, challenges faced and what is being done to overcome the challenges. Recommendations for the future and possible application in other departments and programmes were made. How about regional integration, how feasible was it? This information would be linked with experiences of other countries. An example was picked from the Pacific Region as a model of collaboration and integration of academic and TVET.

Sample and Sampling Technique

This was a qualitative study hence the concept of sample size was of little importance. Research articles, reports and other literature were searched for examples of collaboration and integration of academic and TVET to get answers for the research questions. Case studies of two contrasting regions were chosen in order to highlight issues involved in collaboration and integration, identify successes, failures and their causes, justification of the trend toward collaboration and integration to enable the workforce to remain relevant, effective and efficient as producers of goods and services. Interviews focused on those lecturers involved in teacher education/development for their experiences in implementing TVET at the ZOU. This was compared with experiences elsewhere to enable users of the research to learn from others. Their views were used to generate information about good practices and what to avoid. In addition, recommendations about improving the practice for in country and regional practice were collected and recorded.

Data Collection Instruments

Databases were searched for relevant documents and relevant information identified and selected for the report. A recorder was used to collect interview data. Alternatively, a questionnaire was also used to collect qualitative data from respondents by recording their views before analysis. In other cases, key issues were recorded on paper for further expansion.

Data Analysis

Key issues were identified from literature sources and analysed for rationale, strategies, challenges, policies, implementation, models etc. These were expanded to highlight what the SADC region can do to achieve collaboration and integration in the training of manpower for industry. Data from interviews were categorized according to themes in support of the research topic. Recommendations emanated from the data collected.

FINDINGS FROM THE LITERATURE REVIEW

The literature review focused on the key issues at the centre of the collaboration and integration of academic and TVET. These are: rationale, strategies for implementation, policy issues, challenges and recommendations.

According to Calder (2010) governments today increasingly see education and in particular TVET as having the key role to play in the economic success and social stability of a country. Corporate bodies as consumers of skilled workers are also loud and clear in articulating their need for trained staff as they search for new markets and increasing productivity. Individuals on their part are becoming aware of the potential of TVET to improve their employment prospects and their future incomes. It is against all these perceptions of the importance of TVET by buyers and users, that an increasing range of these agencies and decision makers see open and distance education (ODL) as a realistic way of extending TVET to a much wider public (See figures 4, 5 and 6). In addition, the outstanding business potential of education and training through ODL means that it is well recognized. For example, in 2001, an investment bank, Merrill Lynch estimated the global e-learning market as being worth about US$3.5 billion with a potential to grow to US$25 billion by 2003 (Teather & Casey, 2001), while the global market for learning/educational materials was even larger. Entrepreneurial interest from every conceivable type of organization and agency is flourishing. Global telecommunications and internet technology companies, education and training publishers and providers, service providers, national and supranational government agencies are all investing in this new industry. Household names such as AOL Time Warner, Cable & Wireless, Microsoft, British telecom, AT & C and European Commission are increasing their stake in the ODL education market.
shows that there is a demand for academic and TVET hence the scope for ODL is immense. Countries can collaborate to broaden and standardize their offerings to support clients’ needs and economic progress.

Background information has been outlined above. The next section examines the strategic framework for its implementation. This looked at the approaches, training models, opportunities and limitations.

Training models of Distance Education

Standard Model

The model involves the providing institution developing learning materials and then delivering the course to the learners. Early distance education institutions also known as the first and second generation distance education
colleges and universities developed own courses and delivered them directly to the learners. This situation has however changed with the increase of use of open and distance methods for TVET. This is because the original model assumed a traditional relationship between the education and training provider and the learner. The latter paid tuition fees following registration with the provider. The participation of intermediaries such as employers in the teaching-learning process has brought about the split of the two functions-materials development and course delivery. Intermediaries bought one function and provided the other. On their part, governments saw open and distance as a cheaper, cost effective and flexible mode of education and training provision in areas of dire need. Such a philosophy led governments such as United Kingdom to provide grants for materials development to various agencies separately from course delivery. New forms of course delivery also emerged. Success depended on providers overcoming the following challenges in order to maintain quality:

- Content expertise;
- Distance teaching expertise;
- Adequate finance to cover development and production costs;
- Adequate time for materials development and production process; and
- Availability of support/course delivery infrastructure.

For providers to successfully offer TVET using ODL, the following approaches can be adopted:

1. **Materials development and production**

   - Develop own materials: this requires expertise and finance. (ZOU has adequate expertise but no money.
   - Commission other organizations to develop materials. Knowledge of reliable organizations is vital.
   - Buy off the shelf. This requires knowledge of availability and quality of the materials.
   - Modify existing materials. This requires knowledge of content and distance teaching expertise and copyright agreement.

   Course delivery needs consideration too.

2. **Course delivery**

   - Use own delivery system. This requires expert supervision and monitoring to maintain quality plus sufficient learner to justify expense.
   - Commission another agency to deliver course. This requires good quality agencies which can offer expert supervision and monitoring to maintain quality and finance too.
   - Buy into existing course delivery system. The problem is that the system may not cover the entire geographical area as required.
   - Buy into modified course delivery system. A properly negotiated agreement needs to be in place with another agency.

Any country or region can consider any one of the above models of collaboration. Certain models have been found to be particularly popular with users. These are presented below highlighting their advantages and disadvantages.

A. **Learning materials and course delivery bought from same provider**

The model involves a client buying from the same provider learning materials and tuition- the most common academic and training model. For example, ZOU, National Open School in India (NOS) which targets poor school age children in rural and isolated areas most of whom are already at work. The latter has an enrolment of 130 000 students. The original aim was to provide opportunities for continuing and developmental education at the school stage, it also has more than 6000 enrolled on a wide range of vocational courses and another 26 000 studying both academic and vocational courses. Courses on offer include word processing, jute production technology, carpentry, solar energy technicians, laundry services, cabinet making etc. learners are supported through a network of study centres. Materials used are print based with some supported by ICT and audiovisual. (Singh & Dipak De, 1999). When ODL institutions and industry work together, industry will get the right calibre of personnel which will increase productivity and profitability. (See figure 6).
Figure 6: Collaboration Between ODL Institutions and Industry: (Source: Ignatius Isaac Dambudzo, 2013)

The main advantage of the model is that buyers can see the courses they are buying because they already exist. All they need is money to pay for them and also the qualification is recognized.

The disadvantages are: Courses on offer may not cover all the ground as required by the student, may not be available in some areas, may not be at the right level as required by the student, different language, or duration and intensity required and may be very expensive if a buyer is sponsoring only a few students.

B. Outsource materials development and delivery

- The provider, usually the employer outsources the development and delivery of courses and pay for the services. The courses are customized to the employer’s requirements. A good example is the Commonwealth of learning (COL) which writes course materials for the UNHCR and delivers using ICT. Study material is print based and student support is by email. Student support, assignment submission and marking and feedback are all computer mediated. Tutor training is done via videoconferencing. (Bentley, 2000), Microsoft uses on-line training for its staff to update them on latest developments. Some of the courses are credited allowing them to study for certificate and diploma courses thereby enhancing their promotion prospects (Farr, 1999).

- The advantage of the model is that a standard qualification or training is delivered worldwide increasing relevance in the global world of work. Buyers can specify exactly what they want in terms of content, level, language of instruction and duration, hence meets the buyer’s needs and avoid problems associated with courses bought off the shelf. If there are many learners, the training becomes cost effective and very efficient. Infrastructure can be developed to meet the needs of all those the buyer wants to participate.

- Distance taught courses that are tailor made could be very expensive at least during the initial stages, and take time to develop and deliver.

C. Outsource Materials development but deliver course

Some distance learning institutions use external consultants to develop courses but can also partner with reputable institutions such as London University or school of Economics and Stanford university (own online training course) to provide high quality materials which they will deliver themselves.

The model enjoys the advantage that a wide range of courses can be offered without recruiting addition content expertise. The reputation of the partner institution can be used to guarantee quality of the content. Existing infrastructure can be used more efficiently.
The main disadvantage is that such collaboration is difficult to administer and it may not always be possible for external experts to work closely with the material designers to optimize teaching and media use.

D. Providers buy off the shelf materials and deliver them

This is a model which conventional institutions can use. For employers it is a least cost option with more flexibility than the face–to-face mode. Existing experienced staff can be utilized to deliver and provide student support. It is suitable for course that led to national qualifications which need to cover a standard curriculum.

However, for employers the course material may have some redundant materials or some missing content that they may need. Hull College of Further Education is an example which offers a distance training course in plant operations on behalf of BP Chemical processing Plant. The course is print based with weekly supervision by college tutors. Students study during their own time. Their materials were developed by Cleveland Open Learning Unit and through Open College. (Calder, et al, 1995). This is an example of partnership between education provider and employer. Students require self-discipline in order to cope with their studies. A tight support and monitoring system has been put in place and the employer plays an active role in support of the trainees.

E. Off the shelf packages from the provider or supplier

Distance training courses may consist of packages for the learners. Packages include videos, audiovisual and/or CD-ROMs. However, the problem with this model was that the materials did not always match the needs of users. Consequently, there was a shift to delivery to expand market for the materials. (Brown, 1987).

Collaboration and integration strategies and what industry can do have been summarised in Figure 7.


**CONCLUSION**

From the evidence provided it would appear that collaboration over the integration of academic and TVET would be ideal for the region bearing in mind globalisation and improved information communication technology and transport systems. It is only logical that the region collaborates in order to benefit their economic sectors by hiring the best.
the workers it would help acquisition of relevant skills at least cost without disrupting their ordinary working and family lives. Countries need to do more to clarify policy on the subject, and lend support to the initiative for its success. Whatever model a country chose, collaboration and integration would go a long way in improving efficiency and effectiveness of skills development for the region. Further research is required to establish what individual countries in the Region are doing. Pilot studies of collaboration and integration could help highlight opportunities and challenges prior to implementing a Regional initiative.

REFERENCES