SENSITIVITY OF VOCATIONAL EDUCATION INSTITUTIONS TO THE NEEDS OF LEARNERS WITH PHYSICAL DISABILITY:

A CASE STUDY OF OCOKO REHABILITATION CENTRE

IN ARUA UGANDA

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Declaration

I, DRAJI JOHN BOSCO, hereby declare that this thesis is my original work and has not been presented for a degree in any other University or Institution of higher learning.

SIGNATURE..... DATE.....

Approval

This thesis has been submitted for examination with my approval as the candidate's university supervisor (s).

1. Dr J.B. OKECH Date:.....

Signed.....

2. Ms OPIT ELIZABETH Date:.....

Signed:.....

Dedication

This Thesis is dedicated to my parents, Mr Andrew. K.Onzivua and Mrs.Osubiru Onzivua Betty, my Siblings, Mrs. Ajidiru Olega Pamela, Ms Oleru Jeska, Ms Ayikoru Martha, Ms Ocokoru Mary, Dr Arubaku A. Wilfred, Lt. Adrama Leo, Mr Ojoatre .K. Tom, Mr Abiriga .K. Martin and Mr Andama .K. Richard.

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Table of Contents

List of Tables

List of figures

List of Appendices

List of Abbreviations and Acronyms

BTVET:	Business, Technical, Vocational, Education and Training
DANIDA:	Danish International Development Agency
ESSIP:	Education Sector Strategic Investment Plan
IDEA:	Individuals with Disabilities Act
MDGs:	Millennium Development Goals
PEAP:	Poverty Eradication Action Plan
PPET:	Post Primary Education and Training
PWDs:	Persons with Disabilities
SIDA:	Swedish Development Agency
UAMH:	Uganda Association for the Mentally Handicapped
UFD:	Uganda Foundation for the Deaf
UNESCO:	United Nations Educational Scientific and Cultural Organization
UNEVOC:	United Nations Vocational Education
UNICEF:	United Nations International Children Education Fund
UNISE:	Uganda National Institute for Special needs Education
UPPET:	Uganda Post Primary Education and Training
USB:	Uganda Society for the Blind
CBR:	Community Based Rehabilitation
USDC:	Uganda Society for Disabled Children
ILO:	International Labour Organization
MGLSD:	Ministry of Gender Labour and Social Development

UK:	United Kingdom
DRO:	District Rehabilitation Officer
CDO:	Community Development Officer
RA:	Respondent Administrator
RT:	Respondent Teacher
RS:	Respondent Student

Abstract

The purpose of the study was to investigate the sensitivity of vocational education institutions to the needs of learners with physical disability by taking a case study of Ocoko Rehabilitation Centre in Arua, Uganda. The study was guided by three research objectives namely: to establish the relevance of the vocational education curriculum in relation to learners with physical disability, assess the role of teachers in enhancing the learning process of learners with physical disability and to find out how the various assistive devices available in the vocational institution enhanced learning for students with physical disability.

The population under the study included 3 administrators, 6 teachers and 18 students making a total of 27. The sample for the study consisted of 11 respondents broken down into the different categories as follows; 1 administrator, 4 teachers and 6 students.

The methods the researcher used for data collection were in depth interviews with key respondents and personal observations. The instruments used for data collection were interview guides and observation list. The category of respondents included; one administrator, 4 teachers and 6 students. Data analysis was carried out by the use of qualitative methods, mainly descriptive in nature. The findings presented were analyzed following objectives of this study.

The findings of the study indicated that the vocational education curriculum which consisted of training in leather work, tailoring, knitting and weaving, carpentry and joinery, metal work and pastoral subjects was relevant to the needs of learners with physical disability and the world of work. This is because the learners with physical disability were able to learn any one of the subjects in the curriculum depending on their individual choices and abilities. The learners were taught both vocational theory and practice at the institution. This made the learners self reliant on completion of their courses. The findings revealed that materials for practicals were in short supply across all the subjects and this reduced the effectiveness of the curriculum. The study findings also showed that the role played by teachers at Ocoko Rehabilitation Centre in enhancing the learning process of learners with physical disability was limited by the fact that there were no professionally trained teachers of special needs education at the centre. The results also indicated that assistive devices relevantly enhanced the learning process for learners with physical disability in one way or the other. Based on the findings, it is recommended that government should adequately fund the centre and facilitates in-service training of teachers already serving at the centre in special needs education. More teachers of special needs education should be recruited to offset the shortage of teachers to cater for the special needs of learners with physical disability in vocational education institutions.

Funding should be directed towards meeting the needs of learners with physical disability such as assistive devices and teaching-learning materials. Policy makers at all levels should mobilize and sensitize the community towards strengthening the sensitivity of vocational education institutions in Uganda to the needs of learners with physical disability.

CHAPTER ONE

INTRODUCTION

1.1 Background

This chapter consists of the background to the study; that is: statement of the problem, purpose and objectives of the study. The chapter also outlines the research questions, significance and scope of the study.

This study sought to investigate the sensitivity of Ocoko Rehabilitation Centre in Arua District to the needs of learners with physical disability. It should be born in mind that learners with physical disability have special needs that should be understood by the staff of vocational institutions so that they can be helpful and useful to them during the learning process.

Sensitivity refers to consideration; care and understanding of needs and requirements (Encarta English Dictionary, 2008). According to the Cambridge Advanced Learners Dictionary, (2008: 1300), sensitivity is defined as the ability to understand ones needs. In this regard it refers to the ability of vocational institutions to understand special educational needs of learners with physical disability such as special facilities and equipments they require for effective learning to take place. According to Abosi, (1999), there is a wide range of special needs in the same classroom today and that the administrative and teaching staff should become more sensitive towards a heterogeneous student body. The *World Health Organization* (WHO, 2007) defined the term "disability" as the unsuccessful interaction between a person with impairment and an unsupportive environment. The detail of the quote goes as follows:

> Physical disability refers to a broad range of disabilities which include orthopedic, neuromuscular, cardiovascular, and pulmonary disorders. The physical disabilities may either be congenital or a result of injury, muscular dystrophy, multiple sclerosis, cerebral palsy, amputation, fractures and burns that cause muscular contractures, .heart disease, pulmonary disease or more. Some persons may have hidden (non-visible) disabilities which include pulmonary disease, respiratory disorders, epilepsy and other limiting conditions [1]

Physical disability is therefore any condition that permanently prevents normal body movement and control. There are many types of physical disabilities. Some of the main ones include (a) muscular dystrophies- this means that the muscle fibers in the body gradually weaken over time; (b) Permanent injuries to the brain, spinal cord or the limbs that prevent proper movement in parts of the body; (c) there is also a physical disability condition known as cerebral palsy, which is caused by damage to the parts of the brain which control movement during the early stages of development. It may involve muscle movements and weakness on one side of the body referred to as hemiplegic, it may be in the lower part of the body a condition known as diplegia, or it may be in both legs and arms (quadriplegia) and it may involve problems with balance and coordination a condition known as ataxia. (d) When the spinal cord does not develop normally during pregnancy, the child can have a physical disability called spina bifida. The type and amount of disability caused by spina bifida normally depends upon the level of abnormality of the spinal cord. Children with spina bifida may have partial or full paralysis of legs.[2]

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[1] The definition of physical disability given here was retrieved from the website: http://www.csun.edu/-sp 20558/dis/physical.htmlp. Physical disabilities, p. viii. on 7/20/2009

[2] The information concerning the different types of physical disabilities described in the text were retrieved from the website: http://www.csun.edu/-sp 20558/dis/physical.htmlp. Physical disabilities, p. viii. on 7/20/2009

The ability of learners with physical disability to learn vocational skills might as a result be limited by social, economic and environmental barriers (Ndeezi, 2004: 9). Vocational education means providing skills and knowledge that prepare the learner for a job (Cambridge Advanced Learner's dictionary, 2008:1624). According to Mjelde, (2006: 44, 199 & 143), the learning arena in the development of vocational schools has traditionally been practical work, workshops, laboratories and the teachers have been recruited from the manual labour market.

In my opinion vocational education and training refers to the process and practice of learning the practical skills you need to do a particular job or activity. The practical skills learned in turn can make you to be able to make items for income generation and self reliance.

According to the *Uganda Educational Statistics Abstract* (2008)[3], pupils with special learning needs were those individuals who might have needed specially trained teachers of special needs education and teaching materials. The *Uganda Educational Statistics Abstract (2008),* categorized learners with special needs by their main special learning needs and these were, physical impairment, mental retardation, visual impairment, hearing impairment, and autism. Learners with physical disability have got different interests and demands, compared to the able-bodied. These needs, interests and demands vary from one form of disability to another. Enon (1996: 61) stated that these special needs students required special services in the school and classroom such as, individualized instruction or attending to each exceptional student individually, separating exceptional students from the ordinary students. Abosi (1999) defined students with special needs as those students who experience difficulty with their learning due to physical, psychological, health, school or environmental factors. He further argued that special

[3] The information concerning the Uganda Educational Statistical Abstract (2008) was retrieved from the Government of Uganda, Ministry of Education and Sports website: www.statistics@education.co.ug

needs treats people as individuals, adapting relevant equipment, personal curriculum and methods to overcome identifiable and unidentifiable problems that obstruct learning. Persons with physical disabilities should therefore, be treated on the basis of their individual needs and interests in order to enhance their learning.

In traditional African societies, Persons with disabilities were neglected and isolated from the rest of the society (Ndeezi, 2004: 10 & 26). Disability was considered a curse and as such persons with disabilities were kept away from the society. Infact during my community practice in Tororo District, Rubongi Sub-County in 2006 one of the clients I visited had severe epilepsy and was kept indoors due to the negative public opinion about persons with disabilities. This view is consistent with the one expressed by *UNESCO-UNEVOC* (2007: 24), which states that few members of vulnerable populations including persons with physical disabilities can afford opportunities to education, skills development, politics and social activities as a result of ignorance and lack of productive skills. This has resulted in marginalization and dependence of persons with disabilities in the community.

Learners with physical disability were to a large extent excluded from participating in vocational education and other social activities in the communities. This situation has changed due to advocacy and lobbying carried out by the disability movement both internationally and nationally (Ndeezi, 2004: 7-8). The rights of PWDs have been the subject of much attention over a long period of time internationally to the extent that the World Disability day is celebrated on 3rd of December annually.

According to the Universal Declaration of Human Rights (UDHR), 1948 disability rights are mentioned as human rights, (UDHR, 1948, www.survivorcorps.org, 2008: 3). The most important result of the international year of disabled persons was the World Programme of Action Concerning Disabled Persons (1982). The World Programme of Action Concerning Disabled Persons aimed at promoting effective measures for prevention of disability, rehabilitation and the realization of the goals of the full participation of PWDs in social life, economic development and of equality. Rehabilitation usually includes provision of technical and mobility aids, specialized education services, vocational guidance and vocational training. This resulted into the United Nations' decade of disabled persons, 1983-1992.

The World Conference on Education for All in Jomtien, Thailand (1990) brought in the idea of vocational education and training for learners with special needs. The conference also provided a justification to make special provisions and facilities for learners with special needs in vocational education and training.

Another important international instrument was the United Nations' Standard Rules on the Equalization of Opportunities for persons with disabilities (1993). The United Nations' Standard Rules advocated for development and supply of support services for PWDs including assistive devices, equipment, and personal assistance and making the physical environment accessible according to the needs of PWDs as important measures to achieve equalization of opportunities. These measures could assist to increase their level of independence in their daily living and to exercise their rights accordingly.

The *United Nations Educational Scientific and Cultural Organization (UNESCO)'s* (1994) Salamanca Statement and Framework urged National Governments to provide education to

learners with special needs under inclusive settings. These inclusive schools according to UNESCO were the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all. This point is further emphasized by UNESCO-UNEVOC (2007: 24) stating that in most cases persons with special needs had been denied opportunities to education, skills development, politics, and social activities as a result of ignorance and lack of productive skills.

The World Conference on Education for All held in Jomtien, Thailand (1990) and the United Nations Educational Scientific and Cultural Organization's 1994 Salamanca Statement were in line with the Millennium Development Goals (MDGs), NO. 2, which has advocated for "Education for All".[4] Education for all therefore, includes education for persons with physical disability in vocational education institutions.

Research studies in the United States of America showed that the incidence and prevalence of special needs students was as high by 40% in 2009 (*The United States Department of Education, National Center for Education Statistics* 2009). The *Digest of Education Statistics*, (2009) stated that in 2006, 95% of students from 6 to 21 years old from the total childhood population were served under the Individuals with Disabilities Act (IDEA) and that these students were enrolled in regular schools.

Nationally, the efforts toward educational empowerment of learners with physical disability included the following. In Uganda, the government's commitment towards persons with disabilities dates back to 1952 with the introduction of education for the blind by the British

[4] Further information about Millennium Development Goals and its advocacy for "Education for All" was obtained from the United Nations Development Programme (UNDP), Human Development Report, 2006, p. 44. The same information is available on the United Nations Organization website: www.un.org/millenniumgoals

colonial government (Ssekamwa, 2000). Shortly after the 1962 independence, in 1965 a data collection exercise for persons with disabilities was commissioned by the Uganda Government with the support of the International Labour Organization (ILO). The study revealed that about 10% of the country's population was composed of persons with disabilities (PWDs) and that about 6,000 persons in Uganda were becoming disabled annually (Ndeezi, 2004). The government with support from the ILO then developed a National Rehabilitation Scheme to provide persons with disabilities with social and economic independence (The *Uganda Educational Statistical Abstract*, 2008: 91).

As per the statistics from *Uganda National Housing and Population Census Report* (2002), the disability rate in Uganda was 4%, compared to 3.3 % internationally. It was because of these trends in disability that the struggle to meet the special needs of learners with physical disability in education gained momentum. This was supported by the international and National disability movements that were also promoting special needs education.

In Uganda, the disability movement resulted into the formation of a national umbrella organization for persons with disabilities on 14th November 1987. Ndeezi (2004: 11-12), states that this organization was called the National Union of Disabled Persons of Uganda (NUDIPU). The disability movement has continuously advocated for respect for the rights of persons with disabilities under the umbrella organization of NUDIPU. According to Ndeezi (2004: 12), NUDIPU passed a number of resolutions to be tabled by the Government of Uganda with the sole aim of uplifting the welfare of persons with disabilities in Uganda. This should include being fully involved in education, employment, social and political fields. My own experience has revealed that NUDIPU has advocated for participation of persons with physical disabilities in

decision making bodies in the country so as to be fully empowered just like the able-bodied members of society, because NUDIPU believes in the slogan that "there is nothing for us without us" (Ndeezi, 2004: 17)

Another organization which promoted the vocational education and training of learners with physical disability was Uganda Society for Disabled Children (USDC). The Uganda Society for Disabled Children (USDC) was established in 1986 with the aim of improving the welfare of children with disabilities by supporting community-based rehabilitation programmes in Masaka, Masindi, Luwero, Arua, Moyo and Nebbi Districts.[5] The staff of USDC trained community facilitators and government staff on how to work better in meeting the special needs of learners with physical disability and persons with disability in general.

The Government of Uganda made reasonable achievements in the area of special needs education. This was done through the policy of affirmative action in favour of marginalized groups as enshrined in the *Constitution of the Republic of Uganda* (1995). The Constitution declared that the state had to take affirmative action in favour of groups marginalized on the basis of gender, age, disability or any other reason created by history, tradition or custom, for the purpose of redressing imbalances which existed in relation to such groups.

The registration of children with disabilities under the Universal Primary Education (UPE) statute, in 1997 was an example of the application of the affirmative action in education. In accordance with this policy, children with disability/special needs were given the first priority in

[5] Data on Uganda Society for Disabled Children (USDC) was obtained from the USDC Annual Review Report of 2002/2003 which the researcher found in the office of the administrator of Ocoko Rehabilitation Center. The same information was also reported to be available on the USDC website: www.uganda-disabled-children.org.

enrolment for UPE support, just like for the girl child. This was a sign of government's commitment towards the education of learners with physical disability in Uganda.

The primary seven graduates got enrolled in institutions under the Business, Technical, Vocational Education and Training (BTVET), hence it promoted conditions for learning that were favourable to learners with physical disability in vocational education institutions in Uganda. This was why in the *Government White Paper* of Uganda (1992: 296), the Government of Uganda promised to support existing institutions for special needs education between 1993/94 and 1996/97. A total of 30 institutions were to be supported by providing equipments and materials to promote the learning of children with special needs. The *Government White Paper of Uganda*, (1992: 242) clearly specified the number of children with special needs to be catered for in government aided institutions as one thousand five hundred sixteen (1,516).

The Uganda National Institute for Special Needs Education (UNISE) Act, (1998) was passed by the parliament of Uganda in order to promote education for learners with special needs in these government aided institutions in Uganda. However, the UNISE Act, (1998) seems to be unoperational to date.

The *National Youth Policy of the Ministry of Gender Labour and Social Development of the Republic of Uganda (MGLSD),* (2001: 27) provided a unique opportunity for improving the quality of life of youth with disabilities who were identified for special attention due to their vulnerability and circumstances of living because they needed special facilities and equipments. Uganda Government's Universal Post Primary Education and Training (UPPET) and the *Education Sector Strategic Investment Plan* (ESSIP), (2004-2015) policies were meant to cater for all learners including those with disabilities. These policies were formulated in context of the

international long term commitment to the Millennium Development the Goals (MDGs) and Education for All. The objective of these policies was to create equitable access and improved quality learning conditions for all students in Post Primary Education and Training (PPET).This was in line with the stated national education goals as spelt out in the *Uganda Government White Paper* (1992: 6 & 116).

In 2009/2010 academic year, 18 learners with physical disability and 6 learners with hearing impairment were being trained at Ocoko Rehabilitation Centre in Arua District Uganda, those with visual impairment at Salaama in Mukono District, the deaf at Kireka Industrial Rehabilitation centre in Kampala. Learners with physical disability can be catered for by providing them with special facilities, making a flexible curriculum, and by sensitizing the administrators and teachers to learn the nature of the special needs of learners with physical disability in order to improve their teaching and help such students to enhance their learning. Through effective teaching-learning processes, students with physical disability can acquire basic knowledge and skills needed to become socially and economically independent, and hence self reliant.

According to my experiences during the research expeditions to some of the vocational education institutions in my first year one of study in vocational pedagogy, there was an indication of inadequate special facilities and equipment for learners with physical disability. There were inadequate teaching materials/special facilities coupled with few teachers of special needs education to cater for the needs of learners with physical disability in vocational education institutions in Uganda. The inadequacy of teaching materials and the lack of special needs education teachers tend to limit the participation of learners with special needs and undermine

their ability to learn effectively. The inability of learners with special needs to learn effectively has made them to become among the poorest of the poor and this was said to be worse in the rural areas of Uganda (Ndeezi, 2004: 7). Learners with physical disability tended to lag behind in terms of technical knowledge and skills which could be acquired in vocational education institutions. This has resulted into marginalization and dependence of persons with physical disabilities in the communities. It is from this background that a study had to be conducted to investigate the sensitivity of Ocoko Rehabilitation Centre to the needs of Learners with physical disability.

1.2 Statement of problem

The Government of Uganda established a National Vocational Rehabilitation Scheme between 1965 and 1969 (Ndeezi, 2004: 35). The scheme included the establishment of facilities for vocational training, rehabilitation and employment, mainly for persons with physical disability. Ocoko Rehabilitation Centre in Arua District was established for learners with physical disabilities and those with hearing impairment in 1968 (Ndeezi, 2004: 35).

The institution was set up as part of the scheme to equip persons with physical disabilities with basic knowledge and skills to exploit the environment for self and national development as indicated in the national educational goals, aims and objectives of the Government White Paper of Uganda (1992: 6-8 & 116). If policies that enhance the lives of persons with disabilities (PWDs) are not practically implemented by providing special facilities for students with special needs in vocational institutions, the learners may not acquire the basic vocational knowledge and skills needed to become self reliant. Some of the learners with physical disabilities are likely to drop out. The denial of vocational knowledge and skills to learners with special needs may lead

to denial of opportunities for employment, hence resulting into unemployment and marginalization. Unemployment may bring in extreme poverty and inability to afford basic necessities of living. Poverty is a major cause of disability and vice versa (Ndeezi, 2004: 33). This study therefore, sought to investigate the sensitivity of Ocoko Rehabilitation Centre to the needs of learners with physical disabilities.

1.3 Purpose of the study

This study investigated the sensitivity of vocational education implementation to learners with physical disability by undertaking a case study of Ocoko Vocational Education Rehabilitation Center in Arua District, Uganda.

1.4 Specific Objectives

The study was guided by the following research objectives:

1. To establish the relevance of the vocational education curriculum to learners with physical disability.

2. To assess the role played by teachers in enhancing the learning process of learners with physical disability.

3. To find out how the various assistive devices available enhance learning for students with physical disability.

1.5 Research questions

The study was guided by the following research questions:

1. How relevant is the vocational education curriculum to learners with physical disability?

2. What role do teachers play in enhancing the learning process of learners with physical disability?

3. How do the various assistive devices available enhance learning for students with physical disability?

1.7 Significance of the study

The accomplishment of this study is expected to be beneficial to the academicians, policy makers and any other user of the document in the following ways. It could provide information about the extent to which vocational education and training implementation in Ocoko Rehabilitation Centre is sensitive to the needs of learners with physical disability. The study would highlight the ways in which (a) the curriculum is relevant, (b) teachers and assistive devices are enhancing the learning process of students with physical disability. The study might add knowledge on the contribution of assistive devices in enhancing the learning process of learners with physical disability in vocational education.

The findings could add knowledge to the field of special needs education and vocational education. The new knowledge could also be useful as a source of reference for academicians by studying how education is offered to persons with disabilities in vocational education institutions in Uganda. The findings and recommendations of this study might also act as a guide to policy-

makers in developing strategies to cater for the special needs of learners with physical disability in vocational education institutions in Uganda.

The study also enhanced the development of the researcher's skills in conducting a good research, possibly for future research in the field of vocational education and training and on issues related to special needs education.

1.8 Scope of the Study

The study was conducted at Ocoko Rehabilitation Centre in Arua District between 15th April and 30th of May 2010. The choice was based on the fact that the institution trains learners with physical disabilities and learners with hearing impairment, who are recruited on a yearly basis to undertake a course for one year. An academic year at the institution is broken down into three terms of three Months each where by teaching and learning takes place from Monday to Friday from 8am to 4pm routinely with tea and lunch breaks in between.

The institution was located in a rural setting and this affected the ability of a student to access a particular resource. This further depended on the availability of services, location, family choice and government policy. In some poor countries like Bangladesh, 10% of the population has some sort of disability, of which over one and a half million are children, 80% of whom live in rural areas and cannot access education (Khan, 2004: 7). The same situation also existed in Uganda which tends to obscure and isolate disability issues from society's main concerns (Ndeezi, 2004: 10 & 26). As a researcher, from my own experiences, a good number of learners with physical disability have been left out of school despite government policies on Education for All. This is why the researcher was motivated to conduct this study in a segregated vocational education center located in a rural area in order to compare the theory and policies advanced on special

needs education to the practice on the ground. The theory presented in this study has mainly advocated for inclusive education or mainstreaming in which learners with disability learn in an inclusive setting in the same school with their counter parts without any disability.

The study focused on finding out the sensitivity of the vocational education institutions to the needs of learners with physical disability. The population under study included 18 learners with physical disability, six teachers and 3 three administrators of Ocoko Rehabilitation Centre.

1.9 Operational definition of terms

Assistive devices / technology were defined as any item, piece of equipment, or product system, whether acquired commercially of the self, modified, or customized that is used to increase, maintain or improve functional capabilities of individuals with disabilities. While assistive technology service was defined as any service that directly assists an individual with a disability in selection, acquisition or use of an assistive technology service.[6]

Physical disability refers to a broad range of disabilities which include orthopedic, neuromuscular, cardiovascular, and pulmonary disorders. The physical disabilities may either be congenital or a result of injury, muscular dystrophy, multiple sclerosis, cerebral palsy, amputation, fractures and burns that cause muscular contractures, .heart disease, pulmonary disease or more. Some persons may have hidden (non-visible) disabilities which include pulmonary disease, respiratory disorders, epilepsy and other limiting conditions.[7] A physical

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[6] The definition of assistive technology/assistive devices given here is derived from policy development in assistive technologies and Individuals with Disabilities Act of 1988 which was passed by the United States Congress twenty years ago and the office of Special Education Programs in the United States Department of Education. Retrieved from the website: http://www.EDUDEAFIEPand Assistive Technologies.htm. on 97-03-27.

[7] The definition of physical disability given here was retrieved from the website: http://www.csun.edu/-sp 20558/dis/physical.html. p.viii. on 7/20/2009

disability is any condition that permanently prevents normal body movement and or control. People with these disabilities often must rely on assistive devices such as wheelchairs, crutches, canes, walking sticks, and artificial limbs to obtain mobility.

Relevance of vocational education curriculum; A relevant curriculum refers to the fact that subjects that are included in a course of study or taught in a school, college can be learned easily by the learners with physical disability and their ability to gain employment or be employed at the end of their courses. It also refers to the availability of demand for the products from the courses taught at the centre in the current market situation.

Sensitivity; refers to consideration; care and understanding of needs and requirements (Encarta English Dictionary, 2008) It therefore means awareness of and ability of teaching staff of vocational education institutions to understand the needs of learners with physical disability in order to make considerations and care for learners. It also refers to how other people and teachers in particular respond to the feelings and interests of learners with physical disability

Special needs refer to requirements made necessary by challenges that some people have because of physical or mental impairment (Encarta English Dictionary, 2008). The Individuals with Disabilities Act of 1988 in the United States, defined special education as " specially designed instruction", at no cost to the parent, to meet the unique needs of a child with disabilities. This includes the necessary supplementary aids and related services needed for the child to benefit from his educational program in the Least Restrictive Environment (L. R. E)

These devices are required by learners with physical disabilities to aid them to learn and perform well. The examples; include wheel chairs, crutches, ramps, and other special facilities.

Trained teachers of special needs education; refers to professionally trained teachers in the field of special needs education.

Vocational education; in the Scandinavian countries consists of at least three components: (a) practical skills (b) vocational theory (c) general education in which " vocational techniques " refers to the umbrella term for (a) practical skills and (b) vocational theory (Nilsson, 1989: 1-2). He continued to state that vocational education has mainly copied the work orientation, techniques, and organizations which are dominant in crafts and industries during different phases of industrialization. According to Mjelde, 2006: 44, 199 and 143) vocational education in school has emerged with the development of industrialism. In such a setting school and work are integrated in workshop practice with its own pedagogical model and its own work mode, which are qualitatively different from general academic pedagogy. She further argues that the learning arena in the development of vocational schools has traditionally been practical work, workshops, laboratories and the teachers have been recruited from the manual labour market.

1.10 Conceptual Frame work

This section presents the conceptual framework along with its description

This study is based on a simple theory that "Disability is not inability", a motto adopted and used by the National Union of Disabled People of Uganda (*NUDIPU)*, in 1987 (Ndeezi, 2004: 20). The slogan points out the fact that persons with disabilities have the capacity to become socially and economically independent if given assistive devices to enhance their learning of vocational knowledge and skills.

The capacity of learners with special needs can be built through vocational education and training and by making the physical and social environment as suitable as possible for the full realization of their potentials. The implication of the theory is that learners with special needs have got potentials that need to be tapped and this can be done by involving them in planning what they learn and by providing them with assistive devices they require to enhance their learning. The National Union of Disabled People of Uganda believes in the philosophy that "there is nothing for us without us" (Ndeezi, 2004: 20). Learners with special needs can be as productive as able-bodied persons given conditions that suit their needs and interests. The conceptual framework is best illustrated in the figure below.

Conceptual Framework -

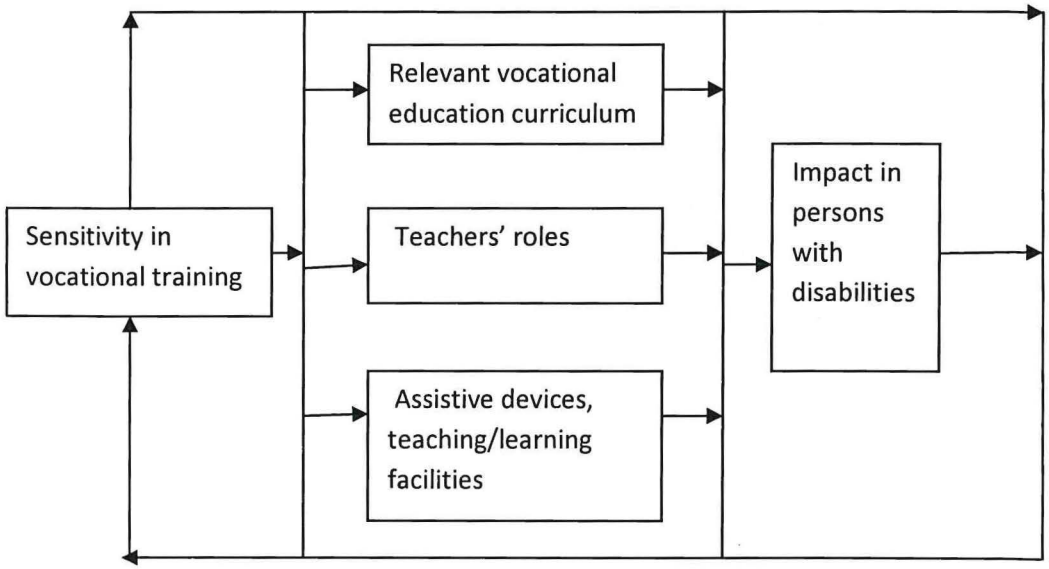

Figure 1:1 Relation between sensitivity in vocational training and the impact in learners with disabilities in vocational institutions.

Source: Self-made model.

As noted in Figure 1, the key issues of concern are sensitivity (independent variable) and the experience/change of behavior (dependent variable) that occurs in persons with special needs. In the study the means by which sensitivity can be applied in training persons with physical disability are through a relevant curriculum, teachers' ability to meet the special needs of the learners and the availability of an adequate number of assistive devices. By and large, curriculum must be the one that addresses the expectations and needs of learners with special needs. Secondly, teachers' roles are vital factors in training of learners with special needs. Teachers' quality coupled with the way they teach, mentor and relate with learners will create a big impact on the learners.

Last, but not least, vocational training being such a practical discipline ought to be supported with adequate and relevant training materials. Besides these three major factors, however, other factors can equally have direct influence on the learning outcomes of learners with special needs. Such factors are regarded here as extraneous variables that have to be controlled by the researcher. Conclusively, when the special needs of learners with physical disability are addressed through sensitive measures in the learning process, they are empowered and hence, the saying advocated by NUDIPU that "disability is not inability" becomes a reality in their lives. This is also true of the current saying that "nothing for us without us", thus the need to fully involve learners with physical disability in every activity in the institution to realize their full and meaningful participation in society.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents reviewed literature from different scholars. The reviewed literature is based on the formulated research objectives. The objectives are derived from the purpose of the study which is to investigate the sensitivity of vocational education implementation in Ocoko Rehabilitation Centre in Arua District to the needs of learners with physical disability. These objectives include establishing the relevance of the vocational curriculum in Ocoko Rehabilitation Centre to learners with physical disability; assess the role played by teachers in Ocoko Rehabilitation Centre in enhancing the learning process of learners with physical disability, and to find out how the available assistive devices in Ocoko Rehabilitation Centre enhance learning for students with physical disability.

2.2 The relevance of vocational education curriculum to learners with physical disability in vocational institutions

Curriculum has been defined by Nilsson, (2008) as the way education is structured in terms of the intentions (goals and objectives), content, time allocation and distribution as well as the expected results of the specific education. He continued to state that curriculum also includes the strategies which are recommended or have been decided in order to be used during the education processes or the specification of the final legitimation of level and character of education the learners have been involved in. Ssekamwa, (2000: 8) stated that curriculum simply means a list of subjects taught in a course of study. The curriculum developed has to be adhered to by

teachers to transmit knowledge and skills to the learners. This is aimed at achieving the objectives the curriculum sets to achieve.

Focus on curriculum is important in vocational pedagogy because of the central role it plays in teaching and learning processes. Curriculum is considered as the steering "tool" for allocation of intentions, equipments, educational space (houses), professional people with vocational pedagogical competence and for recruiting learners (Nilsson, 2008). In my view, curriculum is necessary for the efficient organization of teaching and learning processes in an educational institution, more so for learners with physical disability who require special considerations and facilities to be put in place to enhance their learning.

The *International Encyclopedia of Education* (2008) reveals that in the 1950s and 1960s many curricula were established all over the world. The curriculum centers all over the world basically employed highly qualified personnel as project teams for producing instructional materials. They often concentrated on subject matter with a preset aim on a macro social level and developed curricula via a process based on a natural science model. The teachers received ready-made materials, often with detailed instructions with or without an introductory or familiarizing course. This kind of curriculum development process in my opinion was not flexible and could not address the special needs of learners with physical disability in vocational education institutions. The learners with physical disability may as a result end up getting a raw deal from the teachers who are given a rigid curriculum.

Smith, (2000) Finch and Crunkilton (1999) indicate that generally curricula have been developed in a haphazard manner with little consideration given to the impact of the development process due to the failure of the vocational education curriculum to impart practical skills in learners. The theoretical knowledge and skills learners are provided with most often does not match the skills required in the world of work. Therefore, such a vocational education curriculum soon becomes out-dated when steps are not taken to review it regularly to meet the needs of learners ((Finch & Crunkilton, 1999). This could involve making a curriculum that meets the needs of learners with physical disabilities and the world of work. For example, the curriculum designers should analyze students' personalities and characteristics, the nature of the job they are being prepared for, the quality of facilities and equipment to be used by instructors and students in the learning process. Through this kind of analysis, a sensitive and holistic curriculum could be adapted and designed to cater for the needs of learners with physical disability.

According to Sabou, (1999), curriculum for learners with physical disability should be designed to meet the unique needs of the learners. Such a curriculum should emphasize the following areas; self-help skills, social adjustment in the home and neigbourhood as well as economic usefulness and academic skills. In my view, a useful curriculum must therefore, be developed after a comprehensive analysis of the particular students to be taught. The analysis of the curriculum should also consider the future trends brought about by globalization and the kind of knowledge, skills and attitudes that will be useful to the learners with physical disability even after formal schooling has ended.

A contemporary vocational education curriculum must be sensitive to the world of work (Mjelde, 2006: 44, Nilsson, 2008., Finch & Crunkilton, 1999). These authors are of the view that vocational education curriculum should aim at integrating school and work life so that the knowledge and skills provided in school is applicable in the world of work. In this regard, it can be deduced that the vocational curriculum must be sensitive to the special needs of learners with physical disability, as well as the administrators and teachers at vocational institutions. Akello and Kagoire, (1996) argue that broadly stated goals are an important part of any curriculum. The researcher is of the view that goals are only viable if they meet the needs of the targeted learners and can be explicitly implemented to achieve the stated objectives in relation to the world of work. Finch and Crunkilton (1999), however assert that not all recognized curricula outcomes may be stated in specific measurable terms. This means that many of these intended outcomes may be written down as broad curricula goals, hence making them quantifiable.

The vocational education curriculum cannot operate in a vacuum (Smith, 2000). If learners are to be prepared effectively for employment or self reliance, the curriculum must focus on what a learner can be able to do. This is because vocational education curriculum content should be based on the actual work situation, with tasks, knowledge, skills, attitudes and values which serve as a foundation for the world of work in the mainstream economy. The vocational education curriculum developers should be concerned about the future and technological developments in the labour market (Finch & Crunkilton, 1999). The researcher is of the opinion that any vocational education curriculum which is relevant must be sensitive to the needs of learners with physical disability, those with hearing impairment and the world of work.

African indigenous education was universal education that is every member of the society was given some basic skills and knowledge. The universal education for all being practiced today has its background in African indigenous education systems which promoted the development of relevant skills (Ssekamwa, 2000: 12) but is also the product of developments toward universal education in the colonial countries in the north. He further gave the example of boys being taught the skills of building houses, pottery making, using spears, arrows and shields. Girls being taught baby nursing, cooking, looking after home, making mats, baskets, plaiting hair and many other practical skills.

Hands-on practical experiences in vocational education and work-based settings provide the students with a relevant means of transferring knowledge, skills, and attitudes in preparation for the world of work. The same situation existed in African Indigenous Education (AIE) where learning was mainly organized within the homestead which was equivalent to our modern day vocational schools. The fire pit or any other area within a homestead where learning took place was the classroom. The methods of delivery were mainly informal where learning and teaching occurred spontaneously (Ssekamwa, 2000: 5). There were mini lectures combined with instant practice and further mini lectures. Children were taught the knowledge and skills they needed straight away. Technical skills were taught through doing or making things and the learner was given an opportunity to practice that very skill (Ssekamwa, 2000: 5).This was repeated until the learner did it correctly. In the same way there is need to give opportunity for the learners with physical disability in the vocational Rehabilitation Centre to practice the skills they are taught there and then. The learners with physical disability should also be taught the knowledge and

skills that are specific and relevant to their needs and the needs of the community to which they belong.

In line with vocational pedagogy, Dewey, (1916) cited in Mjelde, (2006) argued that theory that stands opposed to practice is fruitless. But Dewey proposed that real scientific theory is located within practice and functions as the impetus for expansion and that this provides direction toward new possibilities. This idea became a cherished one and points to a curriculum that is all round, placing more emphasis on the practical skills.

Mjelde (2006) also expressed the view that at the core of learning processes is learning through practice and experience, through activity and by trying and failing and trying again. I wish to support opinions expressed by the two authors by stating that it is very critical that vocational education institutions buy the ideas of learning by practicing and experiencing what is taught in class. Learning is best conceived by practice and not by theorizing, hence giving maximum benefits to the learners. This view is similar to the one expressed by Ramm, (1999) who stated that learning sequences need to begin with concrete experience and slowly build up to more complex and abstract concepts. Ramm, (1999) further recommends the use of real objects to set an immediate and meaningful context such as replacing them with realistic pictures, diagrams or graphs. The methodology should be in the context of the learners with physical disability, concrete, multi-sensorial and hands on than those offered to learners with physical disability. This can be done in the context of workshop practice and exposure to the real work situation so that learning is complete.

Curriculum evaluation has to be an ongoing activity, one that is planned and conducted in a systematic manner (Akello, & Kagoire, 1996: 79). Vocational education curriculum developers should be aware of the fact that evaluation is a continuous process. The vocational education plans must be able to assess its effects on students for its strengths and weaknesses.

The concept of curriculum evaluation has evolved in recent decades. Curriculum evaluation called for the development of more adequate techniques of assessing pupil growth and development. It emphasized that, it was the responsibility of the educator to develop concepts, information skills and habits as well as stimulate the learners' growth, including self assessment of one's' learning. This can be in terms of attitudes, appreciations, interest, powers of thinking, and personal social adaptability, (Vashist, 1993: 1), see also Kvale, 1999: 133, 208-209,Daly & Mjelde, 2000) cited in (Mjelde, 2006: 22, 88- 99). Experience has shown that every educator who bears these qualities has seen pupils of mediocre capacity succeed because of interest and enthusiasm, while others of more promise have failed due to lack of it.

According to Okech, (2000: 87), teachers should endeavour to modify the existing syllabus as much as possible to suit the ability of children with mental retardation at different levels. The same is true for learners with physical disability who have special educational needs and therefore, require a flexible curriculum as well as syllabus to ensure effective learning for them. Persons with physical disability (specifically motor) refers to disability like polio victims, the amputees; those with cerebral palsy, those with leprosy who have no fingers to write with and those who are perpetually sick. Learners with these forms of physical disability require over and above normal lessons, additional provision to cater for individual or group special needs education so as to specifically address the main barriers to effective learning and their human

development (Corbett, 1997). It is true from my own experiences with persons with physical disability that the speed at which they perform a given task is lower than those who do not have any form of physical disability, hence necessitating extra time and support in order to enhance their learning.

According to McNamara and Moreton, (1997) differentiation or matching learning and tasks to the individual needs and abilities lies at the heart of quality and curriculum delivery. However, to the two authors, the challenge here is that not many teachers may be prepared to adequately meet the needs of individual learners with physical disability. This view of planning for differentiation is based upon a carefully constructed foundation which takes into account each step of the learning process from Vygotsky's theory of thought and language, what he called 'the zone of proximal development'.[8] Vygotsky cited in (Mjelde,2006: 94) defined 'the zone of proximal development' as 'the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (1978: 86). The two authors tried to emphasize the benefits that could be derived if a given curriculum makes considerations towards meeting individual needs of learners with physical disability through educative, active social interactions. This is because each learner has got varied needs which may be very different from the rest of the students and these needs have to be met in relation to others if such learners are to learn effectively.

[8] Vygotsky's concept of 'the zone of proximal development' was cited in Mjelde (2006:94), *the Magical properties of workshop learning*. The concept was used to illustrate the importance of meeting the individual needs of learners, most especially those with physical disability, by showing how individuals learn more rapidly, deeper and harder in groups, interactively, than they do as individual learners.

The results of a research conducted in Australia and South Africa by Engelbrecht & Forlin (1998: 9) indicated that core special needs components in pre-service training programmes should be organized around a curriculum that confronts issues of inclusive schooling and the accommodation of diversity in education with an underlying philosophy that embodies principles of democracy and human rights and diversity. It should be noted that the success of inclusion rests on the ability of the process of implementation, not to alienate or threaten, but to meet teachers and students where they are, while responding to their needs in a supportive way. Curriculum as a tool for effective organization of teaching and learning is not only important, but is also necessary for the development of vocational competence in the learners.

2.3 The role played by teachers in enhancing the learning process of learners with special needs.

In a general sense, education is the guided learning to help a child gain skills and understanding for meeting lives needs (Werner, 1996: 497). As a child grows up in the global world, many additional skills and knowledge are needed. This knowledge and those skills can only be achieved under the mentorship and guidance of a caring teacher. Teachers therefore, have the crucial role of guiding these learners with physical disability and those with hearing impairment to ensure they learn satisfactorily. This point is better illustrated by the story of one Okello Oloya, who graduated in Bachelor of Food Science and Technology from Makerere University, in 1995. Okello had wanted to study human medicine, but he did not get enough points for it, and was offered veterinary medicine instead. However, he didn't take this course because of his disability. On the advice of the Head of the Veterinary Department, he chose instead Food Science and Technology (Okullo, 2002: 89). This was because he was able to get help in terms of career guidance and counseling from the Head of the veterinary department

As a result of this, practical counseling should focus on the pupils' knowledge in and feelings about the subject, their interests and experience in the field, their skills and co-operation abilities (Inglar, Bjerknes, Lappen & Tobiassen (2002: 45). Inglar (2002: 38) stated that to counsel is to help someone with his or her learning or development of knowledge, skills, attitudes and values depending on the strategy used. Lauvas and Handal, (1990) cited in (Inglar, et al, 2002: 38) say that to counsel is to help another person to make connections between values, theoretical knowledge and own experiences of or from everyday life, not in general, but in connection with each person's thinking and action in a specific situation. Nilsson, (2008) expressed similar views and said that a good friendly and helpful atmosphere is one of the first priorities in order to create a constructive vocational education with real chances for progression of competence and a feeling of success. He further emphasized that this is a reality all over the world. In my view, counseling and career guidance thus play an important role in enhancing the learning process of the learners with physical disability. This can be done by giving learners with physical disability appropriate help, counseling and guidance whenever they needed and this exercise ought to be strengthened by teachers in order to provide effective teaching and learning relationship.

Accordingly, Inglar, Bjerknes, Lappen and Tobiassen (2002: 45) argued that it is necessary for the teacher to take the students' learning abilities into consideration when he/she is planning how to organize the students' learning and teaching experiences. The learning experiences pointed out here include pupils' physical, psychological and social conditions. The physical conditions/qualities are the pupils' ability to hear, see, and if they are able to move their arms or

legs in a well co-ordinated way. In other words the pupils' ability to cooperate and work in groups is an example of their social qualities.

Lave and Wenger, (1991: 29) viewed learning as a situated activity, at the center of which lies a process they called legitimate peripheral participation. They drew attention to the point that learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires new comers to move toward full participation in the socio-cultural practices of the community. Through this idea of legitimate peripheral participation they tried to explain the relations between the new comers (students) and old-timers (teachers), activities, instruments/equipments, and the communities of knowledge and practice (the school environment). To them one has to become a full participant in order to have meaningful learning.

Language/communication between teachers and learners is important in learning processes. According to Nilsson, (2008), human communication in a friendly and helpful way is the first priority in all types of learning. He further stressed that to develop work related communication in terms of dialogue between teachers and learners is one of the key factors behind a rapid and successful increasing of vocational competence. Language is therefore part of practice and it is in practice that people learn (Lave & Wenger, 1991: 85). They continued to state that the important point concerning learning is one of access to practice as a resource for learning, rather than to instruction. In my view teachers need to be willing to offer help to the learners with physical disability whenever they requested and teachers should have a positive attitude towards the learners. On the other hand, learners should be curious and willing to understand or learn as well

as be conscious of the consequences of different work related actions (vocational practice) in order to develop modern vocational competence.

In most cities around the world, a school education has become a basic need for getting a job or being accepted by society. In the case of a child who is physically strong and mentally retarded, schooling may be a frustrating and unrewarding experience, for example if there is no special education available (Werner,1996: 497). This point is clearly illustrated by Johnson and Johnson (1986), Corbeth, (1997) who observed that in majority of ordinary schools, much emphasis is placed on academic education which is characterized with competition. They argue that this approach is not helpful to all children (those with and without disabilities) and is detrimental to the success of children with disabilities who have lower abilities. As a researcher, I tend to agree with the views of these authors because most ordinary schools in Uganda do not have vocational subjects. They may cater for either sign language or Braille lessons. Sign language and Braille lessons alone for sure cannot benefit learners with physical disability in the field of work where practical vocational skills are required.

A study conducted by Koster, Pijl, Nakken and Houten, (2010: 59-75) on social participation of students with special needs in regular primary education in Netherlands revealed that the majority of students with special educational needs have a satisfactory degree of social participation. The study also found that compared with students without special educational needs, a relatively large portion of students with special educational needs experience difficulties in their social participation. The learners with physical disability therefore need special education provided by special needs education teachers because of the difficulties they experience in these

institutions. Special needs education teachers are teachers who have been trained professionally with extra skills to attend to learners with special needs. This extra effort will help to enhance the learning process of learners with physical disability.

Schooling can be important for some retarded children in rural areas. This is only possible if the teacher and other children can be helped to understand the special needs of the child. When the teacher treats this special needs child with respect, and gives him encouragement, the slow learner may benefit greatly from school, both educationally and socially (Werner, 1996: 497). Polloway and Patton, (1992: 80) recommended for instruction of learners with physical disability in functional academics and daily living, social and vocational skills. They also suggested that teachers do not have to follow a particular method, but should use a variety of teacher-directed, child-directed and peer-mediated approaches. To them the teacher-directed method involves applying skills such as task-analysis and modeling. This view is similar to the one expressed by Vygotsky cited in Mjelde (2006: 94), in relation to learning among children in general, where he criticized traditional teaching from the point of view of his understanding of the great importance of interaction and cooperation in the process of learning. In my view the behaviour to be learned can be actively reinforced through demonstration under the guidance of the master/teacher in cooperation with fellow students in order for them to realize full benefits from vocational education.

The quality of teachers' education and their ability to shape positive attitudes towards learners with special educational needs are critical aspects of teacher preparation for them to become effective change agents (Engelbrecht, & Forlin, 1998). They further argue that excellence in

education anywhere else is intertwined with the quality of teacher education and the distinct ability of lecturers/tutors and students to adapt to changing societal needs. This therefore, calls for teachers to be receptive to new ideas and methods in the quest to enhance the quality of teaching and learning in their classrooms. According to Engelbrecht and Forlin, (1998: 7-8) the pre-service teachers in Australia exhibited positive attitudes towards persons with disabilities and they attributed this to several factors. These factors included increased contact with persons with disabilities combined with core "special needs" components that are integrated into all pre-service training programmes. These training components helped pre-service teachers to overcome feelings of discomfort when interacting with learners with special educational needs as well as increasing their skills in coping with those learners in mainstream classes.

It is important for teachers to remember the special educational needs of children with physical disability when they are in school or when studying and try to meet these needs (Werner, 1996: 500). For example ,they should not spent all day sitting in a wheel chair, because this tends to lead to contractures, swollen feet, weak leg bones, spinal curve and other deformities. So the teachers should try to arrange for the learners with physical disability to spend part of the day with their bodies in a straight position. This can be done by standing in frames for not more than one and a half hours. It can also be partly done by lying down, either on the floor, or on wedges, mats that can permit better positioning and use of hands and arms. Special positioning and exercises are therefore, needed to prevent contractures and maintain full range of motion exercises by encouraging positions that keep the joints stretched, and trying to remedy those positions that keep the joints bent.

African indigenous education also encouraged production of goods and services through the processes of production learning, which is reflected in today's workshop learning and is at the

center of vocational pedagogy. In the indigenous African education this also reduced the shortage of goods and services and created a group of graduates who were job makers and not job seekers (Ssekamwa, 2000: 3 & 5). The current vocational education institution under this study aims at providing relevant skills needed by the learners with physical disability and the world of work. The Researcher was told by the respondents that those learners who completed their courses successfully were able to find employment or be self-employed because of the functional skills they had acquired from Ocoko Vocational Rehabilitation Centre. The intention was to have a friendly working relationship between the teachers and learners as part of the required role teachers need to play in the lives of learners with physical disability. This friendly relationship can best be cultivated through effective communication between the teachers and students. In my opinion reinforced by my experience of community practice among persons with disabilities in Tororo District in Uganda, teachers need to show respect and care towards learners with physical disability because they are sensitive to feelings. They should be ready to offer help to learners with physical disability when they needed help in order to prevent drop outs and wastage in school education in terms of resources.

2.4 Available Assistive Devices that enhance learning for students with physical disability

The awareness of assistive technology was heightened with the passage of the technology related assistance to Individuals with Disabilities Act (IDEA) of 1988. This act created statewide systems of technology assistance, defined assistive technology devices and services.

Assistive technology/device was defined as:

> any item, piece of equipment, or product system, whether acquired commercially of the self, modified, or customized, that is used to increase, maintain or improve functional capabilities of individuals with disabilities. While assistive technology service was defined as: any service that directly assists an individual with a disability in selection, acquisition or use of an assistive technology service.[9]

Thus assistive technology/device is a generic term that includes assistive, adaptive and rehabilitative devices for people with disabilities and includes the process used in selecting, locating and using them. Assistive devices promote greater independence by enabling people to perform tasks that they were formerly unable to accomplish, or had great difficulty accomplishing, by providing enhancements to or changed methods of interacting with the technology needed to accomplish such tasks. There is a clear and growing need for assistive devices to help address the special educational needs of students as an ever increasing number of learners with special needs seek to realize their full potential through education. The learners with physical disabilities therefore, require special equipments and facilities in order to have a conducive learning environment.

The law in the United Kingdom says that all state schools must do their best to see that special help is provided for all children with special needs. In this case the Local Education Authority is expected to make assessment of a child's educational needs, based on specialist advice (BBC, 2005).[10] This requires thorough assessment of a learner's needs detailing the difficulties and the

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[9] The definition of assistive technology/assistive devices is derived from policy development in assistive technologies and individuals with disabilities act and the office of Special Education Programs in the United States Department of Education. Retrieved from the website: http://www.EDUDEAFIEPand Assistive Technologies.htm. on 97-03-27.

[10] This information was contained in a report produced by Lady Mary Warnock, a former Head teacher, academic, architect of England's' Special Needs Education System and leader of several high profile inquiries entitled 'Special Needs' education Queried. This report was then broadcasted on the British Broadcasting Corporation Media (BBC News/UK/Education) on Wednesday, 8 June 2005, at 16::24 GMT, 17:24 UK.

most appropriate special help required. Records of each person with disability have to be kept for purposes of future reference and for prescribing the kind of help needed. The Individuals with Disabilities Act (IDEA) was passed by the United States Congress twenty years ago in 1988 was updated in August, 1990 and this law requires free appropriate public education for children identified with disabilities. This law further requires school Districts to provide special education and related services without charge based on an Individual Education Plan (IEP) designed to meet the child's unique needs. In case of Uganda, Article 35 (1 & 2) of the Constitution of Uganda (1995: 52) states that Parliament shall enact laws appropriate for the protection of persons with disabilities. The practical application of this law from my experience during community practice among persons with disabilities in Tororo District is devolved at local government level. The assessment of learners with physical disabilities and other forms of disabilities is done by the office of District community development officer or District rehabilitation officer of the respective Districts in Uganda.

The Organization for Education, Economic Cooperation and Development's (OECD) Programme on Educational Building (PEB) international conference entitled " inclusion and Integration through Innovation: The Role of 21st Century Learning Environment in Promoting Social Participation and Access to Education for Learners with Special Needs"(2008),stated that design plays a crucial role in providing an effective learning environment for all students. The role of infrastructure in improving inclusion in education particularly for learners with physical disability was also emphasized at the conference. In many countries for example, infrastructural design is expected to respond to policies that favour the inclusion of students with special needs in regular schools. In other countries, design must facilitate policies that promote increasing linkages between special educational settings. In addition, design must address the needs of

students with different categories of disability for them to benefit from the vocational education provided. This point is best illustrated by the findings in the Thabo Mbeki Development Trust (TMDT) Annual Report (2007/2008: 9). In this report, a male learner with physical disability is said to have discontinued his education as a result of his disability and the inaccessible environment in which he found himself. The learner had difficulty in public transport, difficulty participating in rehabilitation programmes and accessing buildings and locations. It was not until the Thabo Mbeki Development Trust (TMDT) provided a light-weight wheelchair and special cushion that assisted in improving his learning process, mobility, his life and independence (TDMT Annual Report 2007/2009: 9 & 14). In the same TMDT Annual Report (2007/2008), a female learner with physical disability had difficulty in mobility as her wheel chair was heavy. The Thabo Mbeki Development Trust also provided her with a light-weight wheelchair and a cushion that assisted with improving her learning process, life and independence (TDMT Annual Report 2007/2008: 14). These basic findings help to drive the point home as to how available assistive devices enhance the learning process of students with physical disability in vocational institutions.

In many cases, assistive devices are essential to the independence of learners and their ability to cope with learning materials or travel to and from training venues. In the TMDT Annual Report (2007/2008: 14), it was stated that a learner without arms who wrote with her feet faced unique problems. The Report also pointed out that, a specially designed folding table was made for her and this did much to ease the situation, hence improving her learning condition.

In a similar story reported by Mujungu, (1996: 27) a girl by the name Monica from Bundibugyo was diagnosed and successfully treated for polio. Through the treatment, she managed to gain the

use of her arms and left leg, but her right leg remained paralyzed. After being discharged from hospital, she crawled for six months. Through training, guidance and support from her parents, she was able to stand upright; consequently she was able to walk by herself with the assistance of crutches.

According to Kirk (1997), learners with physical disability comprise heterogeneous groups with varying physical impairments, each with a unique problem which limits the effectiveness with which the person can cope with academic, social and emotional expectations of the school and community. In my opinion, there are many persons with physical disability who desire to improve their education by attending schools but have been unable to do so because of the lack of proper facilities or appliances such as wheelchairs and crutches which would make mobility less difficult. Learners with physical disability therefore, require special equipments and facilities to be put in place for them to meaningfully participate in educational activities.

The literature reviewed reveals that implementation of the various policies concerning special needs education such as provision of assistive devices for learners with physical disability in vocational education institutions in Uganda are minimal. This is why the researcher is interested in finding out the extent to which assistive devices are used as sensitivity measures in addressing the special needs of learners with physical disabilities in vocational education institutions in Uganda.

In this chapter, literature related to the objectives of the study was reviewed and it revealed that there is some scholarly information revealed about the study objectives in other countries. Nothing much has been established in the Ugandan context, thus the need to investigate the Ugandan situation. However, the literature reviewed also indicated that implementation of

special needs education policies in vocational institutions in Uganda have not been adequate enough to address the individual educational needs of learners with physical disabilities.

The next chapter discusses the methodology that was employed in the study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This study was to find out the sensitivity of Ocoko Vocational Education Rehabilitation Centre in Arua, Uganda to the needs of learners with physical disability.

This chapter discusses the methodology that was used to investigate the problem under study. The methodology describes the research design, the study area, the target group, the sampling procedure and sampling size. The chapter also discusses the methods used for data collection, reliability and validity of the instruments, data collection procedure and data analysis. Ethical and logistical considerations were also presented under this chapter.

3.2 Study design

A research design is the game plan or blueprint and specifications for conducting a research investigation (Kothari, 2004: 31). The type of research was qualitative. For this study, the researcher employed a case study research design (Kothari, 2004:113). This design enabled the researcher to find out the most likely explanations regarding the sensitivity of instruction practices and available special facilities at Ocoko Rehabilitation Centre to the needs of learners with physical disabilities. Since the study was qualitative and descriptive in nature, accordingly Kombo, and Tromp, (2006) stated that a descriptive study design is used to describe the state of affairs as it exists. It is mainly used when collecting information about people's attitudes, opinions, habits or any other social issues. This study design was therefore considered as the most suitable in the study of the research problem.

3.3 Location of the Study Area

The research was carried out at Ocoko Rehabilitation Centre. The Centre is Located in Arua District which is 607 kilometers (377 miles) North West of Kampala District. Arua District is bordered by Maracha and Terego Counties to the North, Adjumani and Amuru Districts to the East, Nebbi District to the South and Democratic Republic of Congo to the West. Ocoko Rehabilitation Centre is located in Ajia Sub-County, 12 Kilometers off the Arua-Nebbi Road. Ajia Sub-County is bordered by Oluko Sub-County to the North, Uleppi to the South, Ogoko and Rhino Camp Sub-Counties to the East, Arivu and Vurra Sub-Counties to the West respectively. Details about the location of the study area are in the map of Uganda and Arua District (See Appendix 3 and 4).

3.4 Target Population

A population is the "complete set of individuals, objects or measurements having some common observable characteristics" (Mbaaga, & Kirumira, undated: 3) cited in (Mbaaga, 2000: 8). As per this study, the overall population was the staff and students of the Center, consisted of a total of 3 administrative staff, 6 teachers and 18 students. This gave the target population of 27 for this study.

3.4.1 Categories of respondents

In this study, the categories of respondents included administrative staff, teachers and students/learners with physical disabilities studying at Ocoko Rehabilitation Centre. The study sample involved 6 learners with physical disabilities/students, 4 teachers, and 1 administrator. Therefore, the sample/study population for this study was 11.

3.5 Sample size

A sample is "a part of the population which is deliberately selected for the purpose of investigating the properties of the parent population" (Mbaaga, 2000: 8).

The sample size for this study at Ocoko Rehabilitation Centre was 11 key respondents whose views were corroborated with the secondary data. The sample was composed of the following categories of respondents: 1 administrator, 4 teachers and 6 learners with physical disabilities/students. These categories of respondents were chosen because the researcher believed they had adequate knowledge and experience of the situation at the centre. In addition, they were familiar with the teaching and learning conditions at the centre (See Table 3.1 for the target population and sample size).

Table 3. 1: Target population and sample size

Category	**Target population**	**Sample size**
Administrators and teachers	09	05
Students	18	06
Total	27	11

(Source: Researcher)

3.6 Sampling techniques

In this study purposive sampling technique was used to identify and select the respondents to participate in this study. The respondents selected using this sampling technique included 1 administrator, 4 teachers and 6 students. Purposive sampling technique was used in order to be

representative enough (Wangusa, 2007: 40). Purposive sampling was used for selecting the study sample because they were believed to be knowledgeable and had acquired first hand information regarding the topic of the study. Purposive sampling was also considered convenient because the most knowledgeable person was interviewed and this saved time for both the respondents and the researcher. This is why purposive sampling was considered fit (Satirios, 1996: 138).

3.7 Methods of Data Collection

The research methods that were used for data collection included interviews and observation.

3.7.1 Interviews: The Researcher conducted one-on-one face-to-face personal interviews with the aid of interview guides. The interview guides (Appendix 5, 6 & 7) were developed and used in this study because they gave the researcher a checklist for collecting information and insights both from interviews and from observing the interactions found in the groups, (Wangusa, 2007: 105). The researcher interviewed one respondent at a time in face-to- face interviews and this was done after their consent was sought. Thus, respondents were interviewed at their own convenient time and place. Open-ended and closed-ended questions were asked in the interview guides. This enabled the respondents to give their views in a natural way. The interview guides were administered to the administrator of the institution, the teachers and 6 the students, so as to get the views of the different categories of respondents to similar questions asked.

3.7.2 Observation: Observation may be defined as the selective and deliberate examination of something by use of any of the senses of sight, hearing, and touching for the purpose of gathering information (Wangusa, 2007: 109). The researcher also used his senses, especially the eyes to make observations and the ears to hear the views of respondents. The observation was carried out at the time of conducting the interviews during the field activities. The researcher-

observer was armed with a checklist or schedule of variables to be observed (See Appendix 8). It was a structured and participant observation (Spradley, 1980) since the researcher was actively involved in an on-site observation. The researcher participated by asking questions to respondents, watching, describing, showing interest and the researchers' presence at the Center in one way or another affected them. The use of observation technique enabled the researcher to study the respondents for; types of physical disability, activities the learners engaged in, like learning processes, workshop practice, the assistive devices, special facilities and access ramps available at the centre. The interview guides and observation check-lists were checked for correctness and approved by the mentor and supervisor before they were used for data collection.

3.8 Procedure of Data Collection

A letter of introduction was sought from the Dean, Kyambogo University Graduate School before going to the field to collect data (See Appendix 1). This letter enabled the researcher to gain access to Ocoko Rehabilitation Centre where the study was conducted. The researcher personally wrote an introduction letter which the researcher used to introduce himself to the administration of the Center (See Appendix 2 for details). Since the center was located in a rural setting, I was interested in finding out how learners with physical disability were being catered for in terms of the center meeting their varied individual needs in such an institution segregated from the country's large urban centers. The researcher visited Ocoko Rehabilitation Centre three times earlier than the data collection exercise as a preliminary start of the data collection process. This was done to establish the administrator's receptiveness to the researcher's interest to conduct the study in the institution and to determine the viability of the institution for the study. During these visits, I sought to create a working relationship with the respondents by identifying

myself and explaining the purpose of conducting the study. I sought permission from each respondent and made arrangements on when and where to conduct the interviews before the interviews were conducted. I made use of first level observation (the eyes and ears) while interviewing to check for validity of answers given and some photographs were taken for purposes of illustrating the data collected when writing the report. A camera was used to take photographs as a complementary technical tool for observations (Nilsson, 2008).

The responses to the questions asked to the different categories of respondents were written down when the interview was being conducted. The researcher kept some information in memory for further documentation after the interviews (Nilsson, 2008). Data were collected from different categories of respondents for purposes of triangulation. Triangulation was done in order to compare the different responses given by the respondents for similarities and differences.

3.9 Data Analysis

The data collected were examined, tabulated and coded in relation to the objectives of the study and research questions. Answers of the respondents on various questions resulting from each objective of the study were classified. Coding helped the researcher to establish the major themes and sub themes on which the respondents agreed and on which they differed. The coded data were processed and analyzed qualitatively. Responses were presented with the aid of direct quotes and pictures photographed at the scene of interviews. Personal comments and tables were also used to communicate the significance of what was witnessed. The responses were compared in order to point out their actual meaning. Data collected were further cross referenced with the reviewed literature (Mbabazi; 2008: 53). This was intended to compare reviewed

literature with the information collected through face-to-face interviews and observation so that meaningful conclusions could be drawn. The next chapter presents the findings of the study.

CHAPTER FOUR

PRESENTATION INTERPRETATION AND ANALYSIS OF THE RESULTS

4.1 Introduction

The aim of the study was to find out the sensitivity of vocational education institutions to the needs of learners with physical disability in Uganda. This chapter presents results gathered from sampled respondents who participated in the study.

In the demographic information the researcher looked at the age, sex, experience and qualification of respondents. The centre had 24 students in all, 18 were students with physical disability a population from which the researcher secured the study sample. Out of the 24, six students had hearing impairment. There were 3 support staff, 6 teachers, and 3 administrative staff, a total of 12 staff members. Age was considered because of the importance attached to what they said. The administrative and teaching staff had ages between 29 and 45. The students were between the ages of 16 and 32 years old. This was because the centre provided training to all age groups of persons with physical disability. Experience was looked at because the longer one stayed at the centre, one was likely to say something more. The administrative and teaching staff had experiences of work ranging from between 8- 20 years. In addition, sex influences what respondents would say. Accordingly men and women would have different views due to their varied value systems. A mixture of this would give different blend of views expressed by the two sexes. Among the teachers interviewed, 3 were male and one was a female. The administrator was a male. In the case of the 6 student respondents, 4 of them were male and 2 were female. Qualification was also considered because it is normally associated with better

performance and being more informed and knowledgeable. The use of age, sex, experience and qualification in the different interview guides enhanced the quality of data the researcher collected.

The findings from the various respondents interviewed are presented in relation to the research objectives. The research objectives were; (a) to establish the relevance of the vocational education curriculum to learners with physical disability in vocational institutions, (b) assess the role of teachers in enhancing the learning process of learners with physical disability, and (c) to find out how the various assistive devices available in the vocational institutions enhance learning for students with physical disability.

Data were collected using an interview guide which was divided into three sections to capture the three objectives of the study. A checklist was used to gather information during the observation process and background information was captured during informal discussions with the respondents. There were eleven respondents (R) involved in this study and the respondents were divided into two categories. Administrators and teachers were put under category one and students were put in category two. Responses from the administrator were coded as RA and responses from teachers were coded as, RT1, RT2, RT3 & RT4 and this numbering depended on the number of teachers interviewed. Responses from students were coded as RS1, RS2, RS3, RS4, RS5 and RS6 as per the number of students who participated in the interviews. This was done to make presentation, interpretation and analysis of data easy.

The results of the interviews were analyzed according to the study objectives and research questions. In the data presentation, the raw data were subjected to analysis based on the emerging themes of the study. The process involved writing down the responses from the

respondents in notebooks, coding the data, identifying emerging themes, categorizing, displaying them with the help of tables. Some information presented necessitated making direct quotes from respondents and taking of photographs using a camera to better illustrate the findings. This data analysis begins with Objective One and ends with Objective Three as indicated in the findings.

4.2 Presentation, Interpretation and Analysis of Data for Objective One:

The aim of Objective One was "**to establish the relevance of the vocational education curriculum in relation to learners with physical disability in Ocoko Rehabilitation Centre**".

Data for this objective were obtained from the responses of the administrator, teachers and students to items concerning the relevance of the vocational education curriculum to the needs of learners with physical disability in interview guides and how the trades being offered in the curriculum blended with the needs of learners with physical disability in the observation checklist (See Appendices 5-8 for details). The responses were in relation to the content of the vocational education curriculum for learners with physical disability. Some of the information concerning item number one about the content of the vocational education curriculum taught to learners with physical disability is presented as follows: The results from the interviews with respondents from categories one and two revealed that the subjects that are taught at Ocoko Rehabilitation Centre included carpentry and joinery, tailoring, leatherwork, knitting and weaving, metalwork and pastoral subjects. In Table 4a (i) and 4a (ii) findings on items number 2 and 3 from respondents in category one and two regarding the relevance of the vocational education curriculum in relation to learners with physical disability are presented. Category one comprised of the administrator and the teachers, while category two only had students

Table 4a (i) – 4a (ii): Relevance of the vocational education curriculum in relation to learners with physical disability

Table 4a (i): Responses from respondents in category one (one administrator and 4 teachers)

Item	Response
2. How does the vocational education curriculum address the special needs of the learners with physical disability?	• The curriculum provides both vocational theory and practice, skills needed to perform work (RT1 and RA) • Students learn at their own pace and are given extra time for practice (RT2) • The curriculum is flexible and caters for the needs of individual learners with physical disability (RT4) • Students are introduced step by step to theory and the final focus is on practical skills development (RT3)
3. What are the instructional methods used in teaching learners with physical disability?	• Models and sketches are used to enhance learning for learners with physical disability(RT2) • Students are introduced to theory and demonstrations are conducted before vocational practice is done (RT3,and RA) • Students learn through discussion groups (RT1 and RT4)

Key: In Table 4a (i), RA means respondent who is an administrator, RT means respondents who are teachers

In relation to how the vocational education curriculum addresses the special needs of learners with physical disability, two respondents (RT1, RA and RT3) argued that the curriculum provided both vocational theory and practice; the knowledge and that the skills provided were

needed to perform work. One of the respondents (RT2) stated that students were given extra time to perfect and learn the practical skills at their own pace. One of the respondents (RT4) was of the opinion that the curriculum was flexible enough to allow students to change courses depending on their abilities to manage a particular subject.

As far as the instructional methods used in teaching learners with physical disability was concerned, two respondents (RT1 RT3 and RA) said students were introduced to vocational theory about tools, materials and equipment. They also stated that teachers used demonstration method to illustrate the skill to be learned before the learners concentrated on practicals. One respondent (RT2) stated that models, demonstrations and sketches were used to enhance learning for learners with physical disability. Other respondents (RT4 and RT1) mentioned students' participation in group discussions as one of the methods of learning in addition to the regular classroom teaching.

According to the respondent RA, the aims and objectives of the vocational curriculum had been met through a holistic approach, using a structured program of activities involving all staff members of Ocoko Rehabilitation Centre, outside agencies where appropriate, and in consultation with the trainees.

The respondent had this to say, concerning the aims and objectives of the curriculum:

> The curriculum as designed was primarily intended to be delivered as a practical curriculum. The primary need for students on courses like carpentry and joinery, leatherwork, tailoring, knitting and weaving and metalwork was the development of practical skills that would enable the learners to use those practical skills in income generation. The students could get employment or be self-employed, as a means of supporting themselves and their families (Interview held on 20th/April/2010, from 11:00am-12:00, at Ocoko Rehabilitation Center with respondent RA).

The study findings in Table 4a (i) indicated that the major focus of this particular vocational institution was on the development of practical skills that are needed in the field of work and for the personal development of the learners with physical disability.

Table 4a (ii): Responses from respondents in category two (6 students).

Item	**Responses**
2. How does the vocational education curriculum address the special needs of learners with physical disability?	• Subjects like leatherwork, knitting and weaving are not so demanding. They cater for the needs of learners with severe physical disability (RS1) • The vocational curriculum provides practical skills that are required in the world of work (RS3,RS4 and RS5) • Instructors give us extra time to learn and perfect our skills in making different items for members of the public. We learn at our own pace (RS6 and RS2)
3. What are the instructional methods used in teaching learners with physical disability?	• Teachers use models and sketches to enhance our learning (RS2) • Teachers introduce us to vocational theory and they carry out demonstrations before vocational practice is conducted (RS3,RS4 and RS5) • We learn through participation in discussion groups being supervised by teachers (RS1 and RS 6)

Key: In Table 4a (ii), RS means respondents who are students

In relation to how the vocational curriculum addresses the special needs of the learners with physical disability, 3 respondents (RS3, RS4 and RS5) mentioned that the vocational curriculum provided practical skills that are required in the world of work. While respondents (RS6) and RS2 said the curriculum provided extra time they needed to learn and perfect the practical skills they required in making different items for members of the public. Respondent RS1 was of the view that subjects like leatherwork, knitting and weaving catered for the special needs of learners with severe physical disability.

In relation to the instructional methods used in teaching learners with physical disability, 3 respondents (RS3, RS4 and RS5) said they were introduced to vocational theory verbally about tools, materials and equipments used during workshop practice. This they said was followed by demonstrations before vocational practice was conducted. While 2 respondents (RS6 and RS1) stated that they learned through group discussions and workshop practice. One of the respondents (RS2) said that the curriculum provided for the use of teaching aids like models, diagrams and sketches which enhanced the learning process for students with physical disability.

According to the Outline Curriculum (2001) of Ocoko Rehabilitation Centre,[11] the pastoral curriculum covered issues such as health, hygiene, diet/ nutrition, water, first aid, morality, religion and life skills. The aim of this content in the vocational education curriculum was meant to develop trainees' self-confidence to a level that would enable them to be fully participating members of their community. It was also aimed at developing in trainees a range of life skills, and day to day living skills.

[11] The outline curriculum and management structure for vocational training for people with disabilities was developed at Masaka Rehabilitation and Vocational Center in 2001 by Teresa Ann Hughes and Christian James Notley , who were foreign experts , with the full support of the staff of the Center

Respondents in Category Two also revealed that it was important to expand the vocational theory into a more formal written vocational education curriculum. The researcher also observed that while tools for practicals were adequate, the materials used in workshop practice were not adequate and were in short supply across all the subjects being taught at the centre. Materials such as clothes, leather, timber, and thread were generally in short supply. According to the respondents, this shortage of materials limited the capacity of the center to operate fully.

Apart from the interviews, the researcher collected information through photographing work done, and some of the few materials and equipments used at Ocoko Rehabilitation Center to further illustrate on the findings of the study. In the next section, the researcher presented information by the use of pictures taken from Ocoko Rehabilitation Centre in Arua District as shown in Figures 4.1- 4.5.

Figure 4.1: Piece of clothe, material used in making clothes in tailoring class at Ocoko Rehabilitation Centre in Arua District.

(Source: The Researcher**)**

Figure 4.2: Wooden shoe lasts

Figure 4.3 : Pieces of leather

Materials used for making shoes and leather products in leatherwork class at Ocoko Rehabilitation Centre in Arua District.

(Source: The Researcher)

Figure 4.4: Pieces of thread

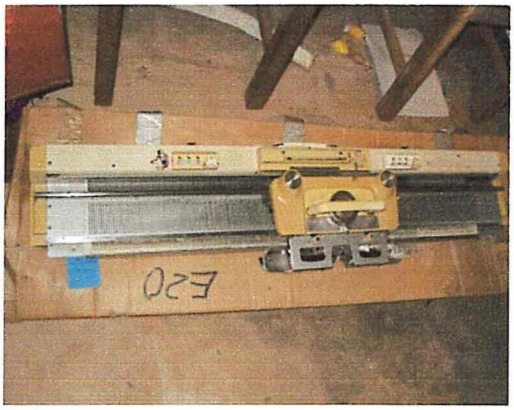

Figure 4.5: A weaving machine

Thread is a material used for knitting and weaving in knitting and weaving class. A weaving machine is used for weaving all types of sweaters and children suits at Ocoko Rehabilitation Centre in Arua District.

(Source: The Researcher)

Results from the respondents in Table 4a (i) revealed that the curriculum was focused on developing practical skills of the learners which would enable the learners with physical disability to make items by themselves for income generation. Some of the respondents (RT1, RT2, RT3 and RT4) agreed that focus on these practical skills was intended to prepare the students with practical skills in order to make them socially and economically independent.

One of the respondents RT4, an instructor for knitting and weaving had this to say about the relevance of knitting and weaving subject to learners with physical disability:

> Knitting and weaving is easy to learn, it does not cost much money and it is what every person with disability needs to know. Within a year, it can make you self-reliant and enables you to earn a living from its practice (Interview held on 11th/May/2010, from 10:00-11:00am, at Ocoko Rehabilitation Center, RT4).

Thus from the results it appeared that, the vocational education curriculum was relevant to learners in that, the curriculum was able to meet the needs of learners with physical disability through acquisition of practical skills needed in the field of work. The learners acquired practical skills in knitting and weaving, leatherwork, carpentry and joinery and tailoring during workshop learning. Figures 4.6 and 4.7 (a sweater and handkerchief), indicate some of the products of marketable value produced by the students with physical disability from the knitting and weaving class.

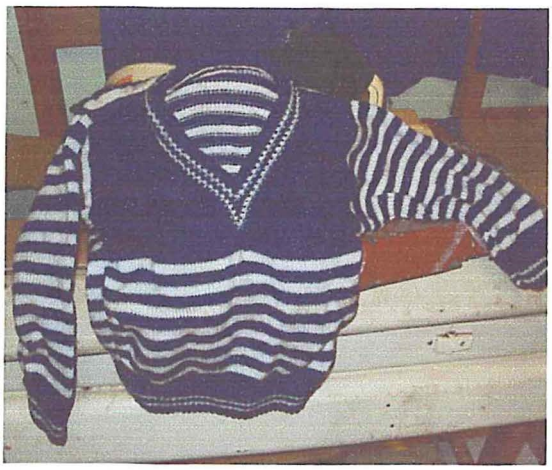

Figure 4.6: A sweater

Figure 4.7: A handkerchief

A sweater and a handkerchief respectively are the products of knitting and weaving class

(Source: The Researcher)

Through these practical skills the learners acquired at the centre, they were able to make items of marketable value on order for members of the public. These items included among others children's sweaters, suits, handkerchiefs, shoes, and carpentry products like chairs, tables, doors and door frames. Some of the products are illustrated in Figures 4.7 and 4.8 respectively. This happened towards the end of their courses so as to perfect the practical skills of the learners with physical disability in order to match the skills required in the world of work.

In final analysis, the content of the vocational education curriculum included carpentry and joinery, leatherwork, metalwork, tailoring, pastoral subjects, knitting and weaving. This was in line with the aim of the outline curriculum (2001) of Ocoko Rehabilitation Centre, which was meant to develop trainees self confidence that would enable them to be fully participating members of their community. The learners said that they were taught practical skills which they had wanted to learn and that they able to learn the practical skills taught from the Centre. The

form of learning was through workshop practice where both vocational theory and practical skills were learned from workshops. The learners made products of marketable value that could be sold to earn an income. During interviews with respondents in Category One, they said that teaching-learning materials were inadequate especially for workshop practice. Such materials included clothes for tailoring class, leather for leatherwork class, and timber for carpentry class. The shortage of these materials limited the frequency of workshop practice and hence, the development of practical skills by the learners. The next section presents findings from Objective Two which was to assess the role played by teachers in enhancing the learning process of learners with physical disability.

4.3 Analysis and Interpretation of Data for Objective Two

The objective was **intended "to assess the role played by teachers in enhancing the learning process of learners with physical disability in Ocoko Rehabilitation Centre".**

The researcher collected data for this objective using items from the interview guide and structured observation checklist. There were two categories of respondents. Category One consisted of one administrator and 4 teachers. In Category Two 6 students were interviewed. Responses from the administrator were coded as RA, while those from teacher were coded as RT1, RT2, RT3 and RT4 and this numbering depended on the number of teachers interviewed. Responses from students were coded as RS1, RS2, RS3, RS4, RS5 and RS6 respectively, depending on the number of students who participated in the interviews. This was intended to make presentation and analysis of data easy. Observation on the other hand was used to obtain data about the expressed characteristics/behaviour of respondents in order to complement data obtained through items on the interview guides. The teachers were observed while they handled

the affairs of the learners with physical disability during the learning process in the classrooms/workshops and in other school activities. A camera was used as a technical tool to capture some photographs for purposes of further illustration of the findings.

Table 4b (i) - 4b (ii): Role played by teachers in enhancing the learning process for learners with physical disability

The findings from interviews with all the respondents concerning teachers' level of education and fields of subject specialization as shown in items number 1 and 2 (See Appendix 5,6 & 7) for details) indicated that the teachers had received training in the vocational trades. The respondents mentioned that two of their teachers had a diploma in secondary education technological studies, specializing in carpentry and joinery. The results also revealed that two other teachers at the center had certificates in tailoring. The results further showed that one of the teachers had a certificate in leatherwork and there was also one teacher who had a certificate in knitting and weaving.

Table 4b (i): Responses from respondents in category one (one administrator and 4 teachers

Item	**Responses**
3. Role played by teachers in enhancing the learning process of learners with physical disability	• Teaching and supervision of group discussion/workshop practice. This promotes the spirit of sharing, team work and improves self esteem of learners (RT1 RT3, and RA) • Give advice to learners with physical disability on the type of assistive devices and special facilities best suited for them (RT4) • Attend to , understand and pay close attention to each individual learner depending on their form of disability, interest, skills and abilities (RT2)

Key: In Table 4b (i), RA1 means respondent who is an administrator, RT means respondents who are teachers

The respondents in Category One were able to mention their respective level of education and fields of subject specialization as shown in the results.

In relation to ways through which teachers enhanced the learning process for learners with physical disability, three respondents (RT1, RA and RT3) mentioned classroom teaching and involvement of learners in group discussions, workshop practice being supervised by teachers and that this practice promoted the spirit of sharing among the learners and enhanced their self esteem. During an interview with the respondent RA, he stated:

> Ocoko Rehabilitation Centre lacks professional teachers of special needs education, has limited training materials and assistive devices as well as a small number of teaching staff. These challenges limit our ability to enhance the teaching-learning process of learners with physical disability (Interview held on 20th/April/2010 from 11:00am-12:00, at Ocoko Rehabilitation Center with respondent RA1)

The finding from this respondent revealed that the six teachers were available at the centre were not trained in special needs education. The respondent also indicated that their number too was not sufficient to effectively handle the teaching-learning process of learners with physical disability. This revelation further indicated that due to lack of relevant training of the teachers in the field of special needs education, further complicated by lack of adequate training materials and assistive devices at the Center, learners with physical disability could not benefit fully from vocational education provided.

Respondent RT4 said that teachers advised learners with physical disability on the type of special facilities and assistive devices best suited for them. In this way teachers enhanced learning for learners with physical disability. One respondent (RT2) stated that teachers attend to, understand each individual learner and pay close attention to them depending on their form of disability, interest, skills and abilities.

As far as the ways through which teachers enhanced the learning process of learners with physical disability was concerned, two respondents (RT3 and RT1) mentioned regular classroom teaching and involvement of learners with physical disability in group discussions. To them this promoted the spirit of sharing, team work and improved the self esteem and confidence of learners.

The results from respondents in Category One as indicated in Table 4b (i) showed that none of the teachers at Ocoko Rehabilitation Centre had professional training in special needs education. The results also revealed that there was no teacher who had been trained in the field of metalwork, although metalwork was part of the vocational education curriculum content of the Center. Most of the respondents in Category One (one administrator and four teachers) said that they needed to go for further studies in special needs education and in their respective fields of subject specialization like carpentry and joinery, tailoring, leatherwork, knitting and weaving as indicated in the results. The teachers further stated that going for further studies would help them acquire more knowledge and skills in their respective fields of subject specialization and in the field of special needs education. This new knowledge and these skills would enable teachers to enhance the teaching-learning processes for the learners with physical disability with maximum results. The responses from the two Categories of respondents also showed that the teachers had

been trained in at least one vocational subject/trade and were skilled in the crafts they handled as indicated in the results. This could have helped to enhance the learning process for learners with physical disability.

Table 4b (ii): Responses from respondents in Category Two (students).

Item	**Responses**
3.Role played by teachers in enhancing the learning process of learners with physical disability	• Teachers teach using models and sketches, they supervise and attend to the needs of individual learners and conduct demonstrations while for workshop practice (RS2, RS5 and RS6) • Teachers give counseling and career guidance to learners with physical disability to enable them to manage emotional and behavioural problems (RS1 and RS4) • Teachers were caring, trained us in using assistive devices and provided physical support during workshop practicals (RS3)

Key: In Table 4b (ii), RS means respondents who are students.

Concerning ways through which teachers enhanced the learning process of learners with physical disability; most of the respondents (RS2, RS5, and RS6) mentioned teaching through the use of demonstrations, models and sketches. Some of their responses confirmed while a few contradicted what the teachers and the administrator said.

In addition, respondents (RS1 and RS4) also mentioned counseling and guidance given to learners with physical disability as some of the roles performed by teachers in enhancing the

learning process for learners with physical disability. This was intended to enable them to manage social and emotional problems. However, the respondents did not have any professional training in career guidance and counseling. What they did was out of concern or consideration for the learners with physical disability. The respondents said that some teachers showed care and provided physical support during workshop practicals. Respondent (RS3) also stated that teachers enhanced their learning by attending to individual needs of the learners with physical disability and through close supervision of their work.

In relation to the role played by teachers in enhancing the learning process of learners with physical disability, three respondents (RS2, RS5 and RS6) stated that teachers teach using models and sketches, they supervised and attended to their individual needs and conducted demonstrations during workshop practice. According to respondents (RS1 and RS4), teachers gave them counseling and career guidance so as to manage emotional and behavioural problems during their studies.

Respondent (RS3) was of the view that teachers were caring and trained them in using assistive devices in addition to providing physical support during workshop practicals. The physical support here involved pushing of the wheelchair when necessary. The next section presents information collected by use of photographs taken by the researcher to illustrate a point on the use of models in teaching to enhance the learning process of learners with physical disability. Figure 4.8 displays training materials (models of women's handbags). These models are used by teachers in the teaching-learning process.

Figure 4.8: Models of women's handbags, instruction materials used in teaching-learning process

(Source: The Researcher)

The researcher observed that the teachers applied some of the pedagogical skills required in handling learners with physical disability to enhance their learning. The teachers showed extra care, paid close attention to learners needs by allowing the learners extra time to understand the lessons and to master the practicals skills. Since each of the learners had unique physical disability challenges, these challenges might have retarded their learning process. Thus, the extra efforts made by the teachers enhanced the learning process for students with physical disability at the Centre. As one respondent (RS2) stated:

> The teachers/instructors supervised our work and attended to each one of us because we have got different individual challenges. The facilitators/instructors are always good and enabled me to learn many things, especially clothes-making and self management. I enjoy this programme a lot; I love it and I'm happy (Interview held on 3rd/May/2010 from 09:30-10:30 am, at Ocoko Rehabilitation Center with respondent RS2).

According to this respondent's point of view, the teachers who helped to deliver the vocational education curriculum were helpful and therefore, useful. It means that the teachers were able to respond to their special educational needs, inclinations and interests. The findings also revealed that although teachers at Ocoko Rehabilitation Centre had been trained in vocational trades, the roles they played in enhancing the learning process of learners with physical disability were limited because none of them had been trained in special needs education.

In a nutshell, the results from the respondents showed that all the teachers were trained in at least one vocational field ranging from leather work, carpentry and joinery, tailoring, knitting and weaving. However, metalwork was not taught at Ocoko Rehabilitation Centre as observed by the researcher, although metalwork was contained in the curriculum of the institution. This was due to the lack of a metalwork teacher at Ocoko Rehabilitation Centre at the time when the research was being conducted. The teachers enhanced learning for the learners with physical disability through classroom teaching and they made use of models, demonstrations and by exercising much patience in the process. The teachers also gave career guidance on what the learners could best study, given their form of physical disability. They also counseled some of the students who were emotionally and socially distressed to help them cope with the learning conditions. The teachers supervised the learners and paid close attention to individual needs of the learners with physical disability. In the next section the focus is on objective three which was meant to find out how the available assistive devices in Ocoko Rehabilitation Centre enhanced learning for students with physical disability.

4.4 Analysis and Interpretation of Data for Objective three

The aim of objective three was **"to find out how the various assistive devices available in the vocational institutions enhanced learning for students with physical disability".**

The researcher collected data from two categories of respondents and these were as follows: Category One consisted of one administrator and four teachers and in Category Two six students were involved as respondents. Data was collected using items in the interview guide and observation check list. The different categories of respondents (R) were coded as follows: responses from respondents in Category One (one administrator and four teachers) were coded as RA, RT1, RT2, RT3 and RT4 respectively. While responses from respondents in Category Two (six students) were coded as RS1, RS2, RS3, RS4, RS5 and RS6 respectively. This was done in order to make presentation and analysis of data easy.

Responses of respondents in relation to the available assistive devices that enhance learning for learners with physical disability

The researcher sought the responses from the two categories of respondents in relation to the important assistive devices that enhanced learning for students with physical disability. The responses of the respondents concerning whether the important assistive devices were available for learners with physical disability, are presented as follows; the respondents from the two categories expressed the opinion that the learners with physical disability learning at the Center had got some assistive devices. They further added that the assistive devices especially the wheelchairs were not enough for all the students because they were expensive to purchase since government does not provide them to students. The respondents said that it was the responsibility of each learner with physical disability to come with their own assistive devices from home. This had implications for the learning processes of the students.

In relation to the item concerning the type of assistive devices learners with physical disability had, the respondents said that learners with physical disability learning at the Center had the

following assistive devices: wheelchairs, crutches, walking sticks, a low working bench, ramps and sewing machines with hand pedals.

Table 4c (i): Responses from respondents in category one (one administrator and four teachers)

Item	Response
3. In what ways do the available assistive devices enhance the learning process of learners with physical disability?	• Assistive devices enhance the learning process of learners with physical disability by motivating them towards effective learning (RT2,and RT4) • Assistive devices enable learners with physical disability to move freely with ease, enhanced mobility and hence saving time for learning (RT1 and RA) • Special facilities like a low working bench and sewing machines with hand pedals enhanced the learning process of the learners with physical disability by enhancing their ability to become independent and self reliant in learning and in life (RT3)

Key: In Table 4c (i), RA means respondent who is an administrator, RT means respondents who are teachers.

Concerning how assistive devices enhanced learning for learners with physical disability, two respondents (RT2 and RT4) said that assistive devices motivated learners with physical disability towards learning because of easy accessibility to and from offices, classrooms and workshops. Two other respondents (RT1 and RA) said that assistive devices enabled the learners with

physical disability to move freely and easily and in the process they saved time. Another respondent (RT3) argued that special facilities like a low working bench and sewing machines with hand pedals enhanced the ability of the learners with physical disability to learn practical skills because they were easy to use. The respondent (RT3) also argued that assistive devices enhanced the learning process of the learners with physical disability by enhancing their ability to become independent and self-reliant in learning and in life. In the words of respondent RT3, he had this to say:

> In fact the people of Democratic Republic of Congo preferred to use hand pedaled sewing machines because they were easy for them to operate compared to those operated by the feet. Most of the Congolese tailors now use sewing machines adapted with hand pedals (Interview held on 16th/April/2010 from 12:00-01:00pm, at Ocoko Rehabilitation Center with respondent RT3).

In the statement above, the respondent tried to explain how easy it was to use a sewing machine adapted with hand pedals. It is therefore, easy too for learners with physical disability to use and this could greatly enhance their learning process. Thus the learners with physical disability need to be facilitated with assistive devices in order to enhance their learning of vocational theory, knowledge and practice.

Table 4c (ii): Responses from respondents in category two (six students)

Item	Response
3. In what ways do the available assistive devices enhance the learning process of learners with physical disability?	• Assistive devices improve the interest and motivation of the learners with physical disability in the learning process (RS1) • Special facilities such as a low working bench and sewing machines with and pedals make it easy for us learners with severe physical disability to learn practical skills by improving on our independence (RS2 and RS3) • Assistive devices like wheel chairs, crutches, and ramps keep us motivated, improve on our mobility and save time wasted in mobility for learning (RS4,RS5 and RS6)

Key: In Table 4c (ii), RS means respondents who are students.

The respondents gave varied responses concerning how the assistive devices enhanced learning for learners with physical disability. Some of the responses confirmed while a few contradicted what the administrator and the teachers said. Out of the six respondents, three respondents ((RS4,RS5,and RS6) argued that assistive devices like wheelchairs, crutches and ramps enhanced their learning by keeping them motivated and saving time they wasted on mobility.

Two of the respondents (RS2 and RS3) said that special facilities like a low working bench and sewing machines with hand pedals made learning of practical skills easy for learners with severe physical disability. This they said was made possible by enhancing their ability to become

independent in making items by themselves during workshop practice. Respondent RS1 stated that assistive devices like wheelchairs, crutches and ramps improved their interest and motivation as learners with physical disability towards learning by saving time wasted in moving on difficult terrain and in the process this enhanced their learning.

The results from the respondents showed that the most common important assistive devices mentioned that enhanced learning for learners with physical disability were wheelchairs, crutches and walking sticks. Meanwhile access ramps, a low working bench and sewing machines with hand pedals were the least mentioned important assistive devices that enhanced learning for learners with physical disability. This is in line with what one respondent (RS4) stated in relation to how assistive devices enhanced learning for learners with physical disability:

> In many cases, assistive devices like access ramps, and my wheelchairs are essential because they enable me to become independent and help me to cope with the learning conditions (Interview held on 5th/may/2010 from 2:00-3:00pm, at Ocoko Rehabilitation Center with respondent RS4).

This view is best illustrated by one of the important assistive devices the researcher observed, a low working bench/table found in the carpentry and joinery class. This working bench was improvised or adapted for a learner with short lower limbs which could not be straightened and it was specially designed to match such a learner's height. This working bench was very appropriate and enhanced the learning of practical skills for learners with severe physical disability. In the results, the respondents mentioned easy movement, time saved, and motivation towards learning as the most common ways through which assistive devices enhanced learning for learners with physical disability. According to one of the respondents (RS2), assistive

devices like a low working bench made him work with ease because it was suitable for his need that is, the short lower limbs and inability to stand upright. As for another respondent (RS3), assistive devices like sewing machine with hand pedals made practical work easy. In her own words she had this to say:

> Assistive devices such as sewing machine with hand pedals make me work with ease and therefore, enhance my learning because I'm able to make clothes easily. I use my hands to operate the sewing machine which could be difficult if I had to use my legs (Interview held on 5th/May/2010 from 10:30-11:30am, at Ocoko Rehabilitation Center with respondent RS3).

Some of the special facilities like sewing machines operated by means of hands have enhanced the learning process of learners with physical disability at Ocoko Rehabilitation Centre. In the next section, information collected through photographs is presented to illustrate how a sewing machine adapted with hand pedals and a low working bench looks like as indicated in Figure 4.9 and 4.11 respectively.

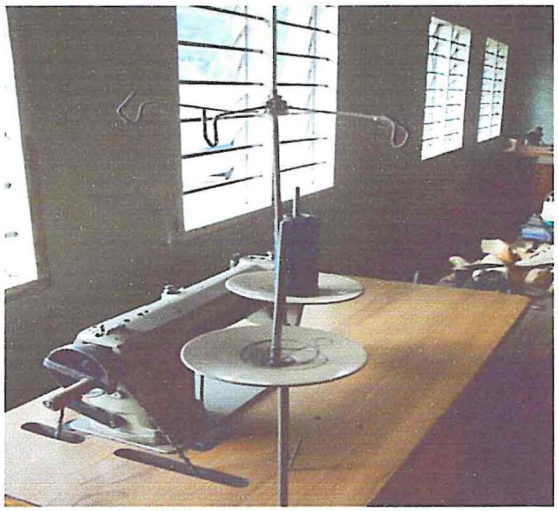

Figure 4.9 Sewing machine adapted with hand pedals for learners with severe physical disability. This type of sewing machine is hand operated and it is used to sew clothes in tailoring class.

(Source: The Researcher)

The views expressed by most of the respondents under Objective Three revealed that it was necessary for assistive devices to be available and in place, if they were to learn effectively. The researcher observed that assistive devices like wheelchairs, walking sticks, crutches, sewing machines with hand pedals, a low working bench and access ramps played an important role in enhancing learning process for learners with physical disability.

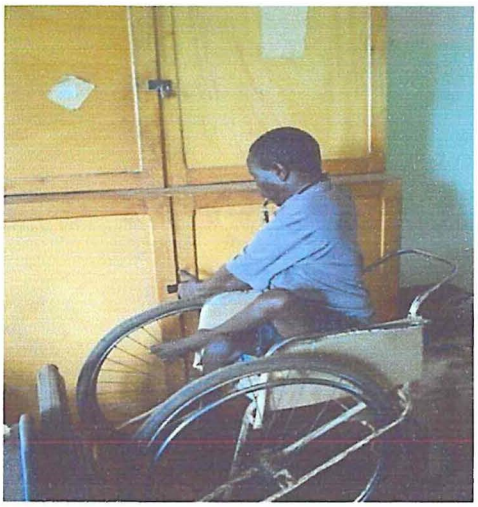

Figure 4.10: A learner using a wheel chair.

Figure 4.11: A low working bench/table used by learners with severe physical disability for planing.

Source: The Researcher).

According to the respondents, the most common ways through which these assistive devices enhanced learning for learners with physical disability were to motivate learners towards learning, save time and mobility was made easy as per the responses in the findings. Assistive devices also made practical work easy, accessibility was improved and interest was generated towards learning. These were the least mentioned ways through which learning for learners with physical disability was enhanced by the use of assistive devices.

In summary, the findings in Table 4c (ii) indicated that the assistive devices available at the centre that enhanced learning for learners with physical disability included access ramps, wheelchairs, walking sticks and crutches. They also included special facilities like a low working bench and sewing machines with hand pedals that enhanced learning for learners with severe physical disability. The respondents said that the assistive devices and special facilities available were in short supply and therefore, not sufficient for them. The assistive devices enhanced learning for the learners through motivation and creating interest towards learning; they also saved time in terms of movement and access to and from offices, classrooms and workshops. The findings further revealed that sewing machines with hand pedals and a low working bench made practical work in workshops for the learners with severe physical disability easy to cope with. This is because these special facilities were adapted to be used by the learners with severe physical disability.

The next chapter discusses the findings, draws conclusions, and makes recommendations from the study.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

In this chapter the researcher presents a detailed discussion of the study findings, from which conclusions and recommendations have been made. Each of these aspects is presented according to the three objectives of the study. Objective One of the study was meant to establish the relevance of the vocational education curriculum in relation to learners with physical disability, Objective Two was intended to assess the role played by teachers in enhancing the learning process of learners with physical disability and Objective Three was to find out how the available assistive devices in the vocational institutions enhance learning for students with physical disability.

5.1 Discussion

5.1.1 Discussion of Findings

The key findings concerning responses to this research objective revealed that the content of the vocational education curriculum included carpentry and joinery, leatherwork, metalwork, tailoring, pastoral subjects, knitting and weaving as indicated in the findings. According to the Outline curriculum (2001) of Ocoko Rehabilitation Centre, the aim of the vocational education curriculum was to develop trainees' self confidence so as to enable them to be fully participating members of their community. The learners said they wanted to learn practical skills which they could easily apply in the world of work. Most of the learners had wanted to learn trade related

skills so as to live an independent life in the community. This is in line with the views expressed by Smith, (2000) that vocational education curriculum cannot operate in a vacuum and that the curriculum must focus on what a learner can be able to do. He further argued that the vocational education content should be based on the actual work situation. This would serve as a foundation for the world of work in the mainstream economy. In the same way Sendegeya, (2010: 20) argued that interest in a particular subject or area of learning is one of the attention-directing tools a teacher can use to improve a student's focus and learning. Sendegeya, (2010) further stressed that every student may be found to possess strength, success or particular interest in an aspect of the curriculum and not others. The role of the teacher is therefore to identify students' interests and build on these interests for meaningful learning to take place (Nilsson, 2008). This, as stressed in the masters degree in vocational pedagogy course by professors Mjelde and Nilsson during class presentations, is at the core of the art of mentoring. In my opinion, meaningful learning is a holistic function of interest on the part of the learner, availability of teaching-learning materials, assistive devices which all combine to give rise to effective learning and good, skilled mentoring. While in the absence of the interest on the part of the learner, assistive devices and materials, learning of vocational skills for learners with physical disability would not be effectively done.

The study showed that the form of learning was workshop practice and through workshop practice the learners with physical disability were able to acquire skills to make items of marketable value for sale to earn an income as illustrated by Figures 4.6 and 4.7 showing the products of knitting and weaving. These products were made on orders from members of the public as an income generating project for the centre. According to Mjelde, (2006), at the core of learning processes is learning through practice, activity and experience so that learning is

complete. In the same way Ssekamwa, (2000: 5) has stated that in indigenous African education, technical skills were taught through doing or making things and the learner was given an opportunity to practice that very skill. He said that the particular skill was repeated until the learner did it correctly.

As such at Ocoko Rehabilitation Center, the researcher observed that learners with physical disability were given extra time towards the end of their courses which enabled them to make items on order from members of the public. This vocational practice was intended to perfect the skills they had learned during workshop practice like a graduating test. In my view, vocational education in training institutions has to be related to the actual practice, activity and experience as it is in the world of work if the training is to benefit learners with physical disability.

Some of the respondents especially the center administrator and two teachers revealed that Ocoko Rehabilitation Centre uses the new concept of Community Based Rehabilitation (CBR). In this approach the training of persons with physical disability is done in a holistic way. In the holistic approach, the family, community, the teachers and the persons with disabilities themselves work together. The community based rehabilitation holistic approach empowers persons with disability (PWDs) and enables them to acquire the skills they needed to support themselves and their families. This is in agreement with the policies of Uganda Society for Disabled Children (USDC), as indicated in the USDC Annual Review Report 2002/2003, which emphasizes the use of holistic approach in addressing the needs of children with disabilities in Uganda. Through these skills they would become fully participating members of their communities. They would become useful and resourceful not only to themselves but also to others. Through the new approach of community based rehabilitation, learners with physical

disability were given greater responsibility to manage their own affairs and they could be supported only when they needed help. This was aimed at making them to live independent lives. This could enable them to learn self-management of time, resources and copying skills despite being with physical disability. They acquired these skills through proper delivery of the subject content of carpentry and joinery, leather work, tailoring, knitting and weaving as well as pastoral subjects. I do believe that, by giving greater autonomy to the learners with physical disability to manage their own affairs would empower them to become self-reliant in every aspect of life including economic self-reliance.

The practical skills acquired would enable the learners with physical disability on their return home to become self-reliant. The aims and objectives of the vocational education curriculum have been met through the use of a holistic approach. Therefore the Centre adopted a structured program of activities involving all staff members of Ocoko Rehabilitation Centre, appropriate outside agencies and the trainees in fulfillment of the principles of community based rehabilitation.

The research findings also showed that all the teachers were trained craft people or qualified in the trades they taught as reflected in the findings (See findings on objective two of the study for details) concerning level of education and field of subject specialization of teachers. The findings showed that the teachers had training in the following fields; carpentry and joinery, leatherwork, tailoring, knitting and weaving, machine maintenance and in making of aids and appliances for persons with physical disability. However, the study findings indicated that none of the teachers had been trained in special needs education or in metalwork. Yet metalwork was part of the curriculum content. The teachers enhanced learning for the learners with physical disability

through classroom teaching using models and demonstrations. An example of models used is indicated in Figure 4.8 showing women's handbags being used as instructional materials in teaching.

The teachers also gave career guidance on what the learners could best study given their form of physical disability and they counseled students who were emotionally and socially distressed to help them cope with the learning conditions. The teachers supervised, cared for the learners to protect them from accidents and paid close attention to individual needs of the learners. This is in line with the views expressed by Sendegeya, (2010: 20) who argues it is the interest of the learners that the teacher can capitalize on the needs of students to help them pay more attention in school. In my view, it is evident from this statement that the willingness to learn a particular skill originates from the student who is then motivated by the teacher during the teaching-learning process in order to realize the full potential of the learner.

At Ocoko Rehabilitation Centre, none of the teachers was trained in special needs education. The teachers could not express themselves well in sign language and therefore, learners with hearing impairment could not benefit much from their instructions. Learners with physical disability therefore need special needs education teachers in order to better enhance their learning process. The learners with hearing impairment would not benefit from the skills and knowledge from the vocational education which is required to become self-reliant as expressed in the aims of the vocational education curriculum.

The teachers ideally lacked the knowledge and skills of sign language to cater for the interests of learners with hearing impairment at the centre; the teachers at best used gestures and demonstration to enhance their learning. This is in line with the views expressed in the USDC

Annual Review Report (2002/2003: 10) which stated that most schools do not have special needs teachers, and that those that do have only one or two. The absence of special needs teachers at Ocoko Rehabilitation Center was therefore not an exception. This tends to affect the way vocational knowledge and skills are delivered to learners with physical disability. Although the teachers were not trained in special needs education, they were able to relate well with their students during lesson times and workshop practicals. For example, they paid close attention to the learners, offered physical support like training the learners to use wheelchairs and caring for them while in the workshops to prevent accidents. In my own perspective, teachers at the center should be given some refresher courses on how to handle learners with physical disability so as to better enhance their learning. Such refresher courses could be specifically tailored to meet the special needs of the individual learners to fully realize their potentials through vocational education.

The study showed that there was no teacher for metalwork, yet it was part of the curriculum of the institution. This implied that learners who would have wished to study metalwork had to be forced to do other subjects probably not of their own interest and they would fail to carry on with the subject given to them after their studies. In the end, they would not have benefited from the vocational training. Most of the teachers the researcher interviewed said they wanted to go for further studies in the field of special needs education and in their fields of subject specialization. The teachers' fields of subject specialization included carpentry and joinery, leatherwork, tailoring, knitting and weaving in order to enhance learning for learners with physical disability. I'm of the view that the respondents felt they were lacking some of the essential skills needed to bring out the best in learners with physical disability. With essential skills both in the field of special needs and in their respective trades or fields of subject specialization, the respondents

could positively enhance the acquisition of relevant vocational knowledge and skills by learners with physical disability.

The findings also revealed that assistive devices available at Ocoko Rehabilitation Centre that enhanced learning for learners with physical disability included access ramps, wheelchairs, walking sticks and crutches. While special facilities available that enhanced learning for learners with physical disability were a low working bench and sewing machines with hand pedals. This is in agreement with the law in United Kingdom which says that all state schools must do their best to see that special help is provided for all children with special needs and that this help should be based on specialist advice (BBC News/UK/Education, 2005). The same situation exists in Uganda whereby the law requires a thorough assessment of the needs of learners with physical disability, giving details of the difficulties they experienced so that the most appropriate special help required could be prescribed. Accordingly, the Children Act, CAP 59 of laws of Uganda Article 34, of the Constitution of Uganda, children with disabilities shall be assessed early, treated appropriately, rehabilitated and offered equal opportunities to education (sections 2-9). Thus in my opinion, without the availability of assistive devices as indicated in the findings on objective three, it is extremely difficult for a child with physical disability to have equal access to vocational education which is required to learn skills for independence, and certification in a self-sustaining trade.

The assistive devices are known to have enhanced learning for the learners through motivation and by creating interest in the learners with physical disability towards learning. They also saved time in the process of learners' locomotion and movement; offices, classrooms and workshops were made accessible. This finding is consistent with the argument that assistive devices promote

greater independence by enabling people with physical disability to perform tasks that they were unable to accomplish by providing enhancements[12] This could also be done by changing methods of interacting with the technology needed to accomplish such tasks. This is because assistive device/technology is a generic term that includes assistive, adaptive and rehabilitative devices for people with disabilities and it includes the process used in selecting, locating and using them. There is therefore, a clear and growing need for assistive devices to help address the special needs of learners with physical disability as they seek to realize their full potential through education. The data revealed that sewing machines with hand pedals and a low working bench made practical work in workshops for the learners with severe physical disability easy to cope with. It is therefore important that government and the Vocational Center make necessary adaptations to ensure that learners with physical disability gain from the vocational training so as to become self-reliant socially and economically.

The researcher observed that assistive devices like wheelchairs, walking sticks, crutches, sewing machines with hand pedals and a low working bench played an important role in enhancing learning for learners with physical disability to the extent that the absence of these assistive devices like a low working bench and sewing machines with hand pedals would severely affect their performance academically, socially and economically.

The respondents said that these assistive devices and special facilities were in short supply and therefore, insufficient for maximal learning. This is contrary to the position articulated in the USDC Annual Review Report (2002/2003: 10). The USDC Annual Review Report (2002/2003) says that although parents are responsible for providing the extra learning materials their children

[12] The findings on how assistive devices enhanced learning for learners with physical disability were retrieved from the website: www.buyusa.gov.canada/en/studentswithspecialneeds.pdf

require such as wheelchairs, crutches and assistive devices like wheelchairs, these are quite expensive for most families. Some parents may not be able to purchase such devices and the combination of lack of materials and assistive devices/aids affects each child's learning.

According to most of the student respondents, the inadequacy of assistive devices like wheelchairs, crutches and walking sticks led to wastage of time while moving to and from workshops, office and within the centre. Learners with physical disability especially those with diplegia, a medical condition which involves weakness in muscle movement in the lower limbs may make movement difficult for them. This muscle weakness in the lower limbs normally causes immobility. The state of being immobile from my observations of the learners during the research process demotivated the learners with weak lower muscles and this affected negatively their desire to learn. The limitation in mobility and poor motivation of learners with weak lower muscles would further negatively affect their social relations with fellow students and members of the community. These poor social relationships with fellow students and members of the community seemed to be caused by limited social interaction as a result of limited mobility, and in turn, the negativity had a poor effect on working and learning in groups in general.

The assistive devices like access ramps, wheelchairs, crutches and walking sticks enhanced learning for learners with physical disability by motivating them towards learning, saving time and making access and mobility easy. This is in line with the USDC Annual Review Report (2002/2003: 4) which states that children with disabilities should be included in every aspect of daily life in our society through provision of essential aids and appliances. This is meant to promote free interaction of the learners for effective learning to take place. Special facilities like a low working bench and sewing machines with hand pedals simply made workshop practicals

easy because they were specially designed or adapted to meet the special needs of learners with short lower limbs. This point is best emphasized by the fact that the Organization for Education, Economic Cooperation and Development's (OECD) Programme on Educational Building (PEB) International Conference (2008), which stated that design, plays a crucial role in providing an effective learning environment for all students. It was also emphasized in the conference that infrastructure plays an important role in improving the inclusion of learners with special needs in education. In my opinion and based on the views expressed at the conference in 2008, assistive devices contribute greatly in enhancing the learning process for learners with physical disability.

5.2 Conclusions

Conclusions are hereby drawn with respect to the findings in the study. The findings are presented according to the research objectives. The objectives of the study were to establish the relevance of the vocational education curriculum to learners with physical disability in vocational institutions, assess the role of teachers in enhancing the learning process of learners with physical disability, and to finding out how the various assistive devices available in the vocational institutions enhance learning for students with physical disability.

In Ocoko Rehabilitation Centre, the vocational education curriculum contained carpentry and joinery, tailoring, knitting and joinery, leatherwork, metalwork and pastoral subjects. These subjects were relevant to the learners with physical disability in that they were practical in nature. Learning was through workshop practice and this equipped the learners with practical skills they required to become economically self-reliant. The learners with physical disability were able to make products of marketable value which were already enabling the institution to earn income. In the end these practical skills the learners acquired would also enable them to

earn an income when in the world of work. This was in line with the aim of the vocational education curriculum (2001), of Ocoko Rehabilitation Center. The aim of the vocational education curriculum was to develop trainees self confidence to a level that would enable the learners to be fully participating members of their community. However, the level of vocational theory being verbal in nature was not as it was in other vocational training institutions I visited during the research expeditions in 2009 (See Appendix 9 for details). General knowledge consisted of the pastoral subjects that included health related issues and life skills. According to Nilsson, (2008) vocational education is a component of vocational didactics where vocational education has got three parts (a) vocational practice/practical skills (b) vocational theory and (c) general knowledge. Vocational technique is the umbrella term for (a) practical skills and (b) vocational theory. These core components of vocational education were not fully exploited by the Center.

Secondly, the teachers at Ocoko Rehabilitation center had got training in vocational subjects like carpentry and joinery, leatherworks, tailoring, knitting and weaving. The study also revealed that none of the teachers had been trained in either special needs education or in metalwork. As a result, there is a training gap among the teaching staff and this was complicated by an inadequate number of teachers at the Center, hence calling for an intervention. The teachers enhance learning for learners with physical disability by making use of models and demonstrations. Teachers also perform some other roles such as career guidance and counseling.

The third and last conclusion is that the assistive devices available at the center were access ramps, wheelchairs, crutches, walking sticks. The special facilities included a low working bench

and sewing machines with hand pedals and these special facilities together with the assistive devices contributed greatly to enhancing the learning of learners with physical disability. The assistive devices enhanced learning through motivation. They further created interest in the learners towards learning, saved time, made movement and access easy. The special facilities made learners with severe physical disability work with ease in the workshops. The study findings also revealed that the assistive devices and special facilities at the Centre were not sufficient for all the learners with physical disability. As a result some learners were requested to share available assistive devices with those who did not have them as a coping mechanism. The special facilities, equipments and assistive devices at the Center were much better compared to the conditions of learning I found at the vocational training institutions visited during research expeditions we carried out for our mini-projects in Kampala District in 2009 (See Appendix 9 for details of vocational institutions visited during the research expeditions). This was due to the support provided to Ocoko Vocational Rehabilitation Center by the Uganda Society for Disabled Children (USDC).

5.3 Recommendations

The researcher made recommendations based on the conclusions and following the specific objectives of the study. The researcher therefore, made recommendations as follows;

- In Objective One the respondents revealed that the duration for training was not long enough and that training materials were inadequate. This calls for the administration of Ocoko Rehabilitation Centre to extend the duration for training from the current one year to at least two to three years so that the learners have adequate time to learn and master the practical tasks. In addition, teaching-learning materials should be made readily

available. This would ensure effective vocational education and training for learners with physical disability so as to make the vocational education curriculum relevant to the needs of learners with physical disability and the world of work. In order to achieve this, the vocational education curriculum should be made flexible enough to respond to the varied needs of learners with physical disability and the current needs of the world of work.

- The findings in Objective Two also indicated that the role played by teachers in enhancing the learning process of learners with physical disability was limited by the lack of professionally trained teachers in the field of special needs education at Ocoko Rehabilitation Centre. In line with this finding, the government should recruit special needs teachers and regularize the teaching staff on permanent basis to cater for the under staffing and lack of special needs education teachers experienced at Ocoko Rehabilitation Centre. The central government should also facilitate in-service training of the available teaching staff in the field of special needs education and in their respective fields of vocational subject specialization to enhance the learning process of learners with physical disability.
- In Objective Three, the results revealed that the various assistive devices available in Ocoko Rehabilitation Centre enhanced learning for students with physical disability in one way or the other, although the assistive devices were said to be inadequate. Accordingly, both the central government of the Republic of Uganda and local government of Arua District should streamline funding to ensure equitable spending in the education sector budget on areas such as special needs education. The government should provide adequate financial support for purchase of teaching materials, assistive

devices, special facilities, food, and treatment so as to provide holistic vocational education to the learners with physical disability.

5.4 Suggestions for further research

There is need to explore further and find answers to issues which emerged from the research. These issues deserve further investigation in order to promote sensitivity of vocational institutions towards learners with physical disability in Uganda. There is need to carry out further research to find about the following issues;

- The inability of government to recruit special needs education teachers at Ocoko Rehabilitation Centre, yet Kyambogo University graduates special needs education teachers on yearly basis.
- The low enrolment of learners with physical disability at Ocoko Rehabilitation Centre although the centre was started in 1968.
- The low level of political will from the Central government and Arua District Local government in terms of adequate funding to Ocoko Rehabilitation Centre for purchase of training materials, assistive devices, tools, and food.
- The role of responsible actors such as members of parliament, councilors representing persons with disabilities in the central and local governments in promoting the rights of PWDs towards vocational education through sensitizing members of the public.

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APENDICES

Appendix 1: Introduction Letter from AG. Dean Kyambogo University Graduate School

KYAMBOGO UNIVERSITY
P. O. BOX 1 KYAMBOGO
Tel: 041 - 285001/2 /285037 Fax: 256-41-220464
Website: www.kyu.ac.ug
Kyambogo University Graduate School

Date....07/04/2010

To:
THE ADMINISTRATOR,
OCOKOE REHABILITATION CENTRE,
ARUA DISTRICT, UGANDA.

RE: LETTER OF INTRODUCTION

This is introduce.....MR. DRAJI JOHN BOSCO.....Reg. No. .....2009/HD/005/MVP.....who is a student of Kyambogo University pursuing a Masters Degree in Vocational Pedagogy.

He/She intends to carry out a research on:
SENSITIVITY OF VOCATIONAL EDUCATION INSTITUTIONS TO LEARNERS WITH PHYSICAL DISABILITY: CASE STUDY OF OCOKO REHABILITATION CENTRE IN ARUA, UGANDA.

As partial fulfillment of the requirements for the award of the Degree of Master in Vocational Pedagogy.

We therefore kindly request you to grant him/her permission to carry out this study in your organisation.

Any assistance accorded to him/her shall be highly appreciated.

Thank you

Yours Faithfully,

KYAMBOGO UNIVERSITY
OFFICE OF THE REGISTRAR
07 APR 2010
REGISTERED

Dr. Habib Kato
AG. DEAN, KYAMBOGO UNIVERSITY GRADUATE SCHOOL

Appendix 2: Introduction Letter from the Researcher

Dear respondent,

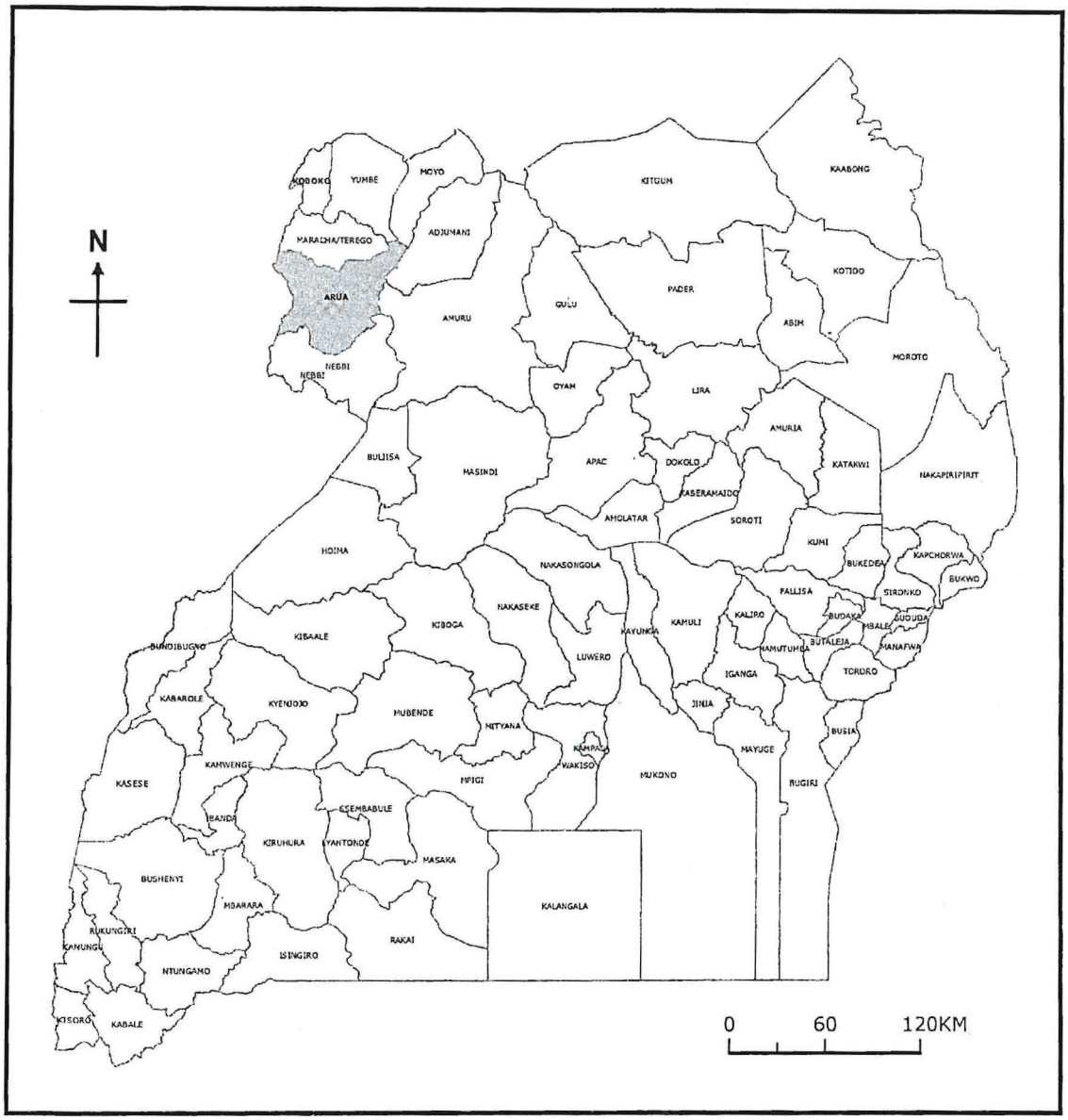
I am Draji John Bosco, a student of Kyambogo University pursuing a Masters Degree in Vocational Pedagogy. I am carrying out a study to establish the sensitivity of Ocoko Rehabilitation Centre in Arua District to the needs of learners with physical disability in order to make them become self reliant through practical skills development.

I kindly request you to provide the necessary information that will help you and me to reassess our role in promoting the vocational education of learners with physical disability in this vocational institution.

The study is purely for academic purposes and the information provided will be treated with utmost confidentiality.

Thank you

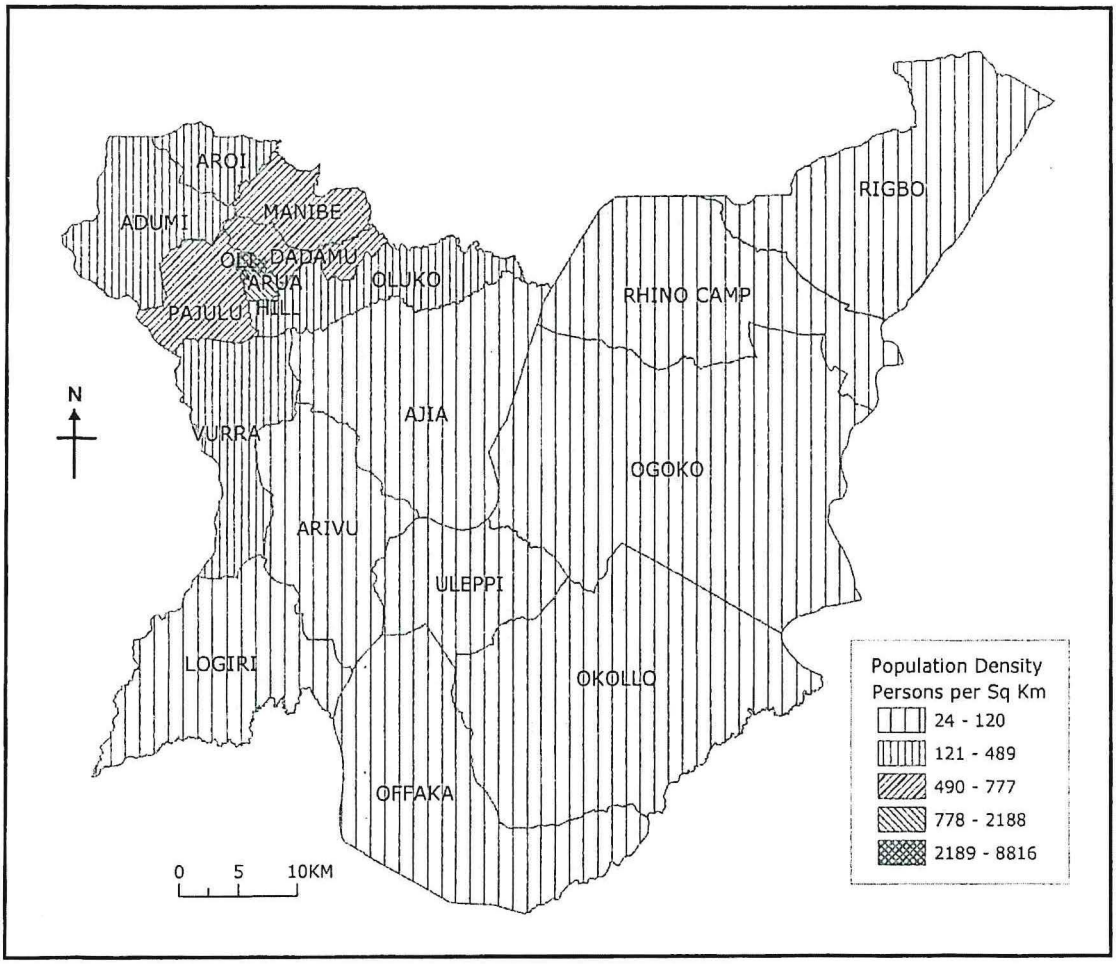
Appendix 3: Map of Uganda showing the location of Arua District



Source: Arua District Local Government Planning Unit requested by the researcher

Appendix 4: Map of Arua District showing the location of Ajia Sub- County where Ocoko Rehabilitation Centre is situated

ARUA DISTRICT



Sources: Arua District Local Government Planning Unit requested by the researcher

Appendix 5: Interview Guide for Administrators

Section A: Demographic Information

1. Age.....

2. Experience.....

3. Sex.....

4. Qualification.....

Section B: Research Objectives

Section B1: The Relevance of the Vocational Education Curriculum in Ocoko Rehabilitation Centre to Learners with Physical Disability

1. What is the content of the vocational education curriculum offered to learners with physical disability in Ocoko Rehabilitation Centre?.....

2. How does the curriculum address the special needs and expectations of the learners with physical disability? Please explain by giving examples.....

3. What are the instructional methods used for teaching learners with physical disability?.....

Section B2: The Role Played by Teachers in Enhancing the Learning Process of Learners with Physical Disability

4. What is the teachers' level of education in Ocoko Rehabilitation Centre?

5. What is the field of subject specialization of teachers in this institution?.....

6. What role do teachers in Ocoko Rehabilitation Centre play in enhancing the learning process of students with physical disability?.....

Section B3: How the Available Assistive Devices Enhance the Learning Process of Learners with Physical Disability

7. Are there assistive devices available for learners with physical disability in Ocoko Rehabilitation Centre?.....

8. What type of assistive devices do they have? .....

9. In what ways do the available assistive devices enhance the learning process of learners with physical disability?

Thank you for participating in this interview

Appendix 6: Interview Guide for Teachers

Section A: Demographic Information

1. Age.....

2. Experience.....

3. Sex.....

4. Qualification.....

Section B: Research Objectives

Section B1: The Relevance of the Vocational Education Curriculum in Ocoko Rehabilitation Centre to Learners with Physical Disability

1. What is the content of the vocational education curriculum offered to learners with physical disability in Ocoko Rehabilitation Centres?

2. As a teacher in this institution, how does this curriculum address the special needs and expectations of learners with physical disability? Give reasons for your answer.....

3. What are the instructional methods used in teaching learners with physical disability?.....

Section B2: The Role played by Teachers in Enhancing the Learning Process of Learners with Physical Disability

4. What is your level of education?.....

5 What is your field of subject specialization?.....

6. What role do you play in enhancing the learning process of students with physical disability?.....

Section B3: How the Available Assistive Devices Enhance the Learning Process of Learners with Physical Disability

7. Are there assistive devices available for learners with physical disability in Ocoko Rehabilitation Centre?

8. What type of assistive devices do they have?.....

9. In what ways do the available assistive devices enhance the learning process of learners with physical disability?.....

Thank you for participating in this interview

Appendix 7: Interview Guide for Students

Section A: Demographic Information

1. Age.....

2. Experience.....

3. Sex.....

4. Qualification.....

Section B: Research Objectives

Section B1: The Relevance of the Vocational Education Curriculum in Ocoko Rehabilitation Centre to Learners with Physical Disability

1. What is the content of the vocational education curriculum that you study?.....

2. How does the vocational education curriculum in this institution address your special needs and expectations? Please explain your answer.....

3. What are the instructional methods used in teaching learners with physical disability?.....

Section B2: The Role Played by Teachers in Enhancing the Learning Process of Learners with Physical Disability

4. What is the teachers' level of education in Ocoko Rehabilitation Centre?.....

5. What is the teachers' field of subject specialization in this institution?.....

6. What role do teachers in Ocoko Rehabilitation Centre play in enhancing your learning as learners with physical disability? Please explain your answer by giving examples.....

Section B3: How the Available Assistive Devices Enhance the Learning process of Learners with Physical Disability

7. Are there assistive devices available for learners with physical disability in Ocoko Rehabilitation Centre? .....

8. What type of assistive devices do you have, mention them?.....

9. In what ways do the available assistive devices you use enhance your learning process?

Thank you for participating in this interview

Appendix 8: An Observation Checklist

Item	Absent	Present
1.How the trades being offered in the curriculum blended with the learners with physical disability		
2.Types of Physical Disability of the learners and the special needs they presented		
3.Assistive Devices and special facilities in the institution and how they enhanced learning of learners with physical disability		
4. How the teachers were sensitive to the needs of learners with physical disability		

this group were Kikomeko Joseph, Ajambo Lucy, Badinga Benjamin, Chebet Shamim, Dak Kur Arial, Tumusiime Wycliff, & Draji John Bosco). I'm grateful to the entire class, our dear mentors and facilitators.

12 The semester two activities of 2009 were concluded with an expedition to the Parliament of the Republic of Uganda. The members consisted of the entire pedagogy class, our mentors, the Deputy Vice Chancellor for Academic Affairs, the Dean school of graduate Studies, Kyambogo University, Prof. Liv Mjelde and Dr Richard Daly. The purpose of the expedition to the Parliament was to meet and exchange ideas with members of the social affairs committee of Parliament of the Republic of Uganda concerning the promotion of vocational education in Uganda.