An Evaluation of Technical-Vocational Education and Training in Open and Distance Learning Institutions: A Case of Zimbabwe Open University

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Abstract: The study is an evaluation of how Technical-Vocational Education and Training (TVET) aspects are conducted in Open and Distance Learning (ODL) institutions. ODL is usually criticised for not doing enough in vocational skills development. This study was a qualitative research where course designers, lecturers and students (10) were purposively sampled and interviewed. ODL learning materials were analysed, evaluated and synthesised. The objective of this study was to solicit participants' opinions on how TVET oriented programmes were in line with entrepreneurial skills development for employment creation. Content analysis was used to draw up meanings of verbal data. The major challenge identified was that ODL institutions do not have infrastructure like conventional institutions, and that limits supervision of practical activities. This study will benefit policy-makers and planners of ODL programmes. Further research would put into perspective strategies that could be employed by ODL institutions to enhance entrepreneurial skills development for employment creation.

Keywords: Technical-Vocational Education and Training, Employability, Employment Creation, Entrepreneurship, Sustainable Development

1. Introduction

In the world of work, entrepreneurship development and employability are key to national development, particularly in developing countries like Zimbabwe. In an effort to meet international standards and goals for sustainable development, Open and Distance Learning (ODL) institutions are also striving to include entrepreneurial skills development in their curricular through technical-vocational education and training (TVET). In Zimbabwe, it is the role of learning institutions to design and impart life skills for self-reliance and sustainable development to learners formally. But the informal sector is also making a huge contribution towards skills development, since available learning institutions are inadequate to absorb all post-secondary school learners. For example, trades like dressmaking, basketry, tin-smith, hairdressing, auto mechanics, welding, carpentry, upholstery, plumbing, and electronics are taught in the informal sector by masters who learnt the same way (Labour and Economic Development Research Institute of Zimbabwe (LEDRIZ), 2017). An example in Zimbabwe is what is taking place in home industries in Harare. The Ministry of Higher and Tertiary Education, Science and Technology Development (MHTESTD), is the

responsible authority for tertiary learning institutions. It is the Ministry which guides the ODL and conventional tertiary institutions through circulars, workshops and newsletters on national expectations. The same circulars may also be adopted even in private TVET institutions to meet national standards.

TVET is education that prepares individuals for specific trades, crafts and careers at various levels in the world of work and entrepreneurship development (UNESCO, 2015). Thus, TVET refers to a range of relevant learning experiences which may occur in a variety of learning contexts, including ODL institutions and workplaces. Since independence, in 1980, Zimbabwe's basic education system has experienced mass production of school graduates. Entry into conventional institutions of higher learning is limited, hence, the need to absorb these school graduates in formal and informal TVET institutions for skills and entrepreneurship development, and employability of graduates leading to socio-economic development and self-reliance of the individuals. According to Pulist (2017, p. 363):

> The training and development of staff is an important activity for an organization in order to optimally utilize the services of the staff and make them contribute to the overall organizational goals. The open and distance learning (ODL) system is not the exception to this demand of organizational capacity building in educational environment.

This implies that ODL institutions also have the mandate to contribute towards skills development like other conventional learning institutions. Because ODL has no age limit, it implies that anyone who qualifies for entry, employed or not, is free to acquire additional qualifications and skills wherever they are for employability, self-employment and survival particularly in harsh economic environments. However, in Zimbabwe today, in 2019, more companies are closing down and the premises turned into small shops or flea markets and churches where buildings used to be sites of industrial activities. For instance, in Bulawayo alone, more than 100 firms have closed shop with some relocating to neighbouring countries within the past few years (*DailyNews*, 12 July 2017). In Harare, Olivine Industries closed its margarine plant due to shortage of inputs, thus, condemning workers to the streets in search of alternative employment (*Chronicle*, 25 April 2019). This is an indication of how the problem of unemployment is affecting individuals in the country and this calls for entrepreneurial skills development courses in learning institutions including ODL for innovativeness and self-reliance. However, without functional industries, student attachments, for hands-on experience becomes a challenge. This has resulted in an increase in street vending where street pavements in almost all urban areas are now difficult to navigate due to wares of street vendors which are displayed everywhere where there is space. Street vendors are trying to make ends meet irrespective of the academic qualifications they may possess. According to Salem (2014, p. 3), for entrepreneurial skills development, which is one solution to curb unemployment, learning institutions, including ODL institutions, should provide learning "environments, cultures, practices, and opportunities that are conducive to encourage and embrace [aspiring] student and graduate entrepreneurship, as well as creating synergy between existing activities in the institution". This study put into perspective the contribution of ODL institutions to employment creation through entrepreneurship skills development.

2. Purpose of Study

The purpose of this study was to put into perspective participants' opinions on how TVET oriented programmes are in line with entrepreneurial skills development for employment creation. The purpose of making ODL curricular an all-inclusive type of education was to include emerging trends in technology in the global village, develop entrepreneurial skills for self-reliance and reduce unemployment and create

employment opportunities. The problem that this study sought to understand was how effective ODL institutions were in implementing TVET curricular for entrepreneurial skills development leading to employment creation and employability of graduates.

3. Significance of Study

This study will benefit policy makers and planners of ODL educational programmes, industry and commerce for the need and relevance of TVET programmes in ODL institutions as required by employers and for self-reliance of ODL graduates.

4. Aim of the Study

The aim of this study was to evaluate the ZOU learning materials for the inclusion of TVET for entrepreneurial skills and sustainable development. The objective of the study was to identify the missing link between skills development and entrepreneurship opportunities in ODL institutions. To achieve this aim and the objective, this study was guided by the following research questions:

1. Which ZOU programmes respond to entrepreneurial skills development and employability of ODL graduates?
2. What challenges do ODL institutions face when implementing TVET programmes?
3. How can the challenges be overcome to enhance employability of ODL graduates?

It is hoped that the answers to these questions will help ODL institutions shape the curriculum design in line with current technological trends and needs of the learners, industry and commerce. Thus, the world of work demands, leading to entrepreneurship development, employment creation and employability of ODL graduates particularly in developing countries like Zimbabwe.

5. Literature Review

Artisans with vocational skills acquired formally and informally in conventional and ODL learning institutions, drive the economy (Sobel, 2008). Therefore, promoting entrepreneurship skills development in learning institutions becomes the mandate of policy makers and educationists to ensure human capital resources for economic development (Brook, 2015).

5.1 Theoretical Framework

According to Akhuemonkhan and Raimi (2013, p. 7), the Human Capital Theory stipulates that TVET has the potential to develop the national economy through skills acquisition both formally and informally. As a concept, investments in individuals can be measured based on the economic value the individuals are able to contribute to society (Simple Economist, 2019, para. 3). TVET graduates have the potential and are capable of creating employment for themselves and others as entrepreneurs. It therefore, becomes mandatory that all learning institutions include entrepreneurship as part of their curricular for human capital development and that the school and college graduates become productive members of society. In other words, learners, after passing through ODL or conventional TVET institutions, where emphasis is on the importance of hands-on instruction delivered by knowledgeable and experienced persons, are expected to have mastered some skill upon graduation, that makes them economically productive.

Rojewski (2009) as cited in Sudira (2013) posits that TVET curriculum should be able to accommodate any kinds of human intelligence, potential changes, talents, and interests to cater for individual needs.

Entrepreneurship is wealth creation and recent academic researches, for example, studies by Brooks (2015), and Simiyu (2010) in Kenya on entrepreneurship, show that to promote entrepreneurship, government policies should focus on reforming TVET institutions to create an environment in which creative individuals and enterprises can flourish. Because unemployment, underemployment, employability and employment creation are social problems being experienced in Zimbabwe and other developing countries, the findings from this study may challenge accepted assumptions about the set-up of TVET curriculum in ODL institutions. The findings may also provoke action by policy makers and educationists in an attempt to solve these social problems.

5.2 Why Governments Focus on TVET

UNESCO-UNEVOC (2013) affirms that governments of both developed and developing countries are looking up to TVET to solve the problem of unemployment and boost the socio-economic development of individuals in their communities through employment creation, self-reliance and poverty reduction. In addition, UNESCO (2015) also reiterates that TVET is considered to be part of lifelong learning, which can take place across all educational levels and institutions. Therefore, in ODL institutions, if well-planned, the programmes should include work-based learning and continuing training in line with new trends in technology leading to professional and sustainable development. Hence, TVET in its true spirit aims to produce a well-rounded, multi-skilled and innovative person capable of solving community problems.

According to Chijioke (2013), it is the goal of technical-vocational education and training to prepare learners for specific jobs, entrepreneurial skills or types of work, often including practical and/or procedural activities for economic and sustainable development. Such practical skills or know-how can be provided in a wide range of settings, such as ODL institutions, technical colleges and schools by multiple providers both in the public and the private sector, provided it is clearly outlined in the curriculum. Successful technical-vocational education and training (TVET) empowers individuals to take control of their lives, and to ensure a balanced life. Therefore, TVET should be integrated into the general education system as well as ODL, because individuals, as human resources, need to acquire skills and not just receive education for the sake of going to school. Today's world development is fully rooted in the human skills as capital acquired through some form of education, the conventional or ODL way (Dar, 2016). Hence, today, TVET is not only taking place in conventional learning institutions but is also done through various distance learning techniques. It is also taking place in real-life situations at workplaces, which is more conducive to better learning of theory and skills as the learners in ODL put into practice what they learn as they execute their activities in their places of employment (Mishra & Bartram, 2002).

Sobel (2008) and Brooks (2015) reiterate that an entrepreneur succeeds if he or she possesses entrepreneurial skills acquired through technical-vocational education, formally or informally, in an environment that is well-defined with clear and enforced property rights without the interference of external forces, such as political instability. But the development of the skills should start early in life at school level, where that talent is identified, then developed further either at tertiary level or at the workplace, thus, on-the-job training is encouraged through ODL.

5.3 Challenges and Opportunities of Implementing TVET in ODL Institutions

Learning institutions, whether conventional or ODL, face similar problems the world-over. The major challenges include; lack of adequate funding, infrastructure, experienced qualified personnel, and relevant learning materials. According to UNESCO (2002, p. 7):

> Many countries are struggling with limited access to education and training for children and young people, and at the same time have to address the basic needs of an older generation. … At the root is often the problem of financing adequate provision, and of outdated structures for education and training.

Basing on UNESCO's (2002) reiteration, it can be argued that developed countries may not be as desperate as developing countries since they are ahead in terms of technology and provision of funding in learning institutions. In spite of the limitations, learning institutions in developing countries like Zimbabwe, are expected to cope with the demands of commerce and industry in terms of employability and vocational skills for self-reliance. This implies that ODL institutions have the opportunity to respond to the different training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods through TVET and entrepreneurship skills development. With TVET skills, learners are expected to be innovative and design marketable artefacts which can be a source of income for themselves and their communities while also gaining experience and popularity.

Dambudzo (2013, p. 431) points out some of the challenges faced by ODL institutions in relation to TVET as that "Courses on offer may not cover all the ground that is required by the student, may not be available in some areas, may not be at the right level as required by the student [and industry]". This then would imply that ODL TVET institutions should devise strategies of developing entrepreneurs with the potential to create employment for self and others leading to poverty eradication in the family, community and country at large. The other challenge faced by ODL institutions is that technology is ever changing and the technical skills to be imparted to the learner are diverse requiring that tutors continuously go for in-service training themselves so that they do not lag behind the new technological trends. That way, the students in employment have the opportunity of hands-on experience. But for the unemployed ODL students, they have to rely heavily on experience gained during work-related industrial attachment (Basaza, Milman & Wright, 2010). Otherwise, theory alone does not facilitate skills development, innovativeness and employment creation to reduce the rate of unemployment in developing countries like Zimbabwe. Without vocational skills for self-reliance and sustainable development, the problem of unemployment is here to stay.

6. Research Design and Methodology

The research design for this study was a case study of the Zimbabwe Open University (ZOU), an ODL institution. This research design was guided by the research questions and the type of data to be collected (Neuman, 2014; Johnson & Christensen, 2014). Documents such as, learning materials (modules), course outlines, pamphlets, vision, mission statement, and core values were qualitatively analysed, evaluated and synthesised as source of secondary data (Yin, 2011).

6.1 Population and Sample

ZOU has 10 regional campuses, but for this study, the focus was on one, Harare-Chitungwiza Regional Campus for convenience. The target population for this study was course designers (2), lecturers (3) and

students (5) from an ODL institution, ZOU. Ten key participants, who were considered to be rich in data, were purposively and conveniently sampled from five faculties at ZOU. Participation was based on willingness of the population to take part in the study.

6.2 Data Collection

Semi-structured interviews were employed to the sampled ZOU participants to solicit their opinions on how TVET oriented, ZOU programmes were in line with entrepreneurial skills development and employment creation for sustainable development particularly in developing countries like Zimbabwe. In this sample, course designers and lecturers were the implementers of the ODL programmes and the students were the consumers. During interviews, the researchers had the opportunity to solicit for more detailed information for in-depth understanding of how ODL institutions compare with conventional institutions when it comes to entrepreneurial skills development, employment creation and employability of ODL graduates for sustainable development (Creswell, 2014). The sampled participants helped in highlighting the challenges faced by ODL institutions while trying to match the technical-vocational education and training skills imparted to learners in comparison to conventional institutions who have infrastructure and more contact hours with learners.

Document analysis in the ODL institution helped to confirm the aims and objectives of the institution under study. Triangulating interview results and document analysis was a sure way of getting a deeper understanding of how ODL institutions were embracing entrepreneurship and skills development in their programmes for employment creation, employability of their graduates and sustainable development of the country, community and individuals (Johnson & Christensen, 2014).

7. Findings

An analysis of the ZOU modules showed that it is not all programmes that have the entrepreneurship component as part of the curriculum with the exception of Agriculture where there is evidence of varied practical activities and innovative research by learners (ZOU Faculty of Agriculture, Newsletter December 2018). The course outlines of some modules revealed that entrepreneurship was embedded in the course programmes and assessed during industrial attachment. The vision of ZOU for 2018 was to be the university of choice through its attractive courses on offer. The mission statement's aim states that it is the aim of the university to empower its clients with quality education enabled by technology so that they may compete with other university graduates on the global market. The ZOU core values revealed that, it is the institution's aim, through its programmes, to help learners attain their goals. It is ZOU's endeavour, as an ODL institution, to ensure that the learning needs of young people and adults are met, as they realise their full potential in an affordable and flexible manner. The learners are also empowered through available technologies (Zimbabwe Open University Mission Statement, 2017). The learners' needs are met through equitable access to appropriate learning and life-skills programmes and through harnessing new information. For example, in Agriculture, Zimbabwe Open University (2018) posits that the delivery of programmes is through the ODL route, that is, through modules, vacation school, weekend tutorials, Digital Versatile Disc (DVDs), myVista and other strategies. However, other technical subjects that prepare learners for the world of work, self-reliance and employability are not clearly spelt out. Yet, the mission of ZOU is to empower the world through high quality open and distance learning, enabled by technology. The institution's shared values are customer driven, innovation, accountability, integrity and teamwork (Zimbabwe Open University Mission Statement, 2018). The ZOU pamphlets show a variety of

courses on offer ranging from certificate level through to doctorate level which is what other conventional universities are offering the world over.

When asked about the inclusion of entrepreneurial skills development programme in ODL institutions, an interview with a course designer, on 8 August 2019, revealed that:

> *The component of entrepreneurship is incorporated in the course outline for each ZOU programme. However, for practice, learners need to go out of their way and find means of practising skills during their spare time and not just wait for the experience to be gained during industrial attachment. For example, in Home Economics, the learner has to have a stove for food preparation and service and a sewing machine for textile technology and clothing design.*

These are technical vocational skills developed, where an individual can be self-employed and/or create employment for others directly and indirectly through downstream employment as there would be need for goods and services.

In an interview with one of the lecturers on 12 July 2019, it was revealed that:

> *ZOU is involved in community development through educating local farmers in one district, on how to improve on cattle and milk production. The farmers are empowered with animal husbandry skills to ensure that they become entrepreneurs whose cattle production project becomes a continuous source of income to benefit the community and the individuals.*

The above excerpt is emphasising that Agriculture is a hands-on course where learners never run short of practical activities leading to self-reliance and employment creation regardless of the fact that the learners and implementers of the cattle production project are from an ODL institution.

In another interview on 2 August 2019, one of the students had this to say:

> *With my course programme, the learning materials have practical components where someone who is already working has the advantage of putting into practice concepts learnt. You just have to know your computer because most of the things now require computer literacy. But for those who are not working in institutions with computers, it means that they have to always keep in touch with friends who have the computers for practice. Therefore, you just have to be innovative and have a positive attitude so that during industrial attachment, it is not a problem to easily adjust.*

On the other hand, participants had different views about the inclusion of entrepreneurship component as sixty percent of the ZOU participants, expressed that:

> *It is not possible to include entrepreneurial skills development in the ODL curricular for subjects, which require the use of special rooms for experiments and practical activities, such as Chemistry, Biology (pure sciences) and Mathematics. In technical subjects' programmes, the students carry out the practical activities on their own at home or at their places of work due to lack of special workshops in ODL institutions. Some conventional learning institutions do have laboratories for scientific experiments, and special workshops for technical subjects, where ODL institutions can rent during weekend school. But, for subjects like Agriculture, practical activities are carried out on*

> *the field, but the learners still need laboratories to experiment with soils, seeds and so forth.*

The above revelation implies that not all course programmes have entrepreneurship skills development component. Yet, for the entrepreneur to succeed, they need to possess basic business skills such as financial literacy, basic mathematics (numeracy), business language training, positive attitudes and good public relations which are all necessary for the entrepreneur to excel in the marketplace (UNESCO, 2018).

Course designers and lecturers, on the other hand expressed the challenge faced by ODL institutions as that:

> *No matter how attractive our courses maybe, when students practise on their own and submit finished artefacts, it is difficult to tell if that work is the student's. For example, in Textile or Wood Technology a student may ask a colleague to design and make an article which he/she would then claim to be his/hers, then he/she submits it for marking. This is a disadvantage when compared to conventional learning institutions, where learners work under supervision in workshops at the learning institution. That is why we insist on a specified number of months on industrial attachment where the student is supervised by the company management, who then submit assessment reports on the student performance.*

This revelation implies that, when the learner carries out practical activities without supervision or guidance from the tutor, it then becomes difficult to authenticate that it is 100% the learner's work without any cheating. When the student finds his/her own means of sharpening his/her skills, the credentials and ability of the mentor/tutor are difficult to authenticate and the lecturer in college only has the opportunity to assess the complete product.

Students were in agreement with the opinions of course designers and lecturers when they expressed the need for more practice and contact hours to perfect their skills as one of them clearly stated that:

> *We feel we are short-changed as we do not have adequate practice for skills acquisition and perfection because some of us are not in employment and working hours during industrial attachment cannot compare with additional hours spent by our counterparts in workshops practising and experimenting with materials and creating new products.*

8. Discussion

The issue of industrial attachment has been made mandatory at the ZOU to counter the old belief that ODL graduates lack hands-on experience since they are removed from the classroom. What the students learn while on industrial attachment encourages some of them to become entrepreneurs on completion of their course programmes (Basaza, Milman, & Wright, 2010).

In the ZOU Faculty of Agriculture, though it is in an ODL institution, there is evidence of varied practical activities and innovative research by learners (ZOU Faculty of Agriculture, Newsletter December 2018). This implies that ODL institutions, though different in set up from the conventional institutions, skills development is a mandate for most course programmes even though contact hours with the tutor are very minimal. Thus, creativity and innovativeness are encouraged for self-reliance and economic development.

It also emerged that ODL is more appropriate to mature learners since they have more contacts in the world of work as compared to learners straight from the basic education classroom. Mature learners tend

to be more focused regardless of the fact that they have other family responsibilities. Therefore, they value education and training for promotion at the workplace and for self-reliance.

In agreement with Dambudzo (2013), the challenges faced by ODL institutions in implementing TVET programmes, as expressed by all 10 participants imply that there was need to put into place, some structures specifically to cater for practical activities in other fields like Wood Technology, Metalwork, Food Preparation and Service, the Sciences and many others. The reason being that learners would be empowered with new and current technological skills in line with current trends in the world of work. Learners also need guided supervision during practical activities (Almuntasheri, Gillies, & Wright, 2016) so that they do not waste resources through trial and error but master the skills through practice.

The concerns of the lecturers were how to overcome the challenge of cheating when working on projects. According to Slater (2018), most students will cheat if the penalty for failure is unbearable. Hence, ODL institutions, ought to devise other means of authenticating the student's practical work, for instance, asking each student to explain to the whole group, during weekend tutorials, the step-by-step process of how they came up with the product.

As claimed by all participants in this study, entrepreneurial skills development empowers learners with survival skills for individuals to function in the harsh economic environment they find themselves in, hence, the need to make entrepreneurship part of ZOU programmes curricular. Entrepreneurs have the potential to create employment for self and others, thus, indirectly creating employment downstream through the demand chain of raw materials for the production of goods and services learners (ZOU Faculty of Agriculture, Newsletter December 2018). It also emerged that, the argument that ODL caters for learners who are already in employment, does not apply to all since some students are unemployed and, therefore, lack hands-on experience (practical application) which their counterparts have. That is why student participants were advocating for special rooms where they can go to whenever they felt the need for practical activities, to refine their skills during the course of their studies.

9. Conclusion

From the findings, it would be interesting to note that, ZOU is ensuring that every student goes on industrial attachment in the existing enterprises in line with their programme of study, to gain hands-on experience except for courses such as Chemistry, Biology (pure sciences) and Mathematics. Technical-vocational subjects, as stand-alone courses, are included in the teacher education programmes to ensure that vocational skills are developed at an early age in school (catch them young ideology). Entrepreneurs have a critical role to play in the world of work since they have the potential to create employment for self and others. The demand chain of goods and services in their communities indirectly creates employment. However, more emphasis is needed in other courses for entrepreneurship and skills development for self-reliance, as a means of empowering unemployed ODL students with survival skills. Students clearly spelt that they prefer to have workshops at some ODL institutions for them to have opportunities to sharpen their skills to enhance self-reliance and employment creation. Further research on what skills development strategies may be included in ODL programmes is likely to unearth more benefits and limitations of including TVET in ODL curriculum.

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