THE RELEVANCE OF UGANDA'S FORMAL VOCATIONAL EDUCATION TO THE LABOUR MARKET REQUIREMENTS

(Case study: Electrical Engineering Field)

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DECLARATION

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I Joseph Kikomeko do hereby declare that this thesis about the ***"Relevance of Uganda's formal vocational education to the labour market requirements" A case study of the Electrical engineering field,*** is entirely my original work.

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APPROVAL

We, the undersigned university supervisors hereby do confirm that this work was fully done by the candidate and it is original.

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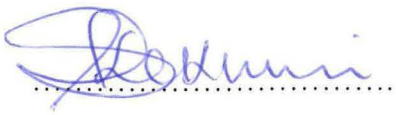

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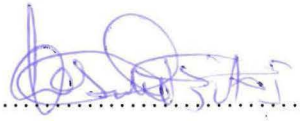

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DEDICATION

This work is dedicated to my children for the endurance they have gone through of not being with them during the time of study.

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ACRONYMS

ATPs	Assessment Training Packages
BEND	Basic Education for National Development
BTVET	Business Technical and Vocational Education and Training
DIT	Directorate of Industrial Training
GTZ	German Technical services
ICT	Information and Communication Technology
JICA	Japan International Cooperation Agency
KYU	Kyambogo University
MoES	Ministry of Education and Sports
MVP	Masters of Vocational Pedagogy
NCDC	National Curriculum Development Center
NCHE	National Council for Higher Education
NVTI	Nakawa Vocational Training Institute
TVE	Technical and Vocational Education
TVET	Technical Vocational Education and Training
UBOS	Uganda Bureau of Statistics
UEB	Uganda Electricity Board
UGAPRIVI	Uganda Association of Private Vocational Institutions
UNEB	Uganda National Examinations Board
UNESCO	United Nations Education Science and Cultural Organization

USE	Universal Secondary Education
UTC	Uganda Technical College
UVQF	Uganda Vocational Qualifications Framework
VET	Vocational Education and Training

ABSTRACT

The purpose of this study was to examine the actual state of Uganda's formal vocational education in the field of electrical engineering and the degree to which it meets today's labour market requirements. The findings are intended to act as a point of departure for the BTVET department in the Ministry of Education and Sports, to enhance policies that will change the vocational education curriculum in Uganda to match the effects of globalization. The research was exploratory and descriptive in nature. Data were obtained from governing board members, trainers and trainees from VET institutions, employed VET graduates and their employers and a retired senior employee of UEB, who were purposively and randomly sampled. Interview, observation, and documentary analysis methods were employed for data collection and data were qualitatively analyzed. The main findings were that VET institutions in Uganda operate in isolation from the world of work, they are ill equipped; hence practice theoretical training with a negligible amount of hands-on learning. The curriculum used is outdated and does not fully match the labour market requirements of an electrician today. I conclude that the current training accorded to electricians does not fully equip trainees with the world of work requirements. I therefore recommend an urgent review of the curriculum for training of electricians; re-introduction of apprenticeship; re-training of instructors and increase funding of VET institutions both by public and private sectors.

CHAPTER ONE

Introduction

1.1.0 Introduction

In relation to the field of electricity, this study examines the relevance of formal vocational education to the world of work in Uganda. In the process of doing so, I analyze the nature of vocational education and training institutions in Uganda today and the labour market requirements regarding electrical skills and knowledge in Uganda. I also assess whether electricians from Uganda's formal vocational education institutions meet the labour market requirements. This analysis is preceded by the meaning of the term "vocational education" and an analysis of the development trend for vocational education arising from indigenous to formal aspects in Uganda, based on various theories found in the history of education in Uganda and tempered by my personal work and educational experience. It is from this analysis that I laid out the problem under investigation, as well as the purpose and the objectives of the study.

1.1.1 Theories associated with the meaning of Vocational Education

Vocational education falls under different nomenclatures according to specific geographical areas. According to UNESCO-UNEVOC, vocational education is Technical Vocational Education and Training (TVET). TVET aims at acquisition of knowledge and skills for the world of work. UNESCO-UNEVOC further asserts that throughout the course of history, various terms have been used to describe elements of the field of this kind of education that collectively are now conceived as TVET. These include Apprenticeship Training (AP), Vocational Education (VE), Technical Education (TE), Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workforce Education (WE) and Workplace Education (WE)[1].

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[1] http://www.unevoc.unesco.org/2.0.html?tx_drwiki_pi1[keyword]=What%20is%20TVET Retrieved 10th February , 2010

Several of these terms are commonly used in specific geographic areas. However, a close examination of the above nomenclatures indicate that they all focus on preparing an individual for the world of work.

Vocational Education and Training (VET) prepares learners for jobs that are marked by manual or practical activities, traditionally non-academic, technical and totally related to a specific trade, occupation or vocation. It is my observation that vocational education assumes that the learner directly develops practical undertaking, knowledge and expertise in a particular group of techniques or technology. While in the abstract it may be regarded as such, the reality on the ground is quite different. Through personal experience as a teacher and a graduate of vocational institutions, I have found that this kind of education in Uganda emphasizes theory about the technology and the trade in general[2] and devotes much less time and effort to practice.

As a teacher, I am in accord with the above scholars. I perceive vocational education as that aspect of education which provides the learner with the knowledge and practical skills needed for entry into the world of work either as an employee or as self-employed. This standpoint is supported by Oranu, and Okoro (cited in Oni 2007: 32) who regard the purpose of vocational education primarily to prepare people for useful employment in recognized occupations. However, based on personal experience during my training in a technical college and the twenty years experience in the field of work as a technical teacher, I observe that emphasis is put on theoretical learning on the expense of the practical work recommended and emphasized by TVET.

Through personal experience in the world of work, I realize that vocational education diversifies and changes. This diversification is attributed to the advancement in science and technology coupled with the increasing and changing economic demands of society. TVET now exists in industries such as the retail sector, tourism, information technology, cosmetology and hospitality, in addition to the traditional craft-oriented trades which include carpentry and joinery, brick-laying and masonry.

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[2] From my personal experience, I have found that the teaching emphasises theory about technology and the trade. This is consistent with an education system that is examination-oriented. Institutions aim at preparing students to attempt examinations using pen and paper resulting into memorising and internalising of facts without relating them to work and working environments.

From the aforementioned description of TVET, I realize that the emphasis is on knowledge and skills acquisition. Through personal experience, I have found that knowledge and skills can be acquired informally from parents as well as from proficient people in particular trades, just as readily as through formally established training institutions. It is also my observation that the current vocational education system in Uganda puts more emphasis on formal vocational training, no effort is being done to integrate the informal vocational education into the mainstream vocational education system. From an African perspective, vocational education traditionally has emphasized practical training more than theory which by contrast, is highly emphasized in formal vocational education[3].

Indigenous vocational education

Before the introduction of western formal education into Uganda, there was indigenous education in form of practical training whose general purpose, especially at the tribal level of social organization was to enable each member of the society to be helpful to himself and to the rest of the members of the community and to the chiefdom, kingdom or state. In view of the above, the skills were passed on from the old to the young within the family through a form of apprenticeship Ssekamwa (1997: 2-3). The learning process was by doing, learners had to go and work together with their "teachers" who were mainly their elder relatives and local specialists from whom they could learn to master particular skills. This observation is shared by Okello (2009: 5) who points out that the learning method was that of apprenticeship, where a learner observed with keenness what an adult was doing and "copied" the skills.

From the above observations, it is evident that learning in the indigenous system emphasized the hands-on, an indication of a direct relationship with working-life, hence its relevance to the labour market.

This direct indigenous link to the world of work is today reflected in some informal vocational practices such as agriculture, ceramics, weaving, carpentry and barkcloth-making in rural areas where the youth are trained by specialists, acquire the required

[3] This is based on personal experience and reflections from my childhood.

skills and later are left alone to join the world of work. As already highlighted above, I argue that in formally established vocational institutions a lot of emphasis is put on theory as opposed to the training in the informal centres set-up by the ordinary people as seen at Katwe, Kawempe and Bwaise in Kampala District. At these centers the apprenticeship system is employed for learning. Learners are exposed to any technology old or new that is brought by clients to the workplaces for any kind of repair or modification.

However, with globalization labour mobility and labour "flexibility" are on the increase; technology is advancing and corporate economies are forming world-wide trade and commerce networks. Thus indigenous vocational education needs beefing up; it needs cutting edge technology and knowledge of relevant applied science to survive in this global climate. In view of this, a more organized and structured system of learning is necessary to cater to the pressure from globalization. This has led almost everywhere to a felt need for a formal system of vocational education. However, I argue that there is need to integrate the hands-on aspect of the informally set-up training centres and apprenticeships with the theoretical learning of the formal vocational institutions.

Evolution of formal vocational education in Uganda

The arrival of European missionaries in the 1870s[4] saw the birth of formal vocational education in Uganda. This education system took root in 1889 when new approaches to teaching agriculture and some technical skills were taken up Ssekamwa (1997: 39).

However, it should be noted that the introduction of limited vocational training was not intended for Ugandans *per se* but to satisfy the internal needs of the missionaries[5] and

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[4] In 1877, the Church Missionary Society (CMS) missionaries of the Anglican Church arrived in Uganda, followed by the White Fathers Society missionaries who were Roman Catholics in 1879 who immediately started formal classes in their missions.

[5] In my view the missionaries did not come to Uganda to teach vocational education. Their intention was to spread Christianity. In doing so, they incorporated technical training for the Africans so as to equip them with skills for establishing missionary headquarters and spreading their Gospel. See also Tiberondwa (1978) who argues missionaries have been prime agents of colonialism. All this they did because they could not afford to bring trained people from their countries of origin. They introduced the practice of brick-making to benefit themselves in construction of their headquarters and churches. New approaches to agriculture were purposely aimed at production of foods with the help of Ugandans; food that the missionaries and their servants could eat. Carpentry was introduced in a different form to ensure that the

with a main objective of evangelization of the people Ssekamwa & Lugumba (2001: 43). Formal vocational education training centres were set-up at each Church mission centre to train people who would fulfill the needs of the missionaries. On achieving their objectives, the training centres would close. This system of education was carried on by the missionaries until 1925 when the Phelps Stokes Commission of 1924-25 recommended government's involvement in the country's education system Ssekamwa (1997: 50). The purpose of the Phelps Stokes Commission was to establish the nature of the education that missionaries were offering to Ugandans.

As a result of the recommendations of the Phelps Stokes Commission, the Colonial Office in London recommended the teaching of technical skills in four ways: the first way was to be through government work-shops on an apprenticeship basis. There was an urgent need for personnel to help in construction of civil works under the Department of Works. This was because the First World War made it very expensive to bring in technical people from abroad. Africans were trained in simple tasks while Europeans and the Asians were trained in complex and superior tasks. The second way was to be in special instructional workshops on a production basis. This was done because there was a need for semi-finished materials for use in construction projects and the production sector could not wait for recruitment of trained people who were lacking at that time. The third way was to be conducted through properly instituted technical schools which were already in existence and being run by the missionaries.

The fourth way was to be run by primary schools where village crafts were to be taught Ssekamwa (1997: 84). The institutions under the third and the fourth categories were largely left in the hands of the missionaries since they were the ones running the country's education system at the time. They had no formal curriculum to follow especially for the fourth category.

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places of worship were furnished. When Africans developed an interest, the missionaries gradually changed their original motive and it turned into formal vocational education hidden within the general academic education.

The way the implementation was carried out was up to the teacher. Courses taught in the technical schools were carpentry, shoe-making, tailoring, brick-making, and some mechanical works Ssekamwa (1997:90).

All these were geared to serving the missionaries and the colonial government's interests. In view of the above, it is my observation that although vocational education has grown and diversified in Uganda, the curriculum for VET schools is still narrow. As already seen that missionaries were agents of colonialism, I argue that European missionaries discouraged vocational education in the country because Uganda was a potential market for the industrial products from their home countries. On the other hand, they encouraged primary and secondary education since it was easy to indoctrinate young ones who had not been corrupted by the indigenous educational system. Furthermore, the government left vocational education in the hands of the missionaries because it is expensive and she was not ready to invest in such a venture.

The courses that were taught in the formal vocational institutions were an improved version of the indigenous VET fields. This is reflected in trades such as carpentry, wood-carving, shoe-making, tailoring, plumbing and weaving. Today VET institutions still have the above mentioned trades in addition to the newly introduced trades such as brick-making, electrical installation, motor-vehicle mechanics among others.

On the side of implementers, the majority of teachers at the time were not pedagogically educated; they had been successful tradesmen in a particular trade and were drafted to teach. This was asserted by Alfred Wallace Wood, in his study of "Educational Policies and Social Change in Uganda". He pointed out that: "The teaching in technical schools was left to the amateurs – usually European former army corporals and bridge mechanics who might have got some mechanical skills back in Europe" (Ssekamwa 1997:91).

A technical teacher training course was first introduced in Kampala Technical Institute (today Kyambogo University) in 1954 to train technical teachers Ssekamwa & Lugumba (2001: 70). The late establishment of technical teacher training in Uganda attests to the fact that missionaries together with the colonial governments had no concrete programme for vocational education in the country.

It is my observation that VET teacher training was introduced after the realization by the colonial government that there would be a need to leave behind trained teachers who would train others for the country's industrial development when they themselves left after independence. I further argue that before 1954, the Europeans had no interest of opening the eyes of Ugandans to modern VET since it was a hindrance to westernization of Africans. On a sad note, the technical teacher training did not last for long. It closed down six years later in 1960 Okello (2009: 48), although it re-opened in 1973, it trained teachers at certificate level and later at diploma level (Okello, 2009: 35). It is my observation that the re-opening of the technical teacher training in 1973 was due to the fact that the majority of Europeans and Asians who were in the institutions had fled the country after the military coup led by Idi Amin. For this reason there was need for training African teachers to beef up the small staff in the institutions and there was great demand for workers in industry. In view of the previous statement, although the number of vocational institutions was small at that time, today Kyambogo University still stands as the sole trainer of technical teachers and it is my belief that Kyambogo cannot satisfy the vocational institutions' demands for teachers.

In 1963, after independence, there was a commission of enquiry that was appointed to revise the education system of the country so that it could better serve the needs of the citizens. That commission was the Castle Education Commission. This Commission recommended the abolition of the vocational schools that were running parallel to the general academic schools; these were the rural trade schools, farm schools and home craft centres. It is my observation that the abolition was due to the negative attitude that had developed amongst Ugandans about vocational education, that it was for academic failures and a new form of VET needed to be introduced. In this respect, the Commission promoted technical institutes, technical colleges, agricultural colleges and district farm institutes as the new road to vocational training institutions Ssekamwa (1997: 166). However, it is evident that much more emphasis was put on academic secondary school education where many new government and private secondary schools were established. It is my opinion that since the country's education system was still under the funding jurisdiction of the British government, it was their desire that Ugandans followed their footsteps of acknowledging white-collar jobs as opposed to manual work. The colonial

government encouraged secondary school education and did not set up schools to cater for vocational education.

Furthermore, there was no effort to change the curriculum to suit the country's vocational needs and address the low social status of VET that had been inherited from the colonialists. I argue that an integral part of developing VET is government seeking to change peoples' attitudes and make them realize the significance of vocational education. Not learning from either their experience, or the changing labour market demands, the few vocational institutions at the time continued to teach the very curriculum which the colonial government bequeathed to Uganda at independence.

It appears that during the 1970s under Idi Amin Uganda experienced difficulties of trade embargos from developed countries. Industrial machinery, tools and equipment together with a variety of other merchandise from abroad could not be accessed. This situation resulted in a renaissance of indigenous vocational education. This was reflected in the development of intermediate technology to replace foreign technology and foreign spare parts which could not be accessed at that time. Many workshops for forging tools such as hoes and machine parts sprung up in Kampala. All this was dictated by the needs of the time.

These workshops were mainly located in the suburbs of Kampala like Katwe and Kisenyi. The workshops were very much encouraged by President Idi Amin who wanted to Africanise the country. To support this effort, Idi Amin's government established three vocational training institutions at Jinja, Lugogo and Nakawa to train Ugandans in vocational skills that were in demand by the country's workplaces. Unfortunately at this time qualified Ugandans had left the country. There were no experts to run these institutions, ordinary Ugandans too despised vocational education.

On a sad note during the 1980's after the overthrow of Idi Amin's government, all the efforts Ugandans had made to develop vocational education were emasculated by the governments that followed. Vocational education was once again suppressed as academic secondary school education was again emphasized.

This is reflected by the many secondary schools which mushroomed all over the country in the 1980's particularly in western Uganda due to the political atmosphere at the time. To ensure the smooth running of secondary schools, government opened more national teacher's colleges to beef up training of secondary school teachers. Furthermore, the governments promoted the importation of technology; this suppressed the locally developed technology from the informal sector which had begun to flourish during Idi Amin's time.

In 1987, the National Education Policy Review Commission was set up by the government of Uganda to review its education system (Uganda 2001). A number of recommendations were put forward for the improvement of vocational education, and as a result, in 1992 the Government White Paper on implementation of the report was put in place[6].

Following the presentation of these recommendations, a department in charge of business, technical vocational education and training (BTVET) was put in place at the Ministry of Education and Sports in 1999. This department was to take responsibility for all affairs in vocational education and training. Training of technical teachers was then rejuvenated at Kyambogo University.

All these initiatives were established so as to improve vocational education by making it work-oriented and to have a continuous and reliable labour force for the country's development. It is my observation that despite of all the encouraging recommendations to develop vocational education in line with the Government White Paper, very little has been done. Instead there was further promotion of academic secondary school education. This is evident by the introduction of Universal Secondary Education (USE). Vocational education is still poorly funded and with training facilities in a sorry state, coupled with obsolete technology and untrained or under-trained teachers, as I observed during the

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[6] Some of the recommendations pertaining to vocational education included: Integration of technical with business education; restructuring of technical and vocational education to cater for vocationalization from primary to tertiary levels of education; establishment of at least one technical school in each district; re-equipping of technical and vocational institutions with tools, equipment, scholastic materials and the training of technical teachers (Uganda, 1992).

various "mini-research expeditions" conducted while pursuing the Masters in Vocational Pedagogy (2009). In addition, the majority of Uganda's vocational education institutions are private. This is pointed out in the National Development Plan Uganda (2010b: 237) which reports that over 1000 VET institutions are private with 600 registered by the MoES against the 137 publically owned institutions. There has been no change in curriculum, teacher/instructor training is still at a low level and teaching is still dominated by theory as opposed to practical learning. It is against this background that I lay out the problem under investigation, as well as the purpose and the objectives of the study.

1.1.2 Statement of the problem

Vocational education is one of the avenues through which Uganda's current development strategies are based. This is evidenced by the Government White Paper (Uganda 1992), where one of the aims of vocational education emphasizes the production of craftsmen, technicians and other skilled manpower that is required to meet the demands of industry, agriculture and commerce. This skilled manpower requires the teaching of technical and vocational subjects that provide the foundation of the country's economic base. In view of the above, every year Uganda increasingly produces more graduates from vocational education institutions (Uganda, 2010a). With these numbers, one would expect Uganda's vocational labour needs to be addressed. However, the reality on the ground is that the products from Uganda's formal training institutions seem not to meet the labour market requirements as pointed out in the National Development Plan, Uganda (2010b, p. 206). Sometimes employers opt for people trained from the informal sector or take-up people with vocational skills from abroad.

It is therefore imperative to investigate the strength and shortcomings of formal vocational education and training to the world of work.

1.1.3 Purpose of the Study

The purpose of this study is to examine the actual state of Uganda's formal vocational education in the field of electrical engineering and the degree to which it meets today's labour market requirements.

1.1.4 Objectives

i. To examine the nature of vocational education and training institutions in Uganda today.

ii. To investigate the labour market requirements regarding electrical skills and knowledge in Uganda.

iii. To assess whether electricians from Uganda's formal vocational education institutions meet the labour market requirements in the world of work.

1.1.5 Research questions

i. What is the nature of vocational education and training institutions in Uganda?

ii. What are the current labour market requirements of an electrician in Uganda?

iii. Do the electricians from the formal vocational education institutions in Uganda meet the labour market requirements in the world of work?

1.1.6 Significance of the study

The findings of the study clearly unveiled that VET institutions are characterized by a weak management system reflected by the weak governing boards. This therefore will be a point of departure for the Ministry of Education to revise the procedure of appointing members of the governing boards in order to strengthen them. The findings further indicated that it is ones competence which is paramount at recruitment of an electrician in the world of work. Therefore this will act as an eye opener to the BTVET department to enhance policies that will effect changes in the curriculum of the vocational education system to address competence development in the trainees. Finally the study found out that majority people who join instructor training do not have industrial work experience hence rendering the vocational training theoretical. Therefore this will effect changes in the requirements demanded by instructor trainer institutions of a person intending to train as an instructor to incorporate industrial work experience.

1.1.7 Scope of study

Content Scope

The content scope of the research is based on three objectives of the study. In the first objective, I examined the administration, economic, academic and social aspects of the institutions. Under the second objective, I investigated current labour market requirements for an electrician in Uganda. I considered the employment sectors in Uganda, the recruitment process, and the match between training at school and the labour market requirements. In the third objective, I examined the relationship between training institutions and the world of work, the trainers and the world of work, and the gaps between VET training institutions and the world of work.

Geographical Scope

I considered twelve formal VET institutions of which seven were from central Uganda, one from western Uganda, two from northern Uganda, one from eastern Uganda, and one from southern Uganda. Regarding workplaces, I considered six companies dealing with electrical related works, all having headquarters in central Uganda but with mobile workshops. Although the study involved VET institutions from the mentioned regions and workplaces, it was based at Kyambogo University, Faculty of Vocational Studies in the Department of Art and Industrial Design.

1.1.8 Key terms as used in the research

Electrical Engineering:

Although electrical engineering is a broad category embracing electricians, electrical engineers and electronics engineers, for this study, electrical engineering will focus on electricians.

Relevance:

This is used to mean the validity and applicability of what is taught to learners in the formal vocational institutions to what the world of work demands.

Labour market:

This means the state of demand for graduates from the formal vocational institutions by the world of work.

Formal:

Organized and structured with well prescribed procedures.

Informal:

Organized but without a prescribed procedures or institutionalized procedures that must be observed.

Indigenous:

By this I refer to "home-grown", local Ugandan, non foreign practices and procedures.

Labour market requirements:

This refers to the skills, knowledge and attitudes that the world of work expects a graduate electrician to have acquired before joining work.

Content:

For the purpose of the study, content means what is taught to trainee electricians.

World of work:

This means both paid up employment and self employment.

Related Literature

1.2.0 Introduction

In this section, I present scholarly views related to the problem under investigation. The presentation logically follows the objectives of the study namely:

- To examine the nature of vocational education and training institutions in Uganda today.
- To investigate the labour market requirements regarding electrical skills and knowledge in Uganda.

- To determine whether graduate electricians from Uganda's formal vocational education institutions meet the labour market requirements

1.2.1 Nature of Vocational Education Institutions

Atchoarena & Delluc (2002: 17) points out that vocational education and training institutions are mainly designed to lead participants to acquire the practical skills, know-how and understanding necessary for employment in a particular occupation, trade or group of occupations. This implies that VET institutions must not provide training in isolation of the community since their graduates are expected to serve in the world of work on completion of their training.

The close link between the training institutions and the world of work is also supported by UNESCO (1999, p. 5) which pointed out that co-ordinated education and training systems involving schools, the informal sector and enterprises need to be established to ensure flexible access to technical and vocational education (TVE). This is an indication that once the school is isolated then the training offered to learners is most likely to be irrelevant to the society where the graduates are expected to serve.

The Government White Paper (Uganda, 1992) emphasized the need to establish production units in VET institutions with an objective of sustaining the institutions financially. Although the production units were not intended for students to relate their learning with the situation in the world of work, but these units would indirectly stimulate the trainees' interest. Furthermore, some trainees would be absorbed in the production units for practical training. This system would improve the VET students' attitude towards work and the love for their respective vocations. The practice would further enable VET institutions to construct training infrastructure since the students would be involved in the activities necessary to succeed in the labour market.

In addition to the practical training at school in the school workshops and the proposed production units, industrial training is also an important aspect of VET. Egau (2002: 20) argues that industrial training is an integral part of all the courses in VET. In each of the TVET institution including universities, there is a department of industrial training,

which organizes placement and supervision of students during their training. Indeed, my own experience confirms this. Industrial training turned me into an electrician.

At school there was very little as regards hands-on learning and we were only exposed to a few electrical-related works. It is my view that through industrial training, trainees get exposed to the employers, and in this process, committed trainees are spotted by employers for future employment. Despite all the benefits of industrial training to the trainees, from personal experience I have found out that training institutions leave the placement exercise to the trainees themselves. This situation results in scenarios where trainees simply go to any workplaces often including those that are not relevant to the trainees' skills and interests. Furthermore, supervision of the trainees when at the workplaces is inadequately done for reasons that institutions are poorly funded an indication that the instructors are not facilitated.

Dewey (cited in Mjelde 1997: 336) pointed out a century ago that the school must have as direct and organic relationship as possible with the society at large. This implies that society is highly instrumental to the existence of a school. Society that provides learners, takes up the graduates for employment, provides the basic needs such as food, water and wood, the fuel that is commonly used in Africa. It is society that is always up-to-date with world affairs. Societies are constantly shifting the emphasis between the needs of the population and the needs of the leaders. Through the close collaboration with society, those responsible for schools can fight to see that they are provided with technology in form of machinery most especially from industry. Through personal experience, I have seen for example that most industries in Uganda do not have junkyards. It seems to me that if training institutions were in close collaboration with industry, then the "junk" could be offered to those schools as material for training purposes. Therefore in this respect I concur with Dewey.

1.2.2 Uganda's vocational labour market requirements

For purposes of this study, the vocational labour market requirements were addressed in terms of the employment sectors; recruitment process; and the match between training at school and the labour market requirements. The focus was on the electrical engineering field specifically considering the qualities of an electrician needed for a particular job. In

this, I unveiled the employers' expectations of the different categories of electricians in terms of skills and knowledge.

Employment sectors

Atchoarena & Delluc (2002) indicate that the major employers in a number of African countries are found in the private sector including the informal sector of the economy. This was observed in Botswana, Eritrea and Kenya. From personal experience in Uganda, I observe that government enterprises are very few as a result of the liberalizing of the economy. This implies that in Uganda, the private sector is also a major source of employment. This was indirectly pointed out by the President of Uganda in his address to the youth on the national youth day celebrations of 2010, when he proposed to reduce the retirement age from sixty to fifty five years. This was reported in the government newspaper *New Vision* (12th of August 2010).

The proposal implies that the government does not have many employment vacancies. The private sector as a major employer is reflected by the BTVET Act (Uganda 2008a) empowering the Industrial Training Council (head of the informal sector) to supervise the Directorate of Industrial Training (DIT) in its operations. The industrial training council takes responsibility for the quality of TVET graduates. While the Industrial Training Council is empowered by the BTVET Act, very little has been done to this effect because of the inadequate funding to the BTVET department (see Chapter Four of this thesis).

Although the informal sector is the largest employer, many Ugandan graduates are unemployed due to a few enterprises that can absorb them (UBOS, 2002/2003). This is an indication that many people in Uganda still regard work as paid employment as opposed to the broadest concept that arose among radical feminists in the 1970s such as Selma James, wife of Afro-American leader C.L.R. James. From this view point work is an engagement in a productive activity including housework and nurturing children (Costa & James,1972).

Recruitment process

To date the government of Uganda is still working to formulate a comprehensive policy on employment. The draft policy emphasizes the importance government attaches to the creation, protection and promotion of employment opportunities as pointed out by the Uganda Bureau of Statistics (UBOS) in its report on labour force survey[7]. The objectives of the employment policy are mainly to:

- Promote the goal of full employment,
- Secure improvement in the productivity of labour,
- Provide full opportunity to each worker,
- Safeguard the basic rights and interests of workers and
- Stimulate economic growth and development.

The draft Employment Policy sets out the principles and strategies and, the institutional framework for the implementation of the employment policy.

However, since the policy is still a draft, the mode of recruitment of workers into employment in Uganda varies from employer to employer as reflected in the media advertisements. This is an indication that apart from government enterprises, the private sector takes into consideration a number of factors when hiring among which there is political, religious and ethnic affiliation.

In the electrical engineering field, recruitment is dependent on the applicant's capability to execute the tasks at hand in addition to possessing paper qualifications. This therefore calls for a clear understanding of the categories of electricians required in the world of work.

Electricians fall into two categories: construction and maintenance electricians[8]. However, the two categories embrace many other sub categories depending on the nature of work, for example there are hospital electricians who fall into the two categories.

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[7] For details about this see www.ubos.org Retrieved on 1th November, 2010

[8] For details see http://careers.stateuniversity.com/pages/280/Maintenance-Electrician.html Retrieved 17th March, 2010. and http://www.dwd.state.wi.us/apprenticeship/trades/construction_electrician.htm Retrieved 18th March, 2010

There are those who perform tasks of installation, inspection and maintenance of the electrical installation, and there are those who are specialized in maintenance of medical equipment.

Construction electricians focus on the actual wiring of buildings and may have few skills in troubleshooting wiring problems. These electricians plan, draw electrical diagrams, install, and repair electrical fixtures, apparatus, and control equipment such as switches, relays, and circuit breaker panels. They measure, cut, bend, thread, assemble, and install electrical conduit (pipe or tubing), and pull wire through conduit. They test continuity of circuits to ensure compatibility and safety of components, using instruments; such as the ohmmeter, megger, and other testing equipment. From personal experience, one finds that such an electrician needs to have knowledge and skills of electronics as most of the installations are electronic.

Job -Related Skills for a construction electrician

These include:

- reading and interpreting drawings and electrical code specifications
- splicing and connecting wire to fixtures and components to form circuits
- testing and troubleshooting circuits to ensure that systems operate safely
- pulling wires through conduits and through holes in walls and floors
- communicating effectively as a member of a team with supervisors and other skilled trades-people
- working on a variety of different projects and tasks[9]

Maintenance electrician

Maintenance electricians work in factories, hospitals, and other large businesses. They keep the generators, lighting, and electrical systems in working order. Furthermore, they diagnose problems and then repair or replace defective parts. They do both routine and

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[9] For details see: http://www.apprenticesearch.com/fpTrades/Electrician.asp Retrieved 29th March, 2010

preventive maintenance. However, they spend much of their time on preventive maintenance.

They make periodic inspections of equipment to find defects before costly breakdowns occur[10].

Maintenance electricians need to act quickly when a breakdown occurs. They must be able to tell management whether the problem can be corrected and whether business can continue as usual. If regular activities must be stopped, the electrician will have to estimate how long a shutdown will last.

The match between training at school and the labour requirements

In his discussion of vocational skills acquisition, Billett (2001: 2) points out that learning at a workplace is instrumental to equipping the workers with the required skill needed for task execution. He indicates that the everyday work practices assist the workers to understand and successfully carry out their work. It is my opinion that electrical work can better be learned from a workplace than from a school. A workplace has a unique contribution that is simply not available elsewhere. Billett (2001: 5) indicates that there are vocations to which no curriculum has been developed; he pointed out sugar mill workers who have no option other than to develop the required knowledge in their workplaces.

In the indigenous system, skills in the various vocations were learned from workplaces Okello (2009). This is also supported by Ssekamwa (1997), where the practice is seen in the informal sector where the majority of artisans and technicians are still learning on the job, following the apprenticeship model.

In Germany the model of the VET "dual system" vocational training is mainly in the firm, complemented with instruction at school (Gonon, 2008: 67,68). Such a system is so instrumental because what is learned at school is immediately put into practice and learning is consolidated. On the other hand, there is "apprenticeship" as a European

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[10] For details see http://www.careers.stateuniversity.com/pages/280/Maintenance-Electrician.html Retrieved 17th March, 2010

model for VET where the learning is largely firm-based. Learning is practical and learners get motivated as they observe the reality of their learning.

This kind of learning is promoted by Mjelde (1993) who points out that learning at workplaces by apprentices places the learner in direct contact with the subject matter as well as with the training supervisor and colleagues. In such a situation training matches with the world of work.

In the training process, the three components of vocational education that is vocational training, vocational theory and general knowledge are taught taking into consideration of their relationship for the learners to the learning activities' meaning and use. Aarkrog (2008: 248) points out that for students to develop interest in general subjects they should be engaged in work tasks that require knowledge of those subjects. Therefore what is required is not mere teaching of the general subjects and the theory, but that these should be taught in an integrated way reflecting their relevance in their respective fields.

However, Uganda with a small industrial base and a high agrarian population cannot manage such a system. This situation suggests that VET is most likely to remain behind, reflecting the minor match between school and the labour requirements.

1.2.3 Graduates of vocational education institutions

To have a clear understanding of the recommended graduate of vocational education and training, it is my submission to reflect of the following:

- Curriculum for VET
- Technology at school
- Training process

Curriculum for VET

Kerr (1968) defines a curriculum as a course of studies, or, the sum total of the learning that is planned or guided by the school, whether carried out in groups or individuals, inside or outside the school. This implies that the learning must be conceived as social, as beneficial to the society from which these individuals originate. Therefore society is very instrumental in curriculum development.

Akello & Kagoire (1996: 22) identify society as a curriculum determinant. This is an indication that curriculum developers must always integrate new developments into curriculum in relation to societal needs.

Society is rapidly changing in all spheres, knowledge is increasing at a faster rate than before, implying that VET must keep abreast these changes.

However, in many African countries, Uganda inclusive, the rapidly changing societal needs have not been addressed by their VET systems. This is pointed out by Kohn et al (2006: 17) that in Uganda the predominantly outdated curricula and training standards in use do not sufficiently reflect the skill requirements in employment. In this respect I fully concur with these writers since the curriculum I was subjected to in 1999 when I was pursuing my diploma in electrical engineering is the one that is still in use today, more than a decade later.

This outdated curriculum is also pointed out by Liang (2004: 40) who writes that the the content taught in VET institutions in Uganda is a Uganda version of the Oxford/London syllabuses of the 1950s. According to the National Curriculum Development Center (NCDC), curriculum is supposed to be revised after every after four years (Kikomeko & Chebet, 2009). However, there seems to be very little that is being implemented by NCDC despite all the challenges posed by years of community outcry. (Mjelde, 2009) also points out that under technological change and circumstances of globalization, some of the traditional occupations, which were developed according to the guild model are now becoming obsolete, an indication that curriculum development is more crucial than ever before. The BTVET Act of 2008 (Uganda 2008a) emphasizes the Uganda vocational qualifications, a recognition that the current curriculum is outdated and needs revision if present-day qualifications are to be reached. In its efforts to comply with the demands from society, the Ministry of Education and Sports (MoES) established the Uganda Vocational Qualification Framework (UVQF) Secretariat and tasked it to prepare Assessment Training Packages (ATPs) (UVQF, 2006). According to the BTVET Act, the training packages are to consist of modules following the labour market requirements. The thinking is that when a learner completes one module, he/she could take up another module in the same field. Such a kind of training arrangement is relatively flexible and opens trainers' interest in a vocation, although trainers and researchers feel modular

education is destructive of holistic practical and theoretical learning (Gamble, 2009: 51-76).

According to Wheeler's model of curriculum development process (Ureubu, 1985: 22), implementation is emphasized as one of the crusial stages that a trainer must consider if learning is to take place. In VET, curriculum implementation must consider the three aspects of vocational education as pointed out by Lennart Nilsson (1981b cited in Mjelde 2006: 52-53). Here the emphasis is placed on integrating the vocational training, theory and general knowledge. Once the three are integrated, the trainee is able to develop meaning out of the three items and be able to apply them in daily life.

Learning in this respect should be by doing as it is in the indigenous education system and in workplace apprenticeships. The act of learning by doing is promoted by Mjelde (1997: 337) who emphasized that it is the core of vocational education. Mjelde (2006: 23) in this regard has found that learning in VET takes place through activity and collaboration as well as by learners learning from one another. UNESCO & ILO (2002) also promotes the ideology of integrating theory and practice and it argues that the resulting combined knowledge motivates the learner.

In connection, Bjerknes (2002: 11) also points out that experiential learning reflects the person's inductive knowledge development rather than simply reflecting knowledge acquisition. The integration of the three components of vocational education calls for practical work which requires material and equipment as well as tools. However, from my experience, I have seen that most VET institutions in Uganda do not have the required materials and equipment for training purposes.

Technology at school

Freire (1996: 14) points out that once one is provided with proper tools for a task he/she can gradually perceive the personal and social reality as well as the contradictions in it. Through experience, the learner becomes conscious of his/her own perception of reality and capable of dealing critically with it. VET institutions which are blessed with training equipment have a better chance that their students will perform well once they are outside in the world of work.

The provision of tools and equipment is more pronounced in the informal VET where learning is basically by doing. Nalumansi et al (cited in Okello, 2009)[11] point out that training in most BTVET institutions is theoretical with very little hands-on experience. This implies that there is a lack of training equipment.

1.2.4 Training

Electrician training provides the skills, knowledge, and hands-on training required for a career as a qualified electrician. Electrical preparation in the schools may also be specialized for careers as industrial electricians, maintenance electricians, commercial electricians, or general electricians[12]. All electricians work on commercial and residential sites to do maintenance and repair work on electricity systems. Their work may also involve security systems, heat, connectivity, and building assessment.

Electrician school provides basic training to become an electrician, but much of the skills needed to excel in an electrician's career require hands-on experience and ongoing skills development. Electricians are commonly involved with a variety of duties including:

- Machinery installation-setting and aligning motors, kitchen, laundry equipment and aid equipment.
- Installation of wires and cables-wire, cables, nonmetallic sheathed cable, armored cable, in conduit, trays, duct, racks and wire mold.
- Installation of finish materials and trim devices-assemble and install fixtures, switches, receptacles, electric heating equipment (e.g. baseboard heaters, valance heaters, radiant heaters, etc.)
- Plan layout and installation of electrical wiring, equipment and fixtures, based on specifications and codes.

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[11] A presentation by Okello Benson to the students of a masters degree in vocational pedagogy at Kyambogo university about the Complexity and Contradictions in Vocational Education in Uganda on the 7th October 2009.

[12] http://www.ulinks.com/electriciantrainingschools-electriciancourseapprenticeeducation.htm Retrieved 19th Mach, 2010

- Prepare sketches or follow blueprints to determine the location of wiring and equipment and to ensure conformance to building and safety codes[13].

Training process

Most people learn the electrical trade by completing an apprenticeship program lasting 3 to 5 years. Apprenticeship gives trainees a thorough knowledge of all aspects of the trade and generally improves their ability to find a job.

The typical large apprenticeship program provides at least 144 hours of classroom instruction and 2,000 hours of on-the-job training each year. After finishing an apprenticeship, those who qualify as journeymen often continue on to learn about related electrical systems, such as low voltage voice, data, and video systems[14].

Electrician education can be obtained through a vocational college or technical school, and those that wish to specialize in a particular field can obtain hands-on training as an electrician apprentice.

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13 http://www.dwd.state.wi.us/apprenticeship/trades/construction_electrician.htm Retrieved 18th March, 2010

14 http://www.jobbankusa.com/career_employment/electricians/training_certifications_skills_advancement.html Retrieved 13th March, 2010

CHAPTER TWO

Methodology

2.0 Introduction

In this section, I present the methodology that I employed in the study. I used a combined exploratory and descriptive approach with a case study since research was qualitative in nature.

In regard to sampling, I employed both purposive and random sampling procedures which were dictated by the nature of the population. The research being qualitative, I adopted the interview, observation and, the library and archival survey as methods of data collection. For the effective use of the mentioned methods, I employed interview guides, questionnaires, a camera and a voice recorder as the major research instruments.

I examined, grouped and recorded the findings from the field following the variables addressed by the study so as to analyze the data collected.

2. 1 Research design

An exploratory and descriptive research design was employed in order to bring forth the empirical data and highlight the nature on vocational education training institutions in Uganda, investigate the labour market demands faced by an electrician in Uganda, and try to find out the extent to which the electricians from the formal VET institutions in Uganda fail to meet the labour market demands. I used this design because it allows a multi-pronged approach to the problem under question, to examine the general problem from different perspectives using different techniques and methods of data collection, elaborated below.

Miller & Salkind (2002: 20) write that descriptive survey is concerned with information generally obtained by means of interviews or mailed questionnaires and other sources which include reports or statistics. My work is descriptive in this sense, using data from writer sources, interviews and observations supplemented by questionnaires.

2. 2 Sampling Strategy

To have the best representation of the population concerning the study I employed a purposive sampling strategy to represent a smaller section of the population. By means of this sampling strategy I was able to focus on only those people who I believed to possess the information and who could provide it, as has been advocated by Wangusa (2007: 40). This was of great help to me as it reduced the fieldwork costs as pointed out by Miller & Salkind (2002: 55). I also used purposive sampling due to the specificity of the objectives of the study, an indication that only particular samples were relevant to the study Sidhu (2007: 265).

For the students and employed VET graduates at schools and in companies respectively, I adopted random sampling since I did not have any prior knowledge about them in any respect. I had a belief that any one of them would provide the required information for the study. Creswell (1994: 120) argues that with random sampling procedure, each individual in the sample has an equal probability of being selected implying a wider range of choice.

2.3 Population Sample

A total of forty one people were contacted for data collection. These included one experienced person in the field of electricity in Uganda; six employers; six practicing electricians; twelve trainers at VET institutions; six trainees and nine members of three sub-committees of the boards of governors to four different VET institutions.

The experienced person in the field of electricity was a retired officer of a former public utility. Six employers were from six different companies. The list of names is in my research data records but for the purposes of this report they remain anonymous. The six employed VET graduates (practicing electricians) were from these six electrical companies and an officer from the ministry of Public Service.

The trainers were from Kyambogo University (KYU), Nakawa Vocational Training Institute (NVTI), Lugogo Vocational Training Institute, Kabale Technical Institute, St Joseph's technical institute Kisubi, St Charles Lwanga Technical Institute Butende, Ahamed Seguya Technical Institute, Uganda Technical College Bushenyi, Kamengo

Technical Institute, Human Technical Development and Training Center, St Joseph's Technical School Ediofe and Vocational Training Institute Soroti.

The trainees were from six of these twelve institutions surveyed and the members of the boards of governors were from three of the institutions.

2.4 Methods of data collection

For data collection, I used three methods namely;

- Library and Archival Survey
- Interviews
- Observation

Library and Archival Survey

Also referred to as documentary analysis, library and archival survey is concerned with all kinds of information hard and soft copies of various categories and artifacts such as buildings and machines. Creswell (1994: 150-151) explains that documents are any written information or physical objects that are analyzed for study to obtain data such as manuals, books, journals, registers, newspapers, letters and minutes. I used this method to obtain information about the administrative and economic status of VET institutions where I examined the minutes of boards of governors' meetings and budgetary estimates. I also examined the instructors' schemes of work and training workshops to ascertain the academic situation in the VET institutions. It was through reading literature from libraries and document centers that I was able to obtain information about the labour market requirements for an electrician through examining the electrician's occupational profile in Uganda.

Interviews

Under this method, I conducted oral interviews following predetermined interview guides, as well as administering written interviews. I used oral interviews to obtain data from members of the boards of governors to find out the economic status of the VET institutions. I also employed the method to obtain data from a former UEB employee to ascertain the relationship which existed between VET training institutions and the world of work in the past. This method of data collection was also used to obtain data from

VET trainers, VET trainees to assess whether electricians from Uganda's formal VET institutions meet the labour market requirements in the world of work.

To achieve this, I focused on the curriculum of an electrician, its implementation and the variation between the technology at school and that in the world of work. Through this method I managed to collect detailed information. This is pointed out by Sidhu (2007: 147) that interview stimulates the respondent to give an increasingly complete and valid set of responses that gives a broader foundation for the discussion. It is also shared by Amin (2005: 185).

I used written interview to investigate the labour market requirements regarding electrical skills and knowledge in Uganda. In doing so I addressed the recruitment process by the employers, I examined the match between training at school and the labor market requirements the challenges faced by the graduates at work and the gaps between training institutions and the world of work. To ensure successful interviews, I consulted the target respondents beforehand and agreed on the time and informed them of what I expect from them so as to prepare them somewhat, as pointed out by Mugenda & Mugenda (1999: 83).

The interview was recorded on a voice recorder. This allowed me to avoid writing in the process, remain focused and to maintain the rapport. However, respondents found the method so taxing that it was difficult to encourage interviewees to undergo a prolonged interview. As a result, I had to visit them a number of times before completing the guide. On the other hand, respondents could not find time to fill the written questionnaires so it was only through continuous reminding that I managed to get data.

Observation

I used observation in many instances when I visited training institutions where I could use my eyes to physically see what was in the training workshops, the nature of building structures and other facilities used in training, and the nature of the relationships between learners and between workers and supervisors. I also managed to observe other aspects related to the study that I had overlooked at the preparation stage, as pointed out by Sekaran (2003: 253).

I adopted a direct observation method which Mikkelsen (2005: 347) defines as *watching* carefully, attentively and systematically objects, events, processes, relationships or people's behaviour and recording these observations. I enhanced the observation by the use of a camera for still photographs.

However, due to the theme and the programmed data collection process, some trainers would try to create an artificial situation in their workshops at the time of my visit to indicate what they assumed would make a better, if inaccurate, impression on the researcher.

2.5 Instruments

In relation to the methods of data collection and in addition to the common tools such as pens and pencils my research work bench contained the following tools:

Questionnaire

This was a form prepared and distributed to secure responses to certain questions. I used open ended questionnaires an indication that respondents were at liberty to frame and supply their own responses as pointed out by Sidhu (2007: 133). In addition, by nature, the population for the study was composed of busy people who did not have time for face-to-face interviews. Thus questionnaires were the best option. As a research instrument a questionnaire is less expensive compared to other methods (Amin, 2005: 270). However, filling them in is sometimes a burden on the respondents and some questionnaires are neither filled in nor returned. I used questionnaires for employed vocational education graduates and their employers since they could not get time for a face to face interview. The data that they provided was appropriate since they filled the questionnaires at their leisure.

Interview guide

As already mentioned, Kvale & Brinkmann (2009: 3) describe an interview as a conversation that has a structure and purpose. To provide the general structure of my interviews I followed semi-structured interview guide (see appendices iii-vi) due to need for flexibility and a casual manner in which the interview is conducted to encourage free expression (Sidhu, 2007: 148). This is also supported by (Wenden, 1982) who asserts that

a general interview guide allows for in-depth probing while permitting the interviewer to keep the interview within the parameters traced out by the aim of the study.

I supplemented the interview with a camera that I used to take still photographs and voice recorder for recording observation respondents' voices. I used interview guides to obtain data from the former UEB worker, VET trainers, members of the board of governors in VET institutions and the VET trainees. The data I obtained through my interaction with those people was rich to the research.

Testing of Instruments

Over the research instruments that is questionnaires and interview guides for all the categories of informants, I carried out a pilot study. The pilot study revealed to me that they needed editing to simplify the language that I had used. This was as a result of some pilot informants writing comments such as "what does this mean" addressing particular words. I managed to change this to suit their level especially the vocational graduates working as employees. I discovered that the interview guides were more appropriate for data collection, than the questionnaire. This is because I would clarify questions where an informant would fail to perceive it as intended.

2.6 Data Analysis

The research data collection methods I employed were dominated by documentary analysis, interviews and observations notes of fieldwork whose results were mainly in the form of texts which I descriptively presented and analyzed.

The data analysis process constituted transcription of data from the field, coding, validation, presentation, and reflection and discussion. This approach to analysis is supported by Creswell, (1994: 166) who argues that qualitative data analysis primarily entails classifying things, persons, and events and the properties which characterize them.

Transcription

I logically documented the data that I obtained from each informant following the research objectives. Later I grouped the transcribed data from the informant trainers and company representatives and presented it to them for validation so as to ascertain whether

the transcribed data corresponded to their views at the time of the interview. On my return I managed to rectify earlier errors and misunderstandings.

However, transcription is interpretive and can become hectic, particularly listening to the recorded voices from the interviews and having to logically arrange the content of these voices to match the research objectives. Gibbs (2007: 10) points out that transcriptions take a lot of time and effort to do and the process of transcription is interpretive, something that indicates validation is essential.

Coding

This study was comprised of three research objectives which gave birth to three research questions. The collected data were sought to answer the research questions to which a series of questions that constituted the interview guides and questionnaires were based. For this reason, the various responses corresponding to the interview guide and the questionnaires needed classification for easy analysis, hence coding.

Therefore after data transcription, I classified them into meaningful themes based on the objectives of the study. These themes emerged from the collected data and resulted in essential patterns which were paramount in the discussion and the analysis of the findings. This aspect of data analysis process is supported by Miles and Huberman (1994: 10-11) who point out that coding is a data reduction technique that involves selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcriptions for analysis. This enabled me to identify only what was appropriate for the study.

Data presentation

Also called data display, data presentation is an organized, compressed assembly of information that permits conclusion drawing and action. Miles and Huberman (1994: 11) point out that a display helps a researcher to clearly understand what is happening and do something; one must either make further analysis or take action based on personal understanding.

Upon completing the transcription of data, I coded in order to categorise the transcribed data into themes and subthemes. I presented the transcribed data following the subthemes and in some instances presented direct quotes from the informants.

Discussion

The discussion was based on personal reflection and interpretation of the findings. Gibbs (2007: 10) notes that transcription of data itself is interpretive. The interpretation was backed by personal reflections in the electrical engineering field coupled with the experience I acquired during the entire research process. Further, the discussion was enhanced by scholarly descriptions and analysis, some of which are reflected in the reviewed literature above.

CHAPTER THREE

The Nature of Vocational Education and Training Institutions in Uganda Today

3.0 Introduction

In this chapter I present, interpret and discuss the data which I obtained from the field and considered relevant to the nature of vocational education and training institutions in Uganda. I focused on the administrative and economic, academic and social aspects.

3.1 Administrative and Economic Aspects

The study found out that administratively the VET institutions in Uganda today are funded both by public (government) sources and private sources. Whether private or government owned and funded, these institutions are governed by government policies. According to the Government of Uganda Education Act of 2008 (Uganda 2008b), both the government and private VET institutions must have a board of governors. This board is responsible for all the affairs in a training institution and must execute its duties following the government policies that are in place at the time. The board is made up of three committees:

i. The Academic, Sports, Games and Recreation Committee;
ii. The Discipline and Public Relations Committee;
iii. The Finance, Development, Production and Self-help and Staff and Students Welfare Committee.

These sub-committees are assigned duties on behalf of the main board[15]. The implication of this is that since these committees are composed of stakeholders from outside the school community, they are in a better position to ensure proper relationship of the school with the world of work to which their graduates are to join on completion of their training. Unfortunately these committees do not seem to be aware of their duties in regard to improving the relationship between schooling and workplace.

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[15] For more information about this, see Government of Uganda (Pre-primary, Primary and Post-primary) Act, 2008.

Taking a look at the Finance, Development, Production and Self-help and Staff and Students' Welfare Committee on which the other committees are dependent, one finds that it is responsible for working out the budgetary estimates of the institution. It is expected to identify possible avenues from which the institutions can raise funds in addition to those received from the government for government aided institutions. For the private institutions, the committee performs the same task. Since the committee is in charge of finances, it is supposed to approve the budgetary estimates and expenditures as submitted by the principals of the VET institutions related to the establishments[16].

Based on the budgetary estimates for three consecutive previous years of three VET institutions[17] chosen out of the twelve I visited, I found out that they had no budgetary vote regarding strengthening of the relationship between the training institution and the world of work. When I asked three members of the Finance Committee from three different VET institutions why their budgetary estimates reflected no vote for linking the training institutions with the world of work I received the following responses:

1. The funds we have are insufficient to cater for such, even though it is important.[18] (Interview date: May, 2010)
2. We are not aware of that. We are the parents who make up the community.[19] (Interview date: May, 2010)
3. Parents are supposed to finance such activities[20] (Interview date: June, 2010)

These responses imply that in some VET institutions committee members are appointed without considering their levels of education and knowledge about VET. Furthermore, it is my observation that the foundation body has a strong influence on the committee members' appointments. For example at an institute in Masaka District for one to be a member one had to be influential in the church as the institution is church-founded.

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[16] Establishments in this context refer to guidelines governing the institutions on which expenditures are made.

[17] One institution is privately funded and two are government funded in Masaka District, Kayunga District and Kabale District.

[18] Response from a committee member of a technical institute in Masaka District

[19] Response from a committee member of technical institute in Kayunga District

[20] Response from a committee member of a technical institute in Kabale District

The implication of this is one's commitment to the church sometimes is considered more important than the experience in VET. In addition, the representative on the political side is the elected area leader who in most cases may not be aware of VET affairs.

To address issues of inadequate finance in VET institutions, the Government White Paper of 1992 (Uganda, 1992: 120) proposed that training institutions should have simple and manageable production units that should rely on school and the local community support. Unfortunately the government did not put anything on the ground to that effect. Therefore money generating projects did not take off in many institutions. Findings revealed that there are only a few institutions that are funded by donor agents such as the German Technical Services (GTZ) and the Japan International Cooperation Agency (JICA) that managed to establish money-generating projects. Of the twelve VET institutions I visited, only three had production units. One was in Masaka and two in Kampala District.

When I interviewed three trainers from these institutions and asked them whether the money generated by the production units benefited the institution, the responses were:

1. The project only benefits the principal and the church which is the foundation body[21]. (Interview date: June 2010)
2. The money is for the principal and the bursar. Even when you request a small item for the training the answer is always 'no money'[22]. (Interview date: July, 2010)
3. I do not know because I do not see any new equipment bought for the deparments.[23] (Interview date: August, 2010)

Although three of the ten VET institutions I visited had production units, the responses from the trainers about the success of such production units is an indication that all VET institutions depend of fees collected from the students since the income generating projects, as trainers felt, only benefit the admnistration. It is my observation that tuition fees in government-aided VET institutions must be approved by the Ministry of Education and Sports (MoES).

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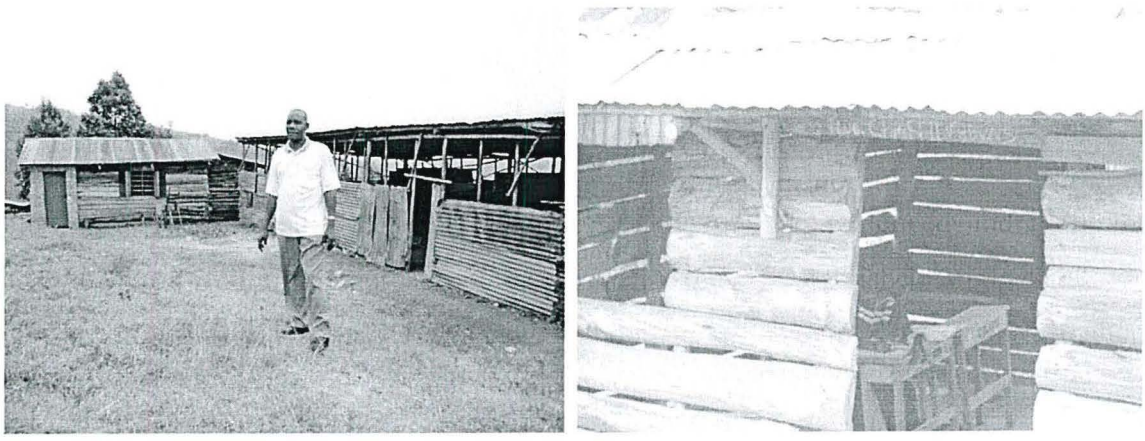
[21] Response from a trainer at a technical institute in Maska District
[22] Response from a trainer at vocational training institute in Kampala District
[23] Response from a trainer at vocational training institute in Kampala District

This suggests that these institutions cannot levy any other fees as is the case in the academic secondary schools where additional fees are paid by parents.

Consquently, many VET institutions are severely handicapped by inadequate basic requirements such as training workshops, lecture rooms, libraries, staff houses, staff offices and students' dormitories and even land on which they could operate. This is in line with the findings of Kohn et al (2006: 17) who point out that VET institutions are characterised by inadquate training infrastructure in terms of buildings/facilities, equipment, tools and training materials. It is also supported by the BTVET commissioner (Okinyal, 2006) who pointed out that BTVET institutions lack instructional material, and infrastructure like lecture rooms, teachers' houses, workshops, tools, equipment, books and libraries. VET is practically oriented and its success is dependent on tools, machines and equipment. If these are lacking in institutions then their graduates will not have the competencies required in the labour market.

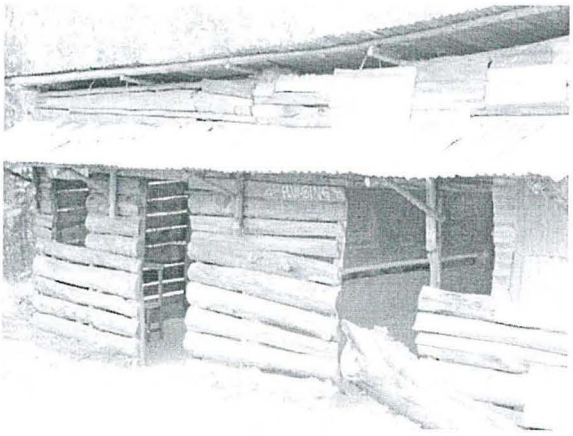
Findings further revealed that the challenges of having inexperienced and inefficient boards of governors are more pronounced in the newly-established VET institutions which have mushroomed and expanded without proper planning or adquate financial backing. This was evidenced at a publically funded vocational institution in Kabale District which is in a sorry state as shown in Figure 3 below.

Figure 2

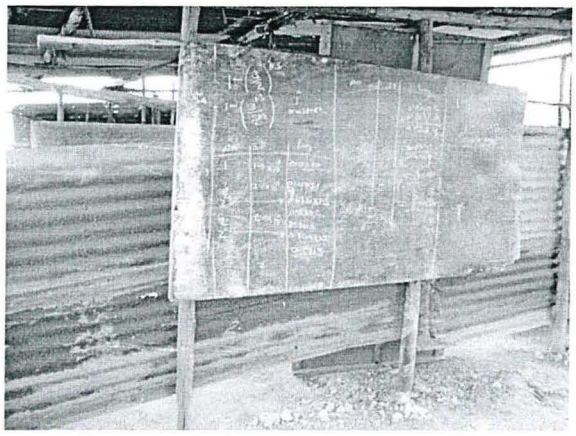


A. ***Ambience of the institution***

B. ***Student in a class revising***



C. Classromm for Plumbing



D. *Chalkboard as a major teaching aid in the electrical installation class*

Source: Author

Such a situation puts the VET institutions in a state of dispondency and anarchy unlike their counterparts in the academic secondary schools where parents' contributions are high. I could ask why contributions are not high in VET institutions. The answer is they cater to a less prospectus sector of society where parents can ill-afford to pay more for the cost of their children's VET eduaction.

Administratively, the everyday running of the institutions is vested in the hands of the head-teacher who is the principal. The principal is the academic and administrative head of the institution and is charged with the responsibility for the custody of all books, deeds, documents and all other property of the institution, both movable and immovable. The principal, who is the secretary to the board, executes his duties on behalf of the board of governors. The powers entrusted in the principal grant him full time attendance at the institution, to ensure its smooth operation. However, the reality in many institutions is that principals are only at these institutions for a few days in a week. When I interviewed trainers from four different VET institutions and asked why principals are rare at their stations I received the following responses:

1. Generally the pay is small compared with administrators in other areas[24]. (Interview date: May, 2010)

[24] Response from a trainer at a technical institute in Wakiso District

2. Our principal is from a bigger town, so all his time is doing his businesses there[25]. (Interview date: August, 2010)
3. There is a lot of corruption even if inspectors came during his absence he finds them in their offices and gives them money to silence them.[26](Interview date May, 2010)
4. The institution is poor. He also waits for his salary at the end of the month.[27] (Interview date: June, 2010)

The absence of principals from their actual educational institutions is an indication of a weak relationship between the training institutions and the community. This is because the principal is a pivot on which the school operates. He is expected to coordinate a number of activities in the institution on behalf of the board including receiving visitors. This I experienced during the time when I was seeking permission to conduct research in the institutions, I could reach the stations and could be turned away due to the absence of the principal.

However, the situation in the government-funded and the privately-funded VET institutions is different. Private institutions always have their principals at the stations unlike the government-funded institutions. In my opinion, the presence of principals at the stations in private institutions is stipulated in the terms of employment in the private sector coupled with supervision from the proprietors. Unlike private VET institutions, government-funded institutions are monitored from the headquarters. The district education officers who are expected to make impromptu visits to VET institutions as per the government policies, always inspect primary and secondary schools which have more financial resources. This trend allows the principals in VET to operate as they wish.

3.2 Academics

Inquiry into the Academic, Sports, Games and Recreation Committee revealed that the committee has interest only in students' performance at the end of a specified period and not how the students learn.

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[25] Response from a trainer at vocational training institute in Soroti District
[26] Response from a trainer at technical institute Kayunga District
[27] Response from a trainer at technical institute Rakai

The teaching and learning activities are left in the hands of the principal as already pointed out. The absence of the principal who is the immediate supervisor to the teaching staff is an indication that learners in most cases go untaught. This portrays an image which blocks the community from dealing with the institution. Furthermore, the attitude the society will develop over this will be negative.

I found out that the majority of teachers in VET institutions are not pedagogically trained. It is difficult, if not impossible for instructors without teacher training to perform to the VET level of expectations (usually regarding vocational theory and general knowledge) in the world of work.

They are mainly craftsmen with qualifications in VET trades such as brick-laying and concrete practice, carpentry and joinery, tailoring, electrical installation and motor vehicle technology. In this regard, one would expect the academic committee to ensure quality of the teaching staff. Unfortunately when I asked three members from three academic committees of three different VET institutions whether they analyze the qualifications of the teachers before recruitment, I received the following responses:

1. The teachers are posted to the institution by the Ministry of Education[28]. (Interview date: May, 2010)
2. It is the work of the principal to identify quality teachers[29]. (Interview date: June, 2010)
3. It is the chairman of the board of governors who recommends who is to work as a teacher[30]. (Interview date: June, 2010)

The above responses are an implication that the criteria used to select members of the committee leaves a lot to be desired. The poor relationship between the schools and the world of work leads to selection of people with less competence on committees and eventually renders the committee inefficient. In other words such committees tend to allow others to appoint VET teachers and do not control the criteria themselves as highlighted in the Uganda Association of Private Vocational Institutions' training needs

[28] Response from a board member of a government-funded institution.
[29] Response from a board member of a privately-funded institution.
[30] Response from a board member of a privately-funded institution.

assessment survey report (UGAPRIVI, 2004). It points out that some teachers in VET institutions use trial and error methods of teaching[31]. Unprofessional teaching methods and practices do not maximize preparation of students for the world of work. The issue of less competent teachers in VET institutions is also pointed out by Nalumansi et al (2002) in their study report on the need for modern business, technical and vocational education and training under the theme "Matching Social Needs and Economic Requirements of 2002"[32]. They revealed that VET institutions often have poorly trained staff (instructor and managers) an indicator of low academic levels.

3.3 Social aspect

Considering the Discipline and Public Relations Committee, I found that the Committee handles only matters pertaining to discipline. Public relations in terms of the relationship between school and the world of work are neglected. This suggests that VET institutions operate in isolation from the community around them and in isolation from the world of work. Although the duties of the Committee include establishing working relations with the community around them by involving students in community work as stated in the Government White Paper of 1992 under Basic Education for National Development (BEND)[33], the Committees together with the heads of institutions have responded to this requirement with deaf ears.

However, trainers revealed that during training, students are attached to industries at the end of each academic year, to practice what they learned during the course of study. In addition, they also conduct field excursions in the world of work. Thus, despite the committees' lack of community liaison work, the teachers tend to make sure that there is some collaboration between the world of work and training institutions. In view of the above it is important to pose the following questions:

i. Do students go where they are expected to train?

ii. Are the students supervised by their trainers from the training institutions?

iii. Are the trainers facilitated to do the supervisory work?

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[31] For more details about this see UGAPRIVI Training Needs Assessment Survey of 2004.

[32] For more details about this see A study on the need for mordern business, technical and vocational education and training (BTVET) under the theme Matching Social Needs and Economic Requirements of 2002.

[33] For details about this see The government White Paper of 1992

iv. Do students compile reports and submit to their institutions?

v. Are the reports analyzed by the trainers?

vi. Are the recommendations from the industrial training places considered?

The above questions are crucial in understanding the relationship between schools and the world of work. When I interviewed students about the above questions they pointed out (interview date: May and June, 2010):

- It is up to the individual to get the industrial training placement but in case of a failure you are placed by the lecturer.
- Sometimes our instructors come to supervise us but in case of failure, the supervisor at the workplace gives his assessment.
- We do not know how much but they are funded to do the exercise.
- At the university it is a must to write a report, but at the VET institutions some write, others do not.
- On handing in the report we do not receive marked copies back.
- Recommendations from workplaces do not matter unless students misbehaved while there.

The responses from the students show that the industrial training put forward by the trainers is not effective in narrowing the gap between the school and the world of work. If the recommendations from the workplaces about trainees are only considered in cases of misbehavior by trainees then it appears that even simple relationships of on-going cooperation are blocked.

I have seen from my experience as a technical teacher that the mode in which industrial training is conducted reveals loopholes. In the first place it is mainly the responsibility of the trainee to place him/herself in a workplace for the training, as pointed out by the students, although trainers indicated that they are responsible for the students' placements. In this respect, the trainees' choice in most cases, except for those following a family tradition in the trade does not reflect what is expected for an electrician; the students have not been guided and mentored in the nature of the electrician's career.

Coupled with the preceding reflection, the follow up by the trainers to ascertain the effectiveness of the training is inappropriately done.

Trainers are in most cases not well funded for the supervisory work due to the meager resources the institutions have and in some cases they leave their supervisory role to the immediate supervisors at the workplaces.

Apart from universities, the outcomes of the industrial training are not reflected anywhere on the trainees' assessment results, thus weakening the practice. This is pointed out by Egau (2002), who asserts that industrial training does not form part of the assessment process in some courses, and so many students do not give it much significance.

In situations where excursions are carried out, from my experience, they tend not to be serious learning ventures. Such tours tend to end up being outings for the enjoyment of both the trainers and the trainees. This is another indication that the Committee responsible leaves the liaison work to the trainers. Sometimes it is regarded as a source of income by the administration which costs the excursion and the Finance Committee does not intervene since the funding is on the shoulders of the parents.

Reflecting on the mini-research expeditions I engaged in during the time when I was pursuing my masters degree in vocational pedagogy 2009-2010, we, by comparison, were encouraged to work in small groups, to plan, formulate interview guides and converge afterwards to report as an entire class for a plenary and finally come up with one tool for use during the expedition. The preparation process is so important! It makes the learners conscious of what they are expected to do when on site in a fieldwork or practicum situation.

Turning to the situation in VET institutions, the efforts towards excursions vary from institution to institution. Lugujjo (cited in Egau, 2002: 20) pointed out that:

> While Uganda has generally recognized the need to adapt technical and vocational education and training in order to produce a proficient worker and make such education more responsive to the social and economic requirements of the country, it still does not have a coherent policy to link such education and training to industry. The existing linkages between institutions and industry are therefore very weak and are not streamlined.

Consequently, trainees find it a challenge to get industrial training placements in the world of work and to get employment since they are unfamiliar with industry and its associated activities.

Furthermore, VET institutions cannot get assistance from workplaces as regards equipment and yet it is my belief that there are many industries which would like to help training institutions, most especially in terms of equipment. But due to the poorly developed relationship, the public will continue to hold VET in low repute thereby reinforcing its low social profile.

From my experience, I observe industrial training and excursions as vital for VET since it is through these that learners are able to relate what they learn at school to what is in the world of work and later construct meaning out of it when it comes to real work life situations. Whenever this fails, a transfer problem crops up because the two parties are in isolation. Billett (2001: 20) points out that much of the transfer problem can be associated with the different ways that the knowledge learned is contextualized in schools and workplaces. Through my experience in the electrical trade, there are several items that are taught in VET schools as regards content which are very different from the reality of the workplace. For trainees to experience the reality there is need for exposure through industrial training and excursions. In this respect Dewey pointed out long ago that school must have a direct and organic relationship with production and society at large (Mjelde, 1997, p. 336). This suggests to me that learning takes place through interaction with society, that learning is deepened and expedited through social relations, including those between school and work.

Based on the findings under this chapter, I have observed that VET institutions in Uganda both public and private-funded are in a state that requires increased attention for the graduates to compete favorably in the labour market.

CHAPTER FOUR

Labour Market Demands for Electricians in Uganda

4.0 Introduction

In this chapter I present and analyze the skills and knowledge demanded of an electrician by the labour market. I focused on the employment sector, recruitment process and the match between training at school and the labour market requirements.

4.1 The Employment Sector

In Uganda employment falls into two categories, the public and the private sector.

An officer from public service had this to say:

> The public sector embraces all those jobs that are under the government control. They include government sectors under the control of the Public Service Commission such as, Government ministries, local governments and education service[34]. Furthermore, the public sector also includes all Government parastatals such as Uganda Revenue Authority, Uganda Telecommunication Limited, public universities, the National Water and Sewerage Corporation and the National Bureau of Statistics.
> On the other hand, the private sector includes all large, medium and small-scale non-governmental enterprises owned by individuals or groups of people; foreign or local nationals. It also includes self employment. (Interview date: October, 2010)

Reflecting on the above responses while keeping in mind that most of the government parastatals have been privatized, it is my observation that the private sector makes up the largest set of employment providers in Uganda and has done so since the liberalization of the economy. By the liberalization of the economy I refer to the fact that many private ventures are established while many others collapse, and also, privatization is a cornerstone of liberalization.

The act of establishing private ventures for self-employment is stressed out in the Government White Paper, (Uganda 1992: 113). However, the public sector still absorbs a large part of the country's workforce, despite its stagnation at job creation.

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[34] . For details about the Education Service see "The Scheme of Service for Teaching Personnel in the Uganda Education Service" (2008).

As already mentioned, the stagnation was reflected in President Museveni's address to the youth at the National Youth Day celebrations in Kamuli Town where he proposed to lower the retirement age from 60 years to 55 years in a bid to create employment[35]. Despite the few jobs in the public sector, many youth still yearn for employment in the public sector.

According to the National Development Plan of 2010/11- 2014/15, Uganda (2010b: 204) Uganda's total labour force was estimated at 10.9 million persons in 2006 and is projected to reach 19 million by 2015. These figures imply that the employment sectors must create various forms of employment if they are to absorb these numbers. Whether in public or private, the industrial sector which is the immediate employer is still under developed. This is pointed out in the National Development Plan Uganda (2010b: 205) that:

> The industrial sector is largely informal characterized by production of low quality goods; gross deficiencies in technology; lack of indigenous capacity; little attention to research; low development and innovation; lack of fundamental engineering industries and foundries necessary for the manufacture of tools and spare parts for use in different industries.

The state of the country's industrial sector justifies the president's plans to reduce the retirement age in a bid to create employement. The fact that the youth yearn for jobs in the public sector implies an understanding of work in a traditional way as pointed out by Egau[36] in her presentation to the students of the masters degree in vocational pedagogy of Kyambogo University.

She pointed out that work has two denotations, the traditional and the modern.

In the traditional sense, work is paid up employment with well defined employer-worker relationship. Under the modern sense, work is engagement in a productive activity to earn and survive an indication that the graduates must have the appropriate knowledge and skills for the work.

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[35] For details about this see *New Vision*, Thursday, 12 August 2010.

[36] . Egau Okou is a commissioner in charge of teacher education for vocational institutions at the MoES she facilitated the masters degree in vocational pedagogy class on "Analysis of the relevance of vocational education and training vis-a-vis the world of work".

However, the performance of the labour and employment sector has a number of constraints. Uganda (2010b: 206) points out one of the major constraints to the sector as being the inappropriate education and training system. It emphasizes that the current education system prepares graduates to become job-seekers rather than job-creators. Little emphasis is placed on entrepreneurship development, vocational training and skills development at all levels. Most Ugandan employees have inadequate technical and professional qualifications. It is my opinion that if the National Development Plan can point out that, then there is no doubt why employers have a general preference for expatriate personnel to locally trained Ugandans.

Ideally both the public and private sector institutions have established structures that are observed for recruitment. Parts of these are always reflected in newspaper advertisements showing the requirements needed by the employer. Unfortunately most of these advertisements include that work experience is a precondition for employment. This precondition has always puzzled me in my role as a trainer of fresh electricians who are eager to join the world of work. However, for an electrician there are stipulated duties that are expected of him/her which make up the occupation profile.

4.1.1 Occupational Profile

According to the 2006 occupational profile for an electrician in Uganda at levels 1 and 2, (UVQF, 2006) the following duties are pointed out:

i. Design and plan installation
ii. Repair machines and appliances
iii. Maintain electrical appliances, machines, equipment and installations
iv. Modify technology on equipment
v. Apply health and safety precautions
vi. Communicate
vii. Maintain records
viii. Conduct electrical installations

These skills and duties were reached after a thorough investigation of what the world of work expects of an electrician in Uganda. The panel was constituted of expert practitioners in the field of electrical work.

It is according to this profile that a graduate electrician is expected to be employed, and if he opts for self employment, those are the trained and specialized duties expected of him/her in the world of work. The question is, do the training institutions offer the mentioned skill?

While every legally established organization must observe the labour laws in Uganda, from personal experience there are many factors that govern the recruitment process. They include nepotism, religious and political affiliation, educational paper certificate qualifications, practical competence, and blood relationships.

4.2 Recruitment Process

The recruitment process in Uganda can be discussed in terms of area of specialty in a course, examination grades, practical competence, and the results of recruitment tests.

4.2.1 Area of Specialty in a Course

Like any other field in the world of work, the electrician seeking recruitment must have undergone some training which may be formal or informal. Through this training the required knowledge and skills are attained and they become familiar, one develops to the required competencies. The competencies enable an individual to use, apply and demonstrate a group of characteristics that are related: awareness, knowledge, skills and personal attitude. All are needed for the candidate to perform and complete tasks and duties successfully in his job.

In separate interviews with six employers from six different electrical companies in the Central, Eastern and Western regions of Uganda about the area of specialty in the electrical field to the recruitment of an electrician, I registered the following responses:

i. Area of specialization is mainly considered when there is need for a replacement in a particular section, say machine operator.
ii. Specialization is most essential. We employ specifically to keep up the progress of our work.

In the Uganda of today, when I reflect on the job advertisements for both the public and private sectors published in the various newspapers, paper academic qualifications are most emphasized in relation to other requirements.

This indicates that examination grades are paramount for one to acquire a job irrespective of other factors such as practical competence, this is contradicted in practice by many employers as reflected by their responses about the area of specialty and examination grades.

4.2.2 Grades of Examinations

Concerning examination grades, findings revealed that they are insignificant; it is the required paper qualifications that matter. In separate interviews with six employers from six different electrical companies in the Central, Eastern and Western regions of Uganda about the weight of examination grades in their recruitment process of electrician in employment, I registered the following views:

i. We have received many with high grades whom we lay off due to their failure to cope up with the work at our place. Grades are nothing.
ii. Grades simulate very little about ones' competencies in executing a task. We need people who can quickly develop skills and love of doing work.
iii. There is a lot of examination malpractice in the country at all levels, so the passing grades do not justify one's competence. Even the papers are forged and we have no mechanism for checking them. We need active competencies for performing tasks.
iv. Once the applicant submits academic documents, he is subjected to both oral and practical hands-on interviews. Grades do not matter.
v. The paper qualifications sometimes assist us in the remuneration, but seniority at work is more pronounced. The grades are possibly important for government jobs.
vi. What we need here is a person who is competent. We have many who learned on job and joined us because of competence.

(The interviews were conducted during the months of August and September, 2010)

Reflecting on the above responses, I observe that it is one's competence that is most considered by the employers at the time of recruitment. Competence at executing tasks in the field is, therefore, essential in terms of the demands made by the labour market for an electrician. Through my own experience of the nature of teaching and learning in most VET institutions, I see a high level of memorization and rote learning with the intent to pass examinations at the end of a specified period. The act of memorising encouraged by teachers signifies less learning as students are not allowed to consolidate their learning so that it is deepened and retained. This kind of learning is reflected by the 'banking' concept of education, in which the scope of action allowed to the students extends only as far as receiving, filling and storing the deposits (Freire, 1996: 53). Through that kind of learning, students cannot develop the workplace competence required.

Furthermore, from experience I have observed that the examinations to which learners in the field of electrical engineering are subjected, constitute a small fraction of the practical skills development required in the world of work. Therefore that could also be the reason as to why the employer informants were more concerned about competence.

On the other hand however, the malpractice[37] in the examination processes in Uganda also creates doubt about the grades obtained by students, rendering them less significant at recruitment.

When I interviewed three electricians from three of the six companies I surveyed, and asked how they managed to get their jobs, I received the following replies:

i. I applied and got shortlisted for interviews. Personally I have advanced craft in electrical installation but even graduates had been shortlisted. I got so scared when I learned of the graduates from Makerere in the race. But at the practical interview, we were required to wire a star-delta starter for a motor which I perfectly did and in a short time and the Makerere graduates failed, so I was given the job.

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[37] . http://www.uneb.ac.ug/index.php?Key=3&&link=ResearchReportsDetails. Retrieved 20th October, 2010

ii. Here, the company advertised the job of a maintenance technician and I applied with many other people. I only have a certificate of competence by the Directorate of Industrial Training (DIT). The interview was practical where we were required to demonstrate skills of rewinding a motor which skills I had. I perfectly demonstrated the skills using the given tools and material. I did not know what others did but I was given the job.

iii. This company basically deals with installations in domestic and commercial premises. I have craft certificates Parts II and III in electrical installation with an ordinary diploma in electrical engineering. When the company advertised I applied and they later invited me for the interview where we were required to wire a fluorescent lamp and an intermediate switch. These I had done at craft and I ably wired the two. I think the other competitors failed because it was me who was called for appointment and here I am working.

(The interviews were conducted during the months of August and September, 2010)

The responses from the electricians are evidence that most employers seem not to be bothered with examination grades. It is the practical competence that matters.

It is important to note that without examinations (written, oral and practical), students would not know their standard of knowledge and skills, they would not be aware of their own mistakes and misconceptions. However, the nature of examination is of great importance in judging the person's capability to execute a given task. Through experience as a teacher, electricians should be trained to acquire competencies in the various areas as identified in the occupational profile of an electrician by integrating the three components of vocational education as discussed below in Chapter Four of the thesis. With the responses from the employers, practicing electricians and taking note of both the informal and non-formal skills training, I wonder whether written examination grades should continue being the most pronounced yardstick compared to one's practical competence for gaining employment.

4.2.3 Practical Experience

The above findings acknowledged the practical hands-on experience as paramount for the recruitment of workers. In separate interviews with six employers from six different electrical companies about the significance of one's practical experience in the electrical field in their process of recruiting electrician in employment, I obtained the following views:

i. Practical experience is most essential in our recruitment process.
ii. To fresh graduates we are flexible but where we need work experience, practical experience is a must.
iii. Practical experience is paramount to us. Our work does not need a lot of book work. The engineers make computations and the electricians implement.
iv. It is very important but to fresh graduates we consider recommendations from industrial training places.
v. With electrical work, hands-on experience is essential for one to be employed; we need workers, not trainees.
vi. Practical experience is very vital to our work. We need people with skills and who are self driven.

(The interviews were conducted during the months of August and September, 2010)

In view of the above responses by the employers, it is evident that the occupational profile of an electrician in Uganda calls for hands-on skills in the trade. This should necessitate VET institutions in the country to address practical skills in addition to the theory and the general knowledge. The training process needs to have a level of apprenticeship for the trainees to acquire what is needed and demanded by the world of work. After all, it is at the work site that vocational theory and general knowledge are put into practice. This learning style is supported by Lennart Nilsson (cited in Mjelde, 2006: 52) who points out that what characterizes the development of vocational education in a school are its three components, namely vocational training, vocational theory and general knowledge. My experience in Uganda is that practical experience acquired while at school is a composite of the practical tasks in school workshops and laboratories as

well as the industrial trainings conducted during the recess terms. Although school workshops and laboratory practical learning simulate less of the real work situation, it is nonetheless essential in developing the trainees' practical skills and their attitude towards work. This is promoted by Mjelde (2006: 32) who points out that in school workshops one learns through one's own activity in a work situation and through interacting with others.

The aspect of interaction promotes empowering each other through teamwork which is the foundation for vocational learning. We have already seen that industrial training practicum is important to the employability of recent graduates.

Specifically, industrial training should be emphasized as highly important to the training of an electrician. Such practicum sessions prepare the trainee electrician for the work life and those associated challenges not provided for at school.

As already discussed in Chapter Two of the thesis, VET training institutions cannot provide all that is required in the world of work. They only provide basic training to become an electrician, but many of the skills needed to excel in an electrician's career require hands-on experience and ongoing skills development while at work. This is emphasized by the Australian researcher Stephen Billett (2001: 25) who asserts that routine workplace tasks provide the opportunities required for repeated performance that leads to compilation of procedures and forming associations among concepts. The associations developed in this context constitute an empowerment to an electrician in attempting various task situations in the field whether in an interview or real life work situation.

4.2.4 Recruitment Tests

As already noted from the responses of three practicing electricians it was mainly the practical tests in the recruitment process that won them jobs, I considered the employers' opinions about the recruitment tests as honest and to the point. In this respect, the findings revealed that recruitment tests are paramount in the recruitment process. In separate interviews with six employers from six different electrical companies about the importance of recruitment tests in the process of recruiting electricians for employment, I registered the following responses:

i. Where written tests are a core requirement for particular jobs, practical tests are essential. One may write and fail to exhibit the practice and the reverse is true.

ii. Whoever is working with us passed our tests and they are practical tests.

iii. In our work, it is necessary to have skills of interpreting working drawings and also making designs as well as hands-on skills. So depending on what we need, applicants are subjected to tests whose outcomes are paramount.

iv. Sometimes we administer oral interviews but practical tests are a must. Their results are essential for one to get the job.

v. Not all people can ably express themselves in a foreign language, English, in which interviews are normally conducted. So we treasure results of the practical tests.

vi. Our interest is one's competence in the field which is exhibited by results of practical tests.

(The interviews were conducted during the months of August and September, 2010)

The employers' responses about the recruitment tests are an indication that they are administered specifically to identify the best candidates for the job. The emphasis on practical tests is an implication that oral and written tests are on the second run when it comes to rating in the recruitment process.

However, from personal experience I have found that despite these employers' views it is not a common practice for the interview panels to conduct practical tests. What is common are the oral interviews whose results are always considered as a basis for one to get a job. Oral and written interviews are usually conducted in a secondary language, English, which has for long been a challenge to our learning in Africa. In view of this, I believe that people fail to satisfy the interview panels simply due to the foreign language hurdle. Language has always failed people when it comes to passing examinations, either due to the learners' failure to interpret questions or to express themselves adequately. Language is a known tool which aids learning; this is supported by Bjerknes (2002: 13) who points out that language is a tool for expressing ideas and asking questions, and

through language, concept and thinking are established. Vygotsky (1987), writing in the 1920s found that children's individual use of language, through social learning processes, hooked them into the wider language community such that their own "knowing" could be co-ordinated with the broader linguistic knowing of the society. Therefore whether it is a written or oral interview, as long as a foreign language is used the fact is that many will always fail to satisfy the interviewers who are steeped in the business culture of the foreign language.

On the other hand, if recruitment tests were administered in the native languages, and by means of word of mouth, the subjects would ably satisfy the interviewers.

4.3 Match between Training at School and the Labour Market Requirements

The study revealed that there is little correlation between the training and the occupational profile of an electrician. To have a clear understanding of this, I examined knowledge, skills and attitude.

4.3.1 Knowledge

In separate interviews with six practicing electricians from six different companies when I asked them about the correlation between the knowledge acquired at school and the labour market requirements, I registered the following responses:

i. I basically work with the refrigeration section. The knowledge I acquired from the institution was not an empowerment for identifying faults in a refrigeration system. I could not repair electrical components because at the institute we were given notes. However, I passed the examinations.[38]

ii. At the institution, the knowledge I acquired did not involve making of quotations based on required materials and labour, and servicing of machine components; that is the work I was assigned to do.[39]

iii. At the college I learned a lot as regards installation such as installing of conduits, wiring panels, installation of fixed equipment and testing of

[38] Electrician from a company dealing in Refrigeration and Air conditioning.
[39] Electrician from a company that deals in ceramics.

installations. Fortunately it is the work I was assigned and I am doing well.[40]

iv. I am a technical manager in charge of the factory. The knowledge I acquired at the technical institutions I attended was related to the work although at the beginning I needed a lot of guidance.[41]

v. My work is associated with the maintenance of electrical appliances and machines. We did a course on the Principles of Maintenance Engineering; however, the knowledge was not much related to the tasks I always encounter. Most things I learned from the job.[42]

vi. At school I acquired knowledge related to repair and maintenance of appliances and equipment; however, it was mainly simple domestic appliances and not industrial equipment that are always brought here.[43]

(The interviews were conducted during the months of August and September, 2010)

The responses from the practicing electricians are an indication that the knowledge the trainees acquire from training institutions cannot fully prepare an electrician to meet the requirements of an electrician in the world of work.

An electrician pointing out that he passed the examinations personifies the fact that what is regarded as theory in training institutions is what a learner is able to internalize and memorize and manages to reproduce in writing at the end of the day. This is different from applying the science and the art behind things. Furthermore, it is my observation that theoretical knowledge in VET institutions is all that is taught from the ordinary classroom and the trainees take down notes as they are given out by the teacher. To be meaningful to the learner it must be taught in connection with the practice. Nilsson (cited in Mjelde 2006: 52) points out that vocational theory concerns knowledge about materials, use of tools and equipment as well as technical drawing and interpretation of blueprints as encountered by the electrician in the field.

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[40] Electrician from construction company.
[41] Electrician from a plastic industry.
[42] Electrician from a service company.
[43] Electrician from a company dealing in general electrical work.

4.3.2 Skills and Attitude

Findings revealed that most VET institutions are unable to fully train the electricians by equipping them with skills and develop their attitude necessary for the world of work. In separate interviews with six practicing electricians as reflected in previous section, when I asked them whether there are skills and attitude development at training institutions in preparation for the world of work, I recorded the following responses:

i. What you find in training institutions are a few practical experiments for which institutions have the equipment. You cannot get all that is needed.

ii. At my former institution there was very little as regards practical skills. As a class we would wish to do a lot but there was no equipment.

iii. Our instructor used to take us out to building sites to work with him. We learned a lot and he could even pay us.

iv. Training institutions give very little as regards skills; lecturers do not even encourage us to do practical work. All the time there is the tension of examinations, some threaten us with statements like you will not get jobs. Most things I learned through self-initiative.

v. At the college there was no workshop for repair and maintenance, we never even tried to identify faults of any equipment but we were given notes about the different approaches to faults identification, so almost there were no practical skills. As students we had the love for the profession but we were not shown the fruits it has.

vi. We could do some minor repairs on items like flat irons, electric kettles but not things like motors and generators. The instructor was good. He used to encourage us but the institution lacked so many things.

(The interviews were conducted during the months of August and September, 2010)

The responses from the electricians are an indication that some trainers in VET institutions try their best to equip trainees with the possible skills and also to develop their attitudes to work while others seem to fail. However, it is my observation that training institutions have challenges of training equipment which may contribute to

failure of the trainers to do to the expectations. Nalumansi et al (2002) argue that effective BTVET is relatively expensive implying that even the government cannot afford to equip training institutions. On the other hand, some trainers may not have the skills in their areas of specialization; some may be frustrated due to the low remuneration levels, while for others, it is the associated working conditions that cause them to lose interest in their work.

While the responses from the electricians revealed less effective efforts by the institutions at preparing trainee electricians for the world of work, it is also very difficult for the training institutions to equip the trainees with all that is required.

Although training institutions are expected to simulate the world of work, it is extremely difficult to cater for everything. It is a collective responsibility of both the world of work and the training institution to prepare workers implying that at the point of curriculum development the world of work must be an actively involved. Without the participation of the world of work, institutions fail to train learners in the required knowledge and skills. Such a situation was pointed out in a report on the training needs assessment conducted by the Uganda Association of Private Vocational Institutions UGAPRIVI (2004: 7) which pointed out that:

> Little attention is given to organizing the teaching material, up grading of taught information, syllabi or curricula in VET training institutions and some of the information taught was found to be dating back to 30 years ago.

This attests to the fact that what students are trained in has little correlation with the requirements of the world of work, hence graduates must find the world of work challenging. From personal experience I observe that part of the present curriculum for electrical engineering is outdated and very little has been done by the National Curriculum Development Center (NCDC). This was pointed out in a report about training of instructors and managers for BTVET by Kohn et al (2006) that in BTVET institutions one finds mostly outdated curricula and training standards that do not sufficiently reflect the skill requirement in employment.

This signifies a mismatch between training at school and the labour market requirements.

This mismatch is also pointed out in a report about "Lifelong learning and training": a bridge to the future by UNESCO[44] (1999) where it was noted that it is the obsolete knowledge, skills and work attitude of some countries' labour forces which have led to growing unemployment.

During my research process I picked interest in how the electricians of long ago were trained to gain expertise when formal training institutions were very few.

To this effect I engaged in an interview with the late Magezi Livingstone who explained his experience:

> UEB had its training school at Njeru in Jinja District. It was established with the intention of training UEB workers only. Workers were trained in one specific field such as pole treatment, conductor and cable jointing, pole erecting, transformer rewinding, line construction and metering. At the school the trainers were the engineers and technicians of British origin who had experience in those sectors. At Njeru a qualifying trainee would be subjected to a trade test and be awarded a certificate of competence. Personally I joined the school as a trainee cadet in 1962 after senior three. After three months of training I was transferred to Kyambogo which was called Kampala Technical Institute at that time. Training at the institute was three years; there was less of practical learning than theory. However, during every recess term we used to work with UEB where we obtained a large percentage of practical skills. Further, the company would send some workers to countries like West Germany, Yugoslavia and Czechoslovakia for more training when ever chance arose.

(Conducted at his home in Kirumba village Masaka town in September 2010)

The above response is an indication that at Njeru Training School the curriculum was task-oriented with an approach which emphasized what a trainee needed to learn in order to perform to the standards required in employment. It seems this was a form of apprenticeship training, where learning is centered in a workplace. My opinion is based on the fact that during the early 1950s there was an upsurge in the industrial development in the country with a corresponding demand for technicians who had readily available jobs in those industries.

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[44] For details about this see UNESCO, Second International Congress on Technical and Vocational Education ; Main working document Seoul, Korea, 26-30 April 1999.

The demand for the technicians could not be met since there were only two government technical schools; one in Kampala and one in Mbale at Elgon in the country Okello, (2009: 24). From personal experience, the apprenticeship mode of learning enables the learner to master skills and the associated knowledge required for the job within a short time. Workplace learning, either on-the-job or simulated in schools, is described and supported by Mjelde (2006). Billett (2001: 22) points out that workshop learning is essential for performance at work since it strengthens the knowledge we use in responding to these tasks.

When I reflect on the tasks that I engaged in during my industrial training with UEB in 1999, I fully concur with the mature informant in regard to what used to happen at Njeru Training School. Though the system had changed by 1999, I went through all the training areas that he mentioned and it was during that training that I acquired skills in some of the mentioned areas. However, it is my belief that learning from a workplace is limited to particular tasks required by the job; therefore in case of changes in technology the workers would need a further intensive on-the-job training so as to keep abreast of changes.

At Njeru, having technicians and engineers as trainers was advantageous in the sense that trainees could acquire the expected knowledge and skills since these trainers were at the same time technical specialists working with UEB. The trade tests that trainee workers were subjected to at Njeru signified that UEB never recruited any worker without the required practical competences.

External training

The response from the late Magezi Livingstone indicated that UEB had an external training programme for its workers in addition to Njeru Training School. At Kampala Technical Institute, training was of the formal type with a specific duration of three years. It is my observation that the external training was meant to cater for the vocational theory which could not be provided at Njeru, an implication that vocational theory is essential in vocational education and training.

Furthermore, the mature informant indicating that skills acquisition was boosted by learning from the job during the recess terms is an implication that VET trainees today must also undergo such if they are to acquire the necessary skills.

Furthermore, findings revealed that UEB through the embassies of what were then West Germany, Yugoslavia and Czechoslovakia could secure scholarships for training of its staff in the various fields in these countries. Such opportunities were given to the already serving cadres who would prove more competent and resourceful to the board. This was intended to equip the company's workers with more skills and knowledge as well as to keep abreast of the changing technology in the world of work.

Based on personal experience, I have found through my work and my research that employers are interested in workers who are more of an asset than a liability. A worker must be resourceful in a number of ways that are conducive to the growth of the workplace and its productivity. They need a worker with analytical competencies, problem-solving ability, initiative, written and verbal communication skills, adaptability, planning and organizational skills, power of concentration, observation of rules and regulations as well as information and communication technologies (ICT) skills. In this regard, UNESCO (1999: 5) argues that:

> Newly emerging high technology jobs often require job seekers to have immediate 'plug-in and play' skills, cross disciplinary knowledge, better communication and interpersonal skills and the ability to work in teams. Other attributes such as motivation, creativity, self-adjustment, commitment, attention to detail and a sense of responsibility are critical to success and must take equal priority to functional skills in TVE.

Reflecting on the above, it is my observation that for VET institutions in Uganda to have a training that matches the labour market requirements, it is necessary to open their institutional gates and establish close links with the world of work.

CHAPTER FIVE

Formally Trained Electricians and the Labour Market

5.0 Introduction

In this chapter, I present and analyze the reasons given as to why Ugandan graduates from the formal vocational education institutions in the field of electrical engineering do not fully meet the training requirements for the actual labour market.

For a systematic interpretation and analysis, I categorized the findings into three themes, namely:

1. The relationship between school and the world of work;
2. trainers and the world of work;
3. gaps between training institutions and the world of work.

The data for this chapter were collected from employers in industries, lecturers from a public university in Kampala District, and instructors from the vocational training institutions, as well as employed VET graduates in the field of electrical engineering.

5.1 Relationship between School and the World of Work

The relationship between school and the world of work plays an important role in preparing students to meet the society's expectations after graduating from the VET institutions. This era is characterized by challenges of rapid technological change, globalization, economic uncertainty and diminishing resources. Therefore it is my submission that all stakeholders work together to develop policies, establish the institutional structures and redesign curricula. The resultant curricula would more adequately cater to the varied needs of all members of the society and encourage and facilitate the entry or re-entry of job-seekers into the world of work. Such a relationship is pointed out in a report by UNESCO (1999: 5) that advocated co-ordinated education and training systems involving schools, the informal sector and enterprises.

Such coordination needs to be established to ensure flexible access to technical and vocational education (TVE).

To understand this relationship there is a need at this point to analyse the following:

i. The electrician's curriculum in VET institutions of Uganda.

ii. The available technology at school and at workplaces.

5.1.1 Electricians' Curriculum in VET Institutions of Uganda

Concerning the electrician's curriculum in VET institutions in Uganda, I found that in many areas the curriculum does not reflect what is required in the world of work. The content taught is outdated and does not reflect the needs of the workplaces as already pointed out in Chapter Three of the thesis. For instance Uganda like the rest of the world is rapidly undergoing Information and Communication Technology (ICT) transformation but in most VET institutions it is still only a dream. Despite the efforts by the 1989 Education Policy Review Commission in advising that programs should be revised or updated where necessary to make them relevant and flexible to the country's needs very little has been done. Furthermore, the Government White Paper of 1992 emphasized the development of relevant new curricula to meet the labour requirements; I observe that not much has been done to this effect. My findings further revealed that most training institutions have continued to follow the examination syllabus with content that was left behind by the colonial government at the time of independence. The use of outdated curriculum was pointed out by Liang (2004: 40) where he stated that much of what is taught is a Ugandan adaptation of the old Oxford/London syllabuses of the 1950s. The needs of Uganda today are very different from needs of the Colonial Uganda of the 1950s. Therefore the electricians' curriculum should be reviewed and discussed in terms of development and implementation.

Curriculum development and review

Data obtained from the trainers about the curriculum for electricians' training in Uganda revealed divergent views. Views about the development of curriculum indicated that it is developed by the Uganda National Examinations Board (UNEB); the National Curriculum Development Center (NCDC); the training institutions, and training institutions in collaboration with the world of work.

In my opinion, some of the trainer informants identifying UNEB as a developer of curriculum shows that they lack knowledge of what curriculum is and who develops it. Kikomeko & Chebet (2009) point out that UNEB does not develop curriculum but it is part to the curriculum development process. Its role is to develop the assessment document (examination syllabus) and makes it available to the training institutions. Unfortunately, some trainers regard this assessment document as a curriculum in itself. This appears to be a common practice for pedagogically untrained trainers in VET institutions. They consider an examination syllabus is a curriculum.

The view that NCDC develops curriculum is correct according to the Government White Paper of 1992 (Uganda 1992: 114) which points out that NCDC was to start developing new and relevant curricula in the year1992/93. However, very little has been done to this effect. Findings from the expedition at NCDC in 2009 done by a group of masters students of vocational pedagogy from Kyambogo University of which I was part, revealed that NCDC has the responsibility of developing curriculum but it had just started working out a plan on how to go about the exercise, a confirmation that no curriculum has been developed for VET institutions. However, NCDC certifies curricula developed by individual institutions in the field of VET.

According to NCDC, curriculum must be developed in collaboration with the world of work. This is an indication of a demand-driven curriculum, a curriculum that caters for the needs of the labour requirements.

Findings revealed that of the twelve institutions visited, only two developed their curricula and did so in collaboration with the world of work. The institutions were Nakawa Vocational Training Institute (NVTI) and Kyambogo University (KYU). In an interview with the training coordinator at NVTI about the development of curriculum, I learned the following:

> Today we cannot follow the UNEB syllabus to train our boys. It is outdated. We need curriculum which addresses specific knowledge and skills needed in the world of work which UNEB does not provide for. Therefore we developed our curriculum for electricians through consultations with the world of work and harmonizing it with the

current examination syllabus provided by UNEB and the assessment packages provided by the directorate of industrial training[45].

(Interview date: October, 2010)

Based on my observations, I would argue that curriculum which is developed in consultation with the workplace personnel attracts many categories of people, including high school graduates, working adults, mid-career professionals, re-entry learners, as well as interest driven applicants. Development of curriculum that appears to such a broad spectrum is supported by Dolence (2003: 5) who points out that learner-centered curriculum addresses the learner's objectives unlike other curricula. From the point of view of Dolence, a learner joins a training institution with a mission to accomplish and ensures that he/she accomplishes it. Learners are not forced to learn but they are supported in their learning process and are self motivated. Baligidde (2009: 3) also supports the idea of developing curriculum based on learners' needs since motivation to learn in adults is internal. The implication here is that one decides to take up a course of study and pursues it out of one's own will and motivation.

The NCDC's policy recommends reviewing curriculum following four years of implementation. In this regard, findings revealed that only two of the twelve institutions surveyed actually review their curricula. These were Kyambogo University and Nakawa Vocational Training Institute.

The implication is that most VET training institutions follow curriculum that is outdated as already pointed out by Liang (2004: 40). When I asked trainers why they do not review the curricula followed in their institutions, I recorded the following responses:

i. We are following the UNEB syllabus; it is up to UNEB to review the curriculum.
ii. NCDC is responsible for reviewing the curriculum.

(The interviews were conducted between the months of May and September, 2010)

These responses were a confirmation that in most VET institutions what is taught is outdated.

[45] For more information about this see Nakawa Vocational Training Institute Prospectus 2008.

This is attributed to government's failure to implement recommendations by committees that it empowers to study the gaps in the present curriculum. This suggests a need for educating VET educators to keep their hand on the pulse of the labour market at all times.

Curriculum Implementation

When I asked six trainers from six different VET institutions whether they prepare schemes of work and lesson plans for effective teaching, I registered the following responses:

i. I prepare it and hand it to the principal.[46] (Interview date: June, 2010)

ii. That is practiced by student teachers. For the time I have taught I have everything in my head.[47] (Interview date: July, 2010)

iii. I prepare the scheme of work but no lesson plan.[48] (Interview date: July 2010)

iv. Schemes of work and lesson plans are for those trained to teach. I only handle practical work.[49] (Interview date: June, 2010)

v. Here we are forced to prepare the schemes but we have never been trained on how to make them and know their details.[50] (Interview date: August, 2010)

vi. Those preparations are for primary and secondary teachers and instructors for technical institutes but at college we do not.[51] (Interview date: July, 2010)

These findings revealed that the implementation of the curriculum is not harmonized. Trainers share the available total teaching load in the department and sometimes load allocation is done by the heads of departments without consultations with the concerned teachers. This is an indication that implementation is individual based where each individual sits alone and prepares what to teach and goes ahead to teach using the available resources.

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[46] Response by a trainer from a VET institution in Lira District
[47] Response by a trainer from a VET institution in Kampala District
[48] Response by a trainer from a VET institution in Kampala District
[49] Response by a trainer from a VET institution in Masaka District
[50] Response by a trainer from a VET institution in Soroti District
[51] Response by a trainer from a VET institution in Bushenyi District

As we have seen above, the majority of trainers in VET institutions are not pedagogically trained, therefore preparation of what to teach is haphazardly done.

The varied responses about the schemes of work and lesson plan preparation are an implication that teaching in the VET institutions is not harmonized as it is the case in the general academic institutions where schemes of work are compulsory. Furthermore, the responses truly indicate that most trainers in VET institutions are not pedagogically trained; as a result one finds inappropriate implementation of the curriculum. Personally, as a trained teacher and a trainer of teachers, I find that once a teacher fails to prepare in advance, sourcing of information becomes a challenge; identification of the required materials, equipment and other necessary resources is also a challenge after the fact, and this renders the teaching and learning process a failure.

Vocational education and training promote teamwork where trainers are expected to work as a team and organize the learning activities for effective learning. While teamwork is expected with trainers, their actual planning is individually done, which is contrary to the spirit of teamwork that is at the core of vocational education and vocational pedagogy. Working as a team results in appropriate plans and ensures to some extent that the teaching is conducted according to plan and the same spirit is inculcated in the learners. This is advocated by Mjelde (2006: 23) who asserts that learning takes place through activity and collaboration, a collaboration she calls the "magic" of workshop learning. Through collaboration, trainers continue learning from one another and this enriches their knowledge and skills of teaching related disciplines, of which electrical engineering is one.

On the subject of organizing learning activities in groups, together with students as advocated for by vocational pedagogy, I interviewed six trainers from six different VET institutions, I registered the following responses:

i. I promote individual learning because at the end each individual has to sit alone for UNEB examinations.[52] (Interview date: July, 2010)

ii. Group work encourages laziness, some students do not participate.[53] (Interview date: June, 2010)

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[52] A trainer from a VET institution in Kabale District

iii. I encourage group discussion, but I cannot prepare with them.[54] (Interview date: July 2010)

iv. I like it and I encourage my learners to use groups since it helps weak students to catch up.[55] (Interview date: July, 2010)

v. I cannot incorporate students in organizing what they are to learn. They get it from me when it is due. I use groups when material available for the practicals is not enough.[56] (Interview date: August, 2010)

vi. Our policy is learning in groups.[57] (Interview date: July, 2010)

Of the six responses, three reflected the use of group learning while the others emphasized individualism and competition. The idea of preparing the learning activities together with the learners seemed strange to almost all the trainers. This indicated that trainers have the belief that they are the sole dispensers of knowledge who do not believe that learners have previous experiences that they can bring forth in the planning of their learning.

When I asked the trainee electricians at Nakawa Vocational Training Institute whether they were taught in groups they had this to say:

> We are not many in class and our instructors find it easy when we are in groups. We are encouraged to do any practical work first in our groups with their help and later as individuals after learning the skills involved. (Interview date: October, 2010)

From the above response, it is observed that VET institutions which acknowledge group learning benefit both trainers and their trainees and develop a sense of teamwork that is promoted today in the world of work. Group learning at Nakawa Vocational Training Institute is shown in the Figure 5.1 below.

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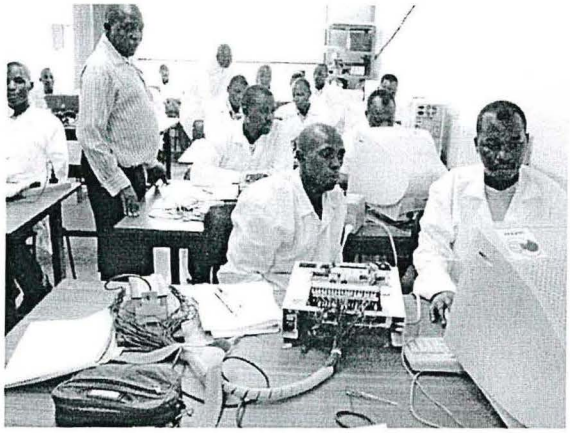
[53] A trainer form a VET institution in Masaka District
[54] A trainer from a VET institution in Kampala District
[55] A trainer from a VET institution in Bushenyi District
[56] A trainer from a VET institution in Soroti District
[57] A trainer from A VET institution in Kampala District

Figure 5.1



Students of Uganda Petroleum Institute Kigumba training at Nakawa Vocational Training Institute (Source: Author)

Through group learning individuals are empowered by one another and a free learning atmosphere is created in which exchange of ideas is reflected and new knowledge is created. This was emphasized by Mjelde in a lecture to the MVP students at Kyambogo University in 2009.[58]

Vocational education has three components as pointed out by Nilsson (cited in Mjelde, 2006: 81) namely:

i. Vocational training which reflects hands-on learning;
ii. Vocational theory which reflects the knowledge about tools, materials, and processes within each vocation;
iii. General knowledge that caters to disciplines such as mathematics, languages, law and entrepreneurship needed at workplaces.

Based on the principle of sharing the teaching load as already mentioned, my observations indicate that the three components of vocational education are taught in isolation as opposed to an integrated approach. Integrating the theory with the practice renders learners able to develop meaning out of them and be able to apply the associated knowledge and skills in their daily life. This approach to curriculum implementation is a vocational pedagogy concept promoted by Mjelde (2006: 79), who emphasises that the

[58] Mjelde is a professor from Norway. She lectured to the students of a masters degree in vocational pedagogy (MVP)at Kyambogo University about the dynamics of group learning

work of the mind is formed by the work of the hand, and that in the learning process one moves from action to thought, from local knowledge to broader conceptual thinking and back again into more mature action. This concept advocates the integration of the vocational education components while teaching. Such an approach is important if learners are to develop meaning out of what they learn.

The integration of the practice with theory is also recommended by UNESCO & ILO (2002:39) that:

> The theory and practice should form an integrated whole and be presented in a manner that motivates the learners. Experience in the laboratory, workshops or enterprises should be linked to mathematical and scientific foundations, and conversely, technical theory, as well as the mathematics and science underlying it, should be illustrated through their practical applications.

When I interviewed six electrician trainers from six different VET institutions about the frequency with which they involve their trainees in practical learning tasks as a reflection of vocational training, I registered the following responses:

i. We do not have practical work here simply because the principal does not buy materials. Whatever I teach is theory and I use diagrams.[59] (Interview date: (Interview date: June, 2010)

ii. My teaching is hinged on practical learning otherwise I will be doing nothing.[60] (Interview date: July, 2010)

iii. The department does not have equipment. I teach theory.[61] (Interview date: July, 2010)

iv. When materials are available I teach the practical. Otherwise it is mainly theory.[62] (Interview date: (Interview date: August, 2010)

v. That is the work of technicians. I assign them practical tasks for the technicians to handle.[63] (Interview date: July, 2010)

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[59] Trainer from a VET institution in Kayunga District
[60] Trainer from a VET institution in Kampala District
[61] Trainer from a VET institution in Kabale District
[62] Trainer from a VET institution in Soroti District
[63] Lecturer from a university in Kampala District

vi. We do not have materials and equipment for use.[64] (Interview date: August, 2010)

The above responses are an indication that hands-on training in most VET institutions in a myth. The absence of practical learning in vocational training is an indication that VET graduates from the formal training institution cannot compete favorably with those trained from the informal sectors whose learning is by doing.

The cause of the absence of usable and sufficient materials and training equipment was already discussed under the nature of VET institutions in Uganda in Chapter Two above which in my view is often characterized by inactive committees of the boards of governors and meager funding from the national coffers.

However, institutions like Nakawa Vocational Training Institute which have hands-on training (due to the assistance from the Japanese government through JICA) are a welcome exception. On the other hand, Kyambogo is a fully fledged university with a history of technical training and some tradition of learning by doing. In such circumstances hands-on training is expected since the necessary tools and materials are available. Learning by doing is promoted as a core of vocational education (Mjelde, 1997:337). The doing in this respect emphasizes that the trainees while in a workshop can consult with one another and the trainer goes from trainee to trainee. Here the trainer takes up a role of a mentor, like the master craftsman in the apprenticeship mode by giving guidance to the trainees on the actual steps in a work process.

Under such training conditions, a trainee electrician is expected to acquire the knowledge, skills and attitude required in the world of work. This is because in this process of learning, the trainees share previously acquired knowledge to develop new knowledge. The implication of such experiential learning is that the learner's experiences are a foundation for new knowledge. This is supported by Bjerknes (2002: 11) who points out that experiential learning reflects the perspective that the core of learning is a person's knowledge development rather than his/her knowledge acquisition.

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[64] Trainer from a VET institution in Arua District

However, based on personal experience in the training of electricians, I find that this kind of learning is uncommon owing to the fact that most VET institutions do not have training materials and equipment.

Furthermore, data gathered on the implementation of curriculum indicated that trainers were flexible in their teaching and tried to excite their learners in various ways. In addition, they instill curiosity which is fundamental to learning and also maintain the learners' interest as they prepare them for the world of work. When I asked six students from three different VET institutions about the trainers' relationships with the students in the teaching and learning process, they had the following responses:

i. They come to give us notes which we write down.[65]
ii. They always threaten us that we will fail the examinations.[66]
iii. They tell us to buy materials if we want to do the practicals.[67]
iv. They tell us that we shall not get the jobs.[68]
v. Trainers claim that their duty is to give us 25%, and the other 75% is up to us. We are supposed to do research and find out.[69]
vi. We have only one who comes with his equipment to teach us and we do practical work with him.[70]

(Interviews were conducted in the months of May and July, 2010 for the three institutions)

The responses from the students were contrary to what the trainers saw themselves actually doing as reflected on page 70 of this thesis. I attribute this to trainees being denied chance to assess their trainers on how they conduct the teaching. They are also denied the chance to assess their own learning experiences. After all, at the workplace both instructors and newcomers are employees neither category includes the bosses and there is usually room for a degree of democratic give-and-take between learners and

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[65] Students from three VET institutions in Kayunga, and Bushenyi Districts
[66] Students from there VET institutions in Kayunga, Kampala and Bushenyi Districts
[67] Students from a VET institution in Kayunga District
[68] Students from three VET institution in Bushenyi, Kayunga and Kampala Districts
[69] Students from a VET institution in Bushenyi District
[70] Students from a VET institution in Bushyenyi District

teachers. School by comparison is often much more hierarchical and dominated by the threat of written examinations.

Be this as it may, trainers having a close relationship with their learners empower the learner in the learning process and they also gain confidence in one another. Such a relationship elevates a teacher to the position of a mentor whose work is to empower and assist the learner in the learning process.

Inglar (2002: 25) points out that mentoring is an organized meeting between equal colleagues in an atmosphere of trust, support and challenge that has the overall aim of creating reflection and critical thinking. Based on personal experience acquired in the process of pursuing this masters degree program in Vocational Pedagogy at Kyambogo University, I found mentoring to be an empowerment in my learning. Mentoring further gives a learner the chance to test his/her views about the item under study. Mentoring is promoted by Baligidde (2009: 5) who states that an effective teacher of adult learners should always create rapport with the learners. I concur with Baligidde and would advocate that mentoring to be implemented in VET institutions since the VET learners are adults, or nearly adults, who need empowerment for their success in education and working life.

5.1.2 Technology at School and at Workplaces

The study found out that there is a wide gap between the technology used at school and that found in the world of work. To have a clear understanding of this, I examined training equipment in electrical workshops at school and the challenges faced by VET graduates on joining the world of work.

Training Equipment

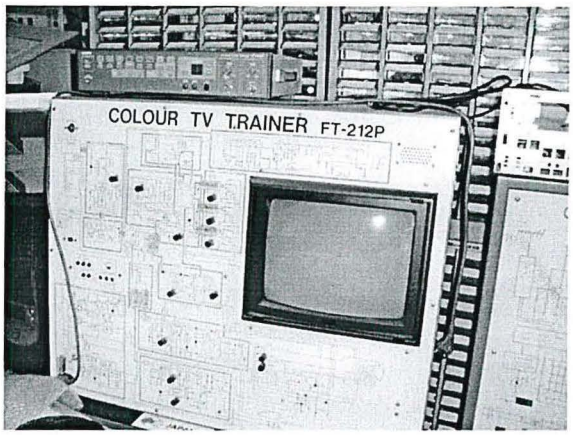
Under this subtheme, I found that the information regarding training equipment possessed by the electrical departments in VET institutions was divergent. The study found out that some institutions are equipped while others do not have the required materials and equipment. In this respect, a trainer from Nakawa Vocational Training Institute said, "*Our workshops are very well equipped and with the modern technology*".

This is reflected in Figure 5.2 showing the modern training equipment at Nakawa Vocational Training Institute.

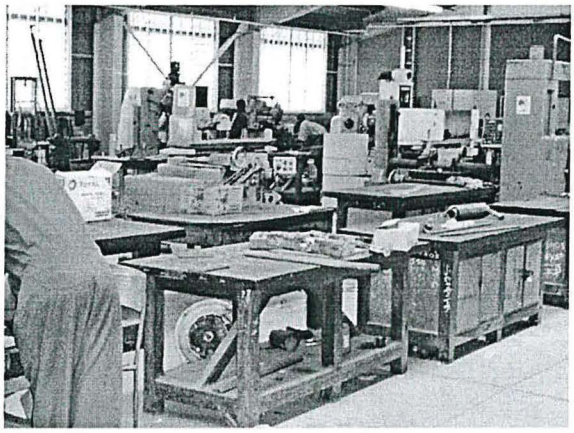
Figure 5.2

A. ***Well stocked store for electrical equipment.***

B. ***General workshop with modern technology.***



C. ***Modern equipment used for training***



D. ***Spacious training workshop***

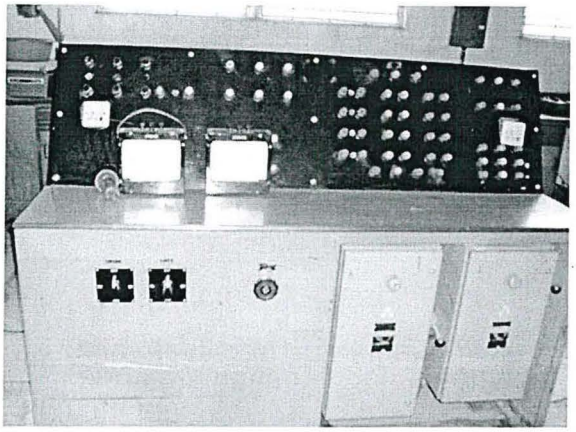
It is important to note that while Nakawa has new and modern technology this is a recent development[71]. Kyambogo, a fully fledged public university, is still operating with technology of the 1950s and without any additional equipment to cater for the increasing number of students.

[71] Nakawa Vocational Training Institute was established in 1972. It collapsed and was renovated in 1989 with the assistance of the government of Japan.

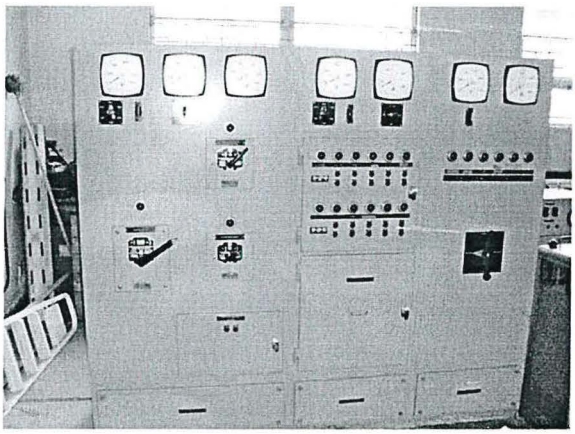
This is shown in Figure 5.3 below.

Figure 5.3

A. *A non spacious power laboratory*



B. *Out dated Galvanometers*



C. *Manually controlled power system*

I want to submit that where VET institutions are in possession of the modern electrical training equipment, and in sufficient numbers, is an indicator that trainees in such institutions are able to acquire hands-on skills in matters pertaining electrical related works and also develop confidence in the field of electrical engineering.

The availability and significance of tools and equipment in this respect is supported by Freire (1996: 14) who argues as follows:

> Once one is provided with the proper tools for a task, he/she can gradually perceive the personal and social reality as well as the contradictions in it and become conscious of his or her own perception of that reality, and deal critically with it.

Reflecting positively on Freire's statement I would argue that if one is provided with the necessary tools and materials, one can try out things until one is perfect in the executing the task and grasping the overall work process. Therefore, if electrical departments in VET institutions have the modern equipment, and if trainers are able to effectively use them, then graduates can be expected to meet the labour market requirements.

From my experience, despite the successful model that Nakawa presents, thanks to the Japan's contribution to VET education in Africa, the Government of Uganda maintains both a blind eye and a deaf ear with regard to actually funding VET. The aspect of funding is pointed out in the Government White Paper (Uganda 1992: 131) where the government agreed with the Education Policy Review Commission's report of 1989 that the tradition of underfunding technical and vocational education results from the low priority given to this type of education. However, very little has been done to date.

It is further noted by National Council for Higher Education (NCHE) (cited in Okello, 2009)[72] that:

> For more than fifty years, every education report in Uganda has emphasized the importance of technical education and vocational training in national development. But at a practical level, this area of higher education has never received the attention it deserves.

This is an indication that VET in Uganda is always given low priority and thus must limp along handicapped by underfunding.

I predict that even the great success of Nakawa will fail to sustain itself in terms of equipment the moment JICA ends its project in Uganda.

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[72] Okello Benson is a lecture at Kyambogo University. He reflected on this during his lecture to the students of MVP at Kyambogo about the Complexity and Contradictions in Vocational education in Uganda on the 7th October 2009.

The presence of modern equipment at Nakawa is an indication of appropriate hands-on training given to learners where the technology used is similar to that in the world of work.

On the other hand, the insufficient equipment in the training workshops across the country is a reflection of the emphasis on theoretical teaching in VET institutions in Uganda. This is contrary to the labour market requirements. Furthermore, the inappropriate technology found in VET institutions not only results into theoretical teaching but also fails to equip graduates even to copy simple technology and produce it. In most cases the electricians from the VET institutions can only try to repair what has been obtained from abroad despite the demands for the state-of-the-art of technical skills by the labour market.

Challenges at work

VET graduates in employment revealed that they found technology at workplaces different and more advanced from that at school. In this respect three employed VET graduates described their experiences as follows:

i. I had never seen some of the machines and their technical operations.[73]
ii. VET institutions don't train us in skills that are wanted in industry; they need to consult industry before they train[74].
iii. VET institutions teach different things compared to what is found in the world of work[75]

(Interviews were conducted in the months of August and September, 2010)

The views by the employed VET graduates are an indication that in many VET institutions in Uganda the technology used is nearly obsolete and the content taught needs updating.

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[73] Response by a VET graduate electrician working with a company dealing in plastic production
[74] Response by a VET graduate electrician working with a company dealing a construction company
[75] Response by a VET graduate electrician working with a servicing company

This results in half baked graduates. Nalumansi et al (cited in Okello, 2009)[76] state that:

> Most BTVET providers do not refine their students to the required current and future skills needs. Training contains too much theory and too little hands-on experience. Even practical skills are theoretically explained with gestures and pictures.

On analyzing the cause of the absence of equipment and material for the effective teaching of electricians, I found out that it is partly due to the meager finances the government allocates to the entire BTVET department from the national coffers. This is evidenced by the BTVET share of the total education recurrent budget shown in Table 5.1 below.

Table 5.1:

	2001/02 Estimate	**2002/03 Planned**	**2003/04 Planned**	**2004/05 Planned**	**2005/06 Planned**
Primary Education	65%	63%	65%	66%	66%
Secondary Education	16%	18%	18%	18%	17%
BTVET	4%	4%	4%	3%	3%
Tertiary (without tertiary BTVET/NTC)	12%	12%	11%	11%	11%
Others	3%	3%	2%	2%	2%
Total	100%	100%	100%	100%	100%

Primary, secondary, BTVET, tertiary shares of total education recurrent budget **Note:**

Source: Conference of Ministers of Education of the African Union (COMEDAF II+) 29-31 May 2007

The meager resources allocated to the BTVET department, is an indication that VET institutions cannot afford the necessary equipment, tools, material, and reference books for effective training. Therefore there is need for an increase on the financial support from the government for the BTVET department to secure the required equipment and materials if trainees are to achieve what the world of work expects of them. Indeed, there remains a chasm between the Ministry's intention and effects, regarding VET.

[76] For details refer to footnote number 72.

Categories of electricians

Findings from the VET graduates revealed that they had no knowledge of the different categories of electricians in the world of work. Data revealed there was no awareness of electricians falling into two categories: construction and maintenance electricians[77]. Beyond this, trainers indicated that information concerning these categories is obtained from the field during industrial training and field excursions. It is my opinion that such information should be given to trainees at their training institutions. This information enables them to decide where to concentrate in their learning process. This could be done as career guidance during the training so that the trainees are guided to make the right choices according to the specific learner's interest. Excursions in this regard simply boost the trainees' interest in the career, whenever they go out and observe various types of electricians executing their work in practice.

However, from my personal experience, such career guidance is nonexistent in the VET institutions in Uganda. Personally I did not know that there were categories of electricians. This Master thesis has been an eye opener for me to the categories and their associated specialties. Lack of information regarding the categories of electricians is an indication that the training offered is general and does not respond to the realities of the world of work. Furthermore, the general training characterized by lack of training equipment for electricians in VET institutions, has continued to produce graduates without hands-on skills. Consequently employers have preferred to take on those trained from the informal sector where training is always career/job-oriented.

This is supported by Okello (2009: 8) who pointed out:

> Those who learn through indigenous education are a challenge to the formal education system in Uganda. Actually the graduates from indigenous education trained from the craft centers tend to be better in practical skills than most of the University graduates in the country.

Therefore to minimize the challenges faced by VET graduates at the workplaces, there should be a close relationship between training institutions and the world of work.

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[77] http://www.vetsuccess.gov/resources/occupations/profile?id=243. Retrieved 14th March, 2010

5.2 Trainers and the World of Work

In this section I analyzed the competence of the electricians' trainers; ways by which they cope with the changing technology and also reflected on who should be a formal trainer for electricians in VET institutions.

In this regard I borrowed a leaf from the indigenous VET system in Uganda as a point of departure since it is hands-on oriented and teachers are the experienced skilled persons in their given fields.

In the indigenous VET system, trainers were skilled and knowledgeable persons in technical work Okello (2009: 5). They had acquired the knowledge and skills from the elders who had followed the same career. Although they never attended any formal skills-acquisition and pedagogy training, they were capable and on the basis of experience society always accredited them with trust and confidence in their work. For this reason they ably taught their learners with confidence through apprenticeship and their products were beneficial to the societies from which they originated.

5.2.1 Competence of Trainers

Findings revealed that the trainers of the electrical trade in VET institutions are competent in the teaching of the theoretical aspect of electrical engineering; however, they are less competent in administering practical learning.

When I asked six employed VET graduates from five VET institutions about the trainers' competence in teaching I recorded the following responses:

i. They do not have the expected skills.
ii. They only teach students to pass UNEB examinations. They are not practical.
iii. Most instructors and lecturers are not practically equipped.
iv. They are not skilled at all when related to the technology in industry.
v. They don't have skills of up-to-date technology.
vi. They have less as regards skills. They need more skills training.

(Interviews conducted during the months of August and September, 2010)

These responses are an indication that most VET trainers have less of hands-on skills. They mainly rely on theoretical teaching which does not prepare trainees for the world of work. While employed VET graduates reported that trainers do not have skills, but on the other hand the absence of tools and equipment and the necessary materials in these institutions also have an impact on the trainers' failure to acquire skills and demonstrate their skills to learners.

On the same issue of the trainers' competence, when I asked seven trainers from seven different institutions about the instructors' competence as regard skills training I registered the following responses:

i. Need upgrading them in skills due to changing technology.
ii. Able to impart skills but lack materials and training facilities.
iii. Not very good.
iv. It is those who fail in the world of work who train others.
v. They need to be re-trained in order for them to meet the skills of today.
vi. They teach students to pass.
vii. They begin training before attaining the expected skills of a VET trainer.

(The seven responses were obtained from trainers in VET institutions in the districts of Kampala, Wakiso, Kabale and Lira during the months of May and June, 2010)

These responses were in agreement with what was pointed out by the employed VET graduates. It is likely that VET trainers lack a degree of skills competence.

While the importance of the school-to-work transition is stressed in institutions of learning, I observe a lack of realistic policy linking VET education to the labor market. If there were a statute that demanded trainees have part of their training at workplaces, then the school-to-work transition would be realized.

However, VET graduates expressed their appreciation of the theory obtained at school. They have found it of use in a number of areas, except for the fact that it is not attached to the practice.

When I asked six employed VET graduates the extent to which the knowledge they acquired from their former training institutions is relevant to the world of work, the following responses were registered as indicated in Table 5.2 below:

Table 5.2

Very large extent	Large extent	Limited extent
3	2	1

Responses from six employed VET graduates about the relevance of the knowledge they acquired at school to the world of work

The above responses are an indication that the theoretical knowledge in VET institutions is relevant but there is a need to deepen it with practical work. The work of an electrician has very little to do with theories that are independent of electrical practices. Personally I acquired skills from workshops and at building sites where I learned through physical participation, by using the tools and materials under supervision and collaborating with others. During that time I was also able to relate the theory I learned at college to the practical tasks and with time I gained mastery. Such physical participation is advocated by Lave & Wenger (2007: 15) who argue that learning is a process that takes place in a participation framework, in a community of "practitioners", not in an individual mind. Therefore the absence of hands-on skills in training renders the VET electrician graduates incompetent in the world of work, which is actually a community of practitioners.

5.2.2 Trainers and the Changing Technology

In this respect my interest was to establish how trainers in VET institutions keep abreast of the changing technology so as to be effective in their training. From the interview with seven trainers from six VET institutions about how they update themselves with the changing technology, the findings were:

i. Further training, attending short courses in related field and seminars.
ii. Reading journals and searching for new technology on the internet.
iii. I use the internet, since I am still in the industry. I always meet new challenges in technology. I also read machine manuals.
iv. Through research.

v. Research internet.

vi. Apprenticeship during holidays.

vii. Going for refresher courses, reading newspapers and internet.

(Interviews were conducted between the period; May to August, 2010)

From the above responses, it is revealed that VET trainers have varied ways of updating themselves. It is my observation that internet use is limited to very few VET institutions since this technology is still very new in Uganda and the skills involved may not be possessed by the trainers. Furthermore, accessing journals is a myth to very many VET institutions. Only a very few institutions like the universities can manage to access journals. Having refresher courses is dependent on the institutions' economic standing because they involve a lot of funds which are not available in VET institutions.

However, although internet is now regarded a source of information, it is my belief that technical work requires physical observation and participation in operation of the new technology[78] if one is to pick up the skills involved. For this matter, it is my wish that trainers have the opportunity for refresher courses in skills training to keep abreast of technology.

On the other hand, it is my observation that keeping abreast of technology and acquiring new practical skills is a personal initiative. Personally I endeavor to keep practicing most especially in house wiring and trouble-shooting of machines as a means to keep updated. In addition I keep in touch with colleagues working with industry as a way of self-upgrading regarding new technology.

5.2.3 Recruitment of VET trainers

Findings from all the informants in this research revealed that a VET trainer should be one with experience in industrial work and where possible be attached to industry.
From reading about instructors in Norway, I found out that industrial experience is a prerequisite for joining VET instructor training.

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[78] I am aware that computer generated workshops, YouTube videos and other internet developments allow for virtual production, but again, this does not plunge the learner directly into physical work

This is pointed out by Bjerknes & Frøyland (2004: 7-8) where they emphasize that in Norway one who is interested in joining practical pedagogical education must have four years of occupational experience. On the other hand, anybody who wishes to join vocational teacher education must have two years of relevant vocational work experience. This is an indication that industrial experience is very significant to a trainer because it is from working with industry that one is exposed to a variety of technology. I concur with Bjerknes and Frøyland's view in the sense that it is by this experience a person can easily transfer knowledge and skills to teaching others.

However, when one enters instructor training in Uganda, one does not experience a reflection of industrial work experience. The prerequisite is a minimum requirement of Advanced Craft Part III in electrical installation. Although findings indicated that some trainers had worked with industry, details of their work experience specified that only three had worked in industries that dealt with electrical related works for at least three years. The majority of electrician trainers in VET institutions base their teaching on theories of the technology they learned and read about since they have never touched it with their hands.

Despite the scheme of service for teaching personnel in the Uganda education service of June 2008[79] (Uganda 2008c) indicating that every lecturer or instructor must have acquired pedagogical training, the recent recruitment[80] exercise of instructors by the Education Service Commission did not make pedagogical training mandatory.

On the other hand, trainers at universities are recruited based on the performance reflected in one's academic certificates, with no consideration of one's practical competence. The lack of relevant industrial work experience results into gaps within the teaching learning process especially in areas which are not catered for by the curriculum in use.

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[79] For more information about this see The Scheme of Service for Teaching Personnel in the Uganda Education Service

[80] The recruitment by the Education Service Commission in the years 2009 and 2010 indicated pedagogy training as an added advantage but not a condition, implying any trades man was eligible to being recruited in service.

5.3 Gaps between training institution and the world of work

Gaps

Vocational education and training in Uganda, on the basis of my experience, is fragmented, disjointed and the quality of training differs from institution to institution. This state of affairs renders the VET system incapable of meeting the requirements of the labour market.

When I interviewed six employed VET graduates who had trained at five different VET institutions, they reported on their skills as follows:

i. Preparing lab experiments and maintenance of equipment. Training institutions did not provide for this.

ii. Computer skills, specialized power system operation. There were no training facilities to learn these skills.

iii. Interpretation of drawn electrical plans, fixing conduits in slabs, handling three-phase installation. The school did not have a three-phase system and it is not emphasized at school.

iv. Transformer protection schemes. There were no instructional materials at the institution.

v. Pole climbing, hole digging. Institutions do not teach these skills.

vi. Motor rewinding. The training institution did not provide for it.

(Interviews conducted during the months of August and September, 2010)

The above responses revealed a number of gaps in the training in relation to the workplace requirements. On analyzing those areas I realized that there is a need to revise the current curriculum at VET institutions, as already discussed on pages 62-64 of this thesis. Furthermore, it requires new policies and time for the institutions to equip a trainee with knowledge and skills in the identified areas. The observable situation today is underpinned by the absence of trainers with those skills and the low magnitude of collaboration between training institutions and the workplaces.

However, when I asked the same employed VET graduates how they managed to bridge the gaps, similar responses were obtained:

i. Developed acquaintance with persons who were more knowledgeable at the workplace, also sought help from the supervisor.
ii. Was taken in for further training by the company.
iii. Learned on the job.

In light of the above VET graduates responses, the current nature of training in formal VET institutions need to incorporate an element of apprenticeship, where trainees would acquire knowledge and skills required by the world of work since it is not very easy for a VET institution to have all the necessary tools and equipment as well as the skilled personnel.

In support of this Mjelde (1993: 38) points out:

> In vocational education, school and the world of work are two sides of the same coin and are qualitatively different from the traditional formal school system which separates school from work.

Reflecting upon Mjelde's observation based on VET conditions in Norway where there is close cooperation between government, employee organizations and employers, I argue for the inclusion of apprenticeship in the training of electricians as it will bridge the gaps between school and the world of work.

On the other hand however, it is my belief that if institutions were provided with all that they require for training electricians, still trainees are likely not to grasp the skills since institutional learning is deeply examination-oriented. Trainers struggle to complete the syllabus. There is hardly any time for them to repeat tasks to improve the learners' mastery.

Billett (2001: 25) points out that in educational institutions students are often engaged in mainly non-routine activities without opportunities to practice and reinforce. He indicates that learning tasks must be repeated over and over for learning to take root.

Although the knowledge and skills gaps can be narrowed through apprenticeship, still high level collaboration between workplaces and training institutions is essential. Training institutions should not wait for industrial training but should introduce regular fieldwork practicums as they help in putting the theory learned into application, and from this application, return to theory again at a deeper and broader level.

CHAPTER SIX

Summary, Conclusions and Recommendations

6.0 Introduction

In this chapter the summary, conclusions and recommendations are based on the discussions of the three objectives at the foundation of the study. The objectives were:

- To examine nature of vocational education and training institutions in Uganda today.
- To investigate the labour market requirements regarding electrical skills and knowledge in Uganda.
- To determine whether electricians from Uganda's formal vocational education institutions meet the labour market requirements.

6.1 Summary of findings and discussion

6.1.1 Nature of Vocational Education and Training Institution in Uganda today

As I gathered and analyzed my data I realized that the governing bodies that are meant to ensure the smooth running of institutions are themselves not up to expectation. Board member selection is based on affiliations of the foundation bodies and on politics considerations. Knowledge about VET is not considered as part of the competency of board members and the level of education is also ignored. The board is in the hands of the school principal who acts as its secretary. It is his responsibility to summon members for the meetings and should there be a member with whom he disagrees, that member will receive the invitation late and fail to attend meetings. Subcommittee members are seldom if ever informed of their roles and committees turn out to be non-functional.

6.1.2 Labour Market Requirements for an Electrician in Uganda

Concerning the labour market requirements for an electrician in Uganda I considered the employment sectors, the recruitment process, and the match between training at school and the labour market requirements.

For the employment sectors, the findings indicated that in Uganda as in other countries, employment is both in the public and the private sectors. Following the liberalization of the economy, the private sector gained an upper hand in absorbing the labour force. The public sector has stagnated without any indication of how it proposes to deal with the high unemployment graduate youths. In spite of the inability of the public sector to offer employment, graduates have continued to regard work from the perspective of paid employment. They want jobs in the public sector where they expect to work until retirement.

Under the recruitment process the findings indicated that the area of specialization in the electrical engineering field is not paramount. What matters is one having acquired basic training. Employers give training to their recruits in the form of induction courses since VET institutions are infamous for not offering sufficient training. As regards the grades and academic paper qualifications, it was indicated that examination grades are ignored. The backing for this is the malpractice which characterizes the examination system in Uganda. Coupled with the malpractice, is the level of memorization by students to reproduce facts given by the teachers at the time of examination hence rendering the grades insignificant in the world of competitive production. Furthermore, the data indicated that hands-on competence in the related field is crucial to gaining permanent employment. This was reflected in the responses of practicing electricians when I asked them how they were recruited to their jobs.

For the match between training institutions and the labour market requirements, the data indicated that there is little correlation between the training and the occupational profile of an electrician.

Training institutions offer less of what is required, and what is offered is mainly theory based on outdated curriculum. In this respect I elicited data of VET, that is, knowledge, skills and attitude.

About knowledge, the data indicated that the knowledge acquired by trainees from training institutions does not fully prepare one to meet the requirements of an electrician in the world of work.

As regards the skills and attitudes, the findings showed that most VET institutions are unable to fully train the electricians and equip them with skills and develop their attitude necessary for the world of work. They simply lack the training equipment and material necessary.

Although training institutions are expected to simulate the world of work it is extremely difficult to cater for everything that is required. Ultimately, VET is a collective responsibility of both the world of work and the training institution. Together they have to prepare workers for the labour market. Data suggest that the world of work should be an active participant when it comes to developing curriculum. Otherwise the mismatch between training at school and the labour market requirements will further deepen. This mismatch is also emphasized in a report about "Lifelong Learning and Training" by UNESCO (1999) where it was noted that the obsolete knowledge, skills and work attitude in the labour force in some countries have led to growing unemployment.

6.1.3 Formally Trained Electricians and the Labour Market

Under the third objective, I considered the relationship between school and the world of work; between trainers and the world of work and the gaps between training institutions and the world of work.

I broke down the relationship between school and the world of work into three sub-themes: the electrician's curriculum in VET institutions of Uganda, and the technology at school and at workplaces.

The data on the curriculum of electricians in Uganda indicated that the curriculum does not reflect current conditions in the world of work.

The content taught is outdated and does not reflect the needs of the workplaces. While the Government White Paper of 1992 recommended the reviewing of the curriculum, very little has been done to this effect. The data showed that curriculum that is in use, most especially in government-funded institutions and those that are privately owned where trainees are subjected to UNEB examinations, is an adaptation by Uganda of the old Oxford/London syllabuses of the 1950s. The needs of Uganda today are very different from the needs of Colonial Uganda of the 1950s.

My findings show that only the university and Nakawa Vocational Training Institute which have developed curricula that are more up to-date and different from that of the 1950s. The organization responsible for the development of curriculum, the NCDC, is poorly funded and not staffed to do the work. Some trainers do not differentiate between a curriculum and an examination syllabus. The findings indicate that they do not have a deep and far-reading grasp of what they teach.

The data showed that the mode of curriculum implementation is basically left to the individual trainers. There is minimal teamwork. Students are not involved in the planning of the learning activities or in the assessment of performance. This indicates that trainers have the belief that they are the only dispensers of knowledge. They do not seem to believe that learners can construct their own meaningful knowledge. However, the majority of trainers encouraged group learning, or workshop learning which is fundamental to vocational pedagogy. Findings showed that the training is dominated by theoretical teaching with a minimum amount of hands-on practice. The majority of institutions do not have training equipment and materials for the learners to practice what is in the world of work. The three components of vocational education are taught in isolation from one another.

The technology at school was found very different from that found in the world of work. With the exception of Nakawa Vocational Training Institute, the rest of the surveyed institutions were found to possess outdated technology; some did not have any equipment at all. This results in a highly theoretical nature of teaching that further incapacitates the graduates from these institutions when faced by the world of work.

Concerning the trainers and the world of work, I reflected on the data regarding the trainers' competence, how the trainers cope with the changing technology and the recruitment of people for training as VET trainers.

The data clearly indicated that the trainers are theoretically competent in their form of delivery. However, the aspect of hands-on practice is marginalized by the majority of trainers due to the absence of training equipment and material.

As regards keeping abreast of the changing technology, the data indicated that basically trainers have no means of keeping up with technical developments in their field of specialty. Trainers reported that they relied on the internet and read journals to keep abreast of vocational development. But this was not sufficient to keep abreast with technology, except perhaps conceptually. Apart from Nakawa Vocational Training Institute, the rest of the surveyed institutions shifted this task onto the shoulders of the individual trainers.

In terms of the recruitment of individuals as VET trainers, data indicated that in Uganda the minimum requirement for one to join instructor training is an Advanced Craft Certificate in a related VET field. Industrial work experience is not considered a qualification. Examination results are so important that if one did not have any hands-on experience in the world of work, one could still end up teaching the very theory one was given by past teachers.

As for VET in universities, the best performers are those recruited as lecturers, whether they have the practical skills or not. Today in Uganda, the Education Service Commission recruits tradesmen without any pedagogical training to work as VET trainers. It is my assessment that this scenario has continued to undermine the VET system.

Concerning the gaps between training institutions and the world of work, the data indicated that there is an urgent need to revise the current curriculum if trainee electricians in formal VET institutions are to compete favorably in the world of work. I further found out that there is a need to integrate apprenticeship in the VET training in Uganda today if the gap between the school and the world of work is to be narrowed. Furthermore, learning which is examination-oriented has continued to widen the gap in the sense that trainers only focus on examination results and not on skills acquired that might be essential in the world of work. Finally the data indicated that there is a need for high level collaboration between workplaces and training institutions.

6.2 Conclusions

6.2.1 Nature of VET Institutions in Uganda today

Most VET institutions are characterized by a weak management system. The governing board is driven by the head of the institution who is its secretary. Board members for most VET institutions do seem not to know their roles since they are not sensitized or trained for their role and cannot serve as expected. The weak management is closely related to the low status and low value accorded to vocational education. If the profile of vocational education can be raised the management too can be strengthened.

6.2.2 Labour Market Requirements for an Electrician in Uganda

Employment in Uganda is dominated by the private sector, and without an employment policy in the country, employers have varied policies on which to base their recruitment of workers.

In employing electricians, the area of electrical specialty among recent graduates is not a major requirement since employers know the limitations of the training institutions. However, for cases where an employer is in need of an electrician with particular qualities, the area of specialty is considered and the graduates from the informal sector are always preferred to those who are graduates of formal training. What matters in the recruitment process is one's competence and not one's examination grades as indicated on certificates. However, paper qualifications are sometimes considered in working out the remunerations although job titles are often the most important criterion in this regard.

There is little correlation between the training at school and the occupational profile of an electrician. Training at school offers less of what is stipulated in the profile. The training of electricians in formal VET institutions in Uganda is general and theory based in nature and does not fully match with the requirements of the labour market. However, for a long time graduates from these institutions have been employed on the basis of having undergone general electrician's training. Today, it is the limited exposure to industrial placement during the course of studies that hampers the absorption of electrician graduates in employment.

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Appendices

Appendix I: Employers' survey questionnaire

Interview guide #.....

Introduction

The purpose of this study is to establish the relevance of Uganda's formal vocational education in the field of electrical engineering to the labour market requirements. The information obtained will be used in the curriculum review process to improve on the training so as to suit labour market demands and requirements. All information collected from you will be ***strictly kept confidential***.

SECTION A – PARTICULARS OF THE RESPONDENT

Name of Organization.....

Name of Key Informant

.....

(Optional)

Age 21-30 ☐ 31-40 ☐ 41-50 ☐ Over 50 ☐

Highest level of education.....

Profession.....

....

Ethnicity.....

....

Title of Key Informant

.....

SECTION B. RECRUITMENT PROCESS FOR GRADUATES

B1 In what sector would you classify the activities of this organization?

B2. How many persons are employed by this organization?

B3 Give a breakdown of the categories of vocational graduates (in terms of job categories e.g. Electricians, Supervisors, Technicians etc) in the electrical engineering field that are employed by this organization.

Vocational institution graduates		
Disciplines/Job category	Number	
	Males	Females

B4 Has the organization recruited any fresh graduates in the electrical engineering field from our institutions in the last two years?

Yes ☐ No ☐

B5 If the answer in A4 is yes, how many graduates did the organization recruit?

B6 What kind of procedure does the company/organization use to recruit vocational graduate employees? (Multiple reply possible)

A. Advertisements of vacancies in newspapers ☐
B. Internal advertisements of vacancies ☐
C. Direct application of graduates ☐
D. Placement service unit at the training institutions ☐
E. Personal contacts to graduates ☐
F. Private employment agencies ☐
G. Binding students by scholarships ☐
H. Others

(specify).....

B7 How important is the area of specialty in recruiting.....

B8 What do you have to say about the grades in examinations sat by trainee?

B9 How do you regard the practical experience possessed by an individual?

B10 You give interviews, how do you rate the recruitment tests?

Thank you so much

Appendix II: Employed vocational education graduates' questionnaire

Questionnaire #.....

Introduction

The purpose of this study is to establish the relevance of Uganda's formal vocational education in the field of electrical engineering to the needs of the labour market. The information obtained will be used in the curriculum review process to improve on the training so as to suit labour market needs. All information collected from you will be ***strictly kept confidential***.

SECTION A: PARTICULARS OF THE RESPONDENT

Name: ..... (Optional)

Sex Male ☐ Female ☐

Age: 21-30 ☐ 31-40 ☐ 41-50 ☐ Over 50 ☐

District of Origin: .....

Ethnicity.....

Highest level of education.....

Profession.....

Employment.....

Employer: .....

Employer Address: .....

Contact details: .....

Telephone No: Office: ..... Mobile: .....

E-mail.....

SECTION B: TRAINING

B1 Which vocational training institution did you attend? .....

B2 What qualification(s) did you attain if (if more than one, state the years and the qualification attained)

Year (from – to)	Qualifications	Name of Institution at which you attained qualificatic

B3 How did you get the job?

B4 What is the correlation between the knowledge you acquired at school and what the job required you to have?.....

B5 How were you developed in terms of skills and attitudes towards work while still at school?.....

B6 What challenges did you face at the time you joined work?.....

B7 How did you manage to overcome these chall.....

B8 How do you judge the competence of your former trainers at school?

.....

B9 To what extent was the knowledge you acquired at school relevant in your job?

.....

B10 What skills were you expected to have and you did not have?(skills gap)

.....

B11 How did you manage to cope up?.....

Thank you so much

Appendix III: Interview guide for the former UEB workers

Interview guide #.....

Introduction

The purpose of this study is to establish the relevance of Uganda's formal vocational education in the field of electrical engineering to the needs of the labour requirements. The information obtained will be used in the curriculum review process to improve on the training so as to suit labour market demands and requirements. All information collected from you will be ***strictly kept confidential***.

SECTION A: PARTICULARS OF THE RESPONDENT

Name of Key Informant

.....

Age: (31-40) ☐ 41-50) ☐ 0 ☐

Highest level of education.....

Profession.....

Title of Key Informant .....

SECTION B: Generation and electricity affairs

B1 How were you trained for the work?

B2 Who were the trainers?

B3 How did other the other workers learn the skills for the job?

B4 What changes did/have you experienced as regards technology?

B5 How do you cope up with the changing technology as workers?

Thank you so much

Appendix IV: Interview guide for the trainers

Interview guide #.....

Introduction

The purpose of this study is to establish the relevance of Uganda's formal vocational education in the field of electrical engineering to the needs of the labour market. The information obtained will be used in the curriculum review process to improve on the training so as to suit labour market demands and requirements. All information collected from you will be ***strictly kept confidential***.

SECTION A: PARTICULARS OF THE RESPONDENT

Name of Institution .....

Name of Key Informant .....

(Optional)

Age: (21-30) ☐ (31-40) ☐ 41-50) ☐ Over 50 ☐

Highest level of education.....

Academic
Award.....

Awarding Institution.....Year.....

Profession.....

Title of Key Informant .....

SECTION B: Administrative

B1 You have a production unit at the institute. How does the electrical department benefit?

B2 How often is the principle at the station?

SECTION C: TEACHING/TRAINING

C1. How do your students get to know about the world of work?

C2. Who develops the curriculum you follow in the teaching?

C3. How often is it reviewed?

C4 If not reviewed why?

C5 How do you carry out the teaching in your department?

C6 Do you prepare schemes of work?

C7 How do you organize the learning activities?

C8 How often do you engage your learners in hands-on tasks?

C9 How is your workshop equipped?

C10 How do the trainees get to know about the categories of electricians?

C11 How do you rate yourself at handling of practical tasks?

C12 As regards changes in technology, how do you update yourself?

C13 With your experience, who would you recommend to train as a trainer?

C 14 Before you joined the teaching profession where were you working?

Thank you so much

Appendix V: Interview guide for members of the board of governors

Interview guide #.....

Introduction

The purpose of this study is to establish the relevance of Uganda's formal vocational education to the needs of the labour requirements. The information obtained will be used in the curriculum review process to improve on the training so as to suit labour market demands and requirements. All information collected from you will be ***strictly kept confidential***.

SECTION A: PARTICULARS OF THE RESPONDENT

Name of Institution .....

Name of Key Informant .....

(Optional)

Ethnicity.....

Age: (21-30) ☐ 31-40) ☐ (41-50) ☐ Over 50 ☐

Highest level of education.....

Profession.....Name of the committee .....

SECTION B:

B1 What is the work of your committee?

B2 How does it raise the funds for the school?

B3 When you receive new instructors, do you verify their academic documents?

B4 How are you appointed to be a member of this committee?

B5 How often do you sit to discuss matters pertaining the school?

Thank you so much

Appendix *VI: Interview guide for trainees'/students'*

Interview guide #.....

Introduction

The purpose of this study is to establish the relevance of Uganda's formal vocational education in the field of electrical engineering to the needs of the labour market. The information obtained will be used in the curriculum review process to improve on the training so as to suit labour market demands and requirements. All information collected from you will be ***strictly kept confidential***.

SECTION A: PARTICULARS OF THE RESPONDENT

Name of Institution .....

Name of Key Informant .....District of birth.....

Age: (21-30) ☐ 31-40) ☐ (41-50) ☐ Over 50 ☐

SECTION B: Learning process

B1 How do you learn? (Groups, individuals)

B2 How is your industrial training conducted?

B3 Are you placed by trainers or it is your responsibility?

B4 When you are out there, do your trainers visit you to ascertain the progress?

B5 At the end of the industrial training period, do you compile a report?

B6 On submission of the report, are they marked and receive feedback?

B7 What happens to the recommendations from the training places?

B8 How do you judge your trainers in terms of career counseling, motivation to learning, encouragement towards the vocation?

Thank you so much