

**TEACHERS' COMPETENCIES IN CONDUCTING FUNCTIONAL LOW VISION
ASSESSMENT OF LEARNERS IN INCLUSIVE PRIMARY SCHOOLS
IN ARUA DISTRICT**

BY

**FIRUAH AGNES
15/U/15952/GMSN/PE**

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DECLARATION BY THE CANDIDATE

I FIRUAH AGNES declare that this work on “teachers’ competencies in conducting functional low vision assessment of learners in inclusive schools” is my original work. It has not been presented for the award of master’s degree in any other university. I acknowledge all information from other sources.

Signature..........Date30th Oct. 2019.....

FIRUAH AGNES

15/U15952/GMSN/PE

Department of Special Needs Studies.

DECLARATION BY THE SUPERVISORS

We the University supervisors confirm the work done by the candidate under our supervision

Signature..........Date.....30/10/2019.....

Dr. GEORGE WILLY KUTOSI

Department of Special Needs Studies

Kyambogo University

(PRINCIPLE SUPERVISOR)

Signature..........Date.....30/10/2019.....

Dr. NIYISABWA ODETTE TUMWESIGYE

Department of Community and Disability Studies

Kyambogo University

(SUPERVISOR II)

DEDICATION

I dedicate this work to teachers of learners with low vision. Despite of many obstacles to conduct functional assessment of learners with low vision that they encounter during their work, most of them are dedicated to serve the learners with low vision in inclusive schools.

In a special way, I also dedicate this master's degree thesis to my lovely husband Abibo A. Fred, my children Awania Freda Fortunate, Able Raphael Abibo and Feta Junior Samuel. And lastly, my mother Badaru Dinah and other relatives. I appreciate you for our love and support that you gave me in one way or the other. We missed each other, especially my children who were young and tolerated for all these years.

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LIST OF ACRONYMS

ACARA:	Australian Curriculum Assessment and Reporting Authority
NCAPS:	National Curriculum and Assessment Policy Statement
CDOs:	Community Development Officers
CUAAM:	Collegio Universitario Aspiranti Medici Missionari (Italian)
DANIDA:	Danish International Development Agency
EARS:	Educational Assessment and Resource Services
EFA:	Education for All
LWLV:	Learners with Low Vision
NIURE:	National Intervention on Uncorrected Refractive Error
NGOs:	Non-Governmental Organizations
PLE:	Primary Leaving Examinations
SNE:	Special Needs Education
VFA:	Visual Functional Assessment
UNAB:	Uganda National Association for the Blind
UNEB:	Uganda National Examinations Board
UNESCO:	United Nations Educational, Scientific and Cultural Organizations
UNICEF:	United Nations International Children's Emergency Fund
UNDP:	United Nations Development Programme
UNFPA:	United Nations Fund for Population Activities
WHO:	World Health Organization

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ABSTRACT

This study investigated the teachers' competencies to conduct functional low vision assessment of learners in inclusive primary schools in Arua District, Uganda. It sought to explore the ways in which teachers conduct functional assessment of learners with low vision, to investigate the availability of tools used to conduct functional assessment, examine the social and psychological factors which influence functional assessment and to investigate other accessible sources of functional assessment. The study adopted the qualitative research approach with help of a descriptive research design. Purposive sampling was used to select participants and data were collected by use of interview schedules and observation schedules from 25 participants consisting of Education Officer, teachers' parents and learners with low vision in the three selected primary schools and analyzed by use of thematic content analysis. Analysis of data was done by use of the thematic analysis method whereby participants' responses were categorized in themes and subthemes. The findings revealed that; teachers were not competent enough to conduct functional assessment of learners with low vision in inclusive schools. Most schools did not have tools for conducting functional assessment of learners with low vision, there was low teachers –pupil ration, in adequate ways to conduct functional assessment by teachers, and unassessed admission of learners with low vision. It was concluded that teachers' carryout functional assessment using preparation of assessment tools and that the E-chart was the most popular assessment tool used. It was further concluded that familiarization with the learner was the main social and psychological factor that influences assessment of learners and that Arua hospital was the major place for functional assessment. It is recommended that, the government of Uganda should consider refresher courses to teachers who are teaching learners with low vision on how to conduct functional assessment, should provide tools to conduct functional assessment, should enhance training of more special needs teachers, should motivation teachers in inclusive schools, and should conduct regular supervision and monitoring programmes for functional assessment. The findings will help to assist the policy makers, educators and the whole community to improve on conducting functional assessment of learners with low vision in inclusive schools. Lastly, this study recommend the following areas for further research; challenges encountered by teachers in conducting functional assessment of learners with low vision in inclusive schools, and the parental influence in conducting functional assessment of learners with low vision in inclusive schools.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

In this chapter, the researcher presents explains the key variables, background of the study, the statement of the problem, purpose of the study, research objectives, research questions, significance of the study, delimitations and limitations to the study, and operational definition of the key terms.

1.1 Background to the study

This study focused on the teachers' competencies in conducting functional low vision assessment of learners in inclusive schools of Arua District. Teachers competencies is a term increasingly being used in education circle today. It is a description of teachers' ability and measurement of performance. Teachers' competencies may be defined in terms of teacher's knowledge, skills and behaviors. Good functional low vision assessment does not occur in a vacuum, every competent teacher need to possess a strong set of values, skills and knowledge (Chuan, 2010). According to Duffy, (2018), low vision is a condition caused by eye disease, in which visual acuity is 20/70 or poorer in the better-seeing eye and cannot be corrected or improved with eye glasses, contact lenses, medicine, or surgery. Partial sight, partial blindness or poor vision are descriptions used for low vision. However, those descriptions are no longer in general use. Low vision which is uncorrectable vision loss interferes with the daily activities like reading print, signing your name, match colors, drive, and watch television. Low vision may result from specific eye conditions such as; glaucoma, macular degeneration and diabetic retinopathy. Functional assessment is a

process of systematically identifying factors that predict and maintain “behaviors of concern”. The process is necessary to help understand the learners’ behavior of concern. When used effectively, it can be a helpful part of the overall planning process to ensure learners have appropriate resources and support to achieve their desired quality of life. Functional assessment is part of planning to learners with low vision (Deena, 2015). Inclusive schools are described as schools that include and effectively educate all learners regardless of those with low vision. Therefore, there is need to create, cherish and nurture schools. Carl Sandburg summarized the description of inclusive school as ‘there is only one child in the world and that child’s name is ALL children’ (Falvey & Givner, 2005).

Today, the education of children with special Needs is one of the central issues that have globally attracted the attention of the international, national and non-governmental organizations. The movement to have Education for All started way back in early 1990s, and was launched in the world conference at Salamanca. The conference involved various international organizations such as United Nations Educational, Scientific and Cultural Organizations (UNESCO), United Nations Development Program (UNDP), and United Nations Fund for Population Activities (UNFPA), United Nations International Children’s Emergency Fund (UNICEF) and the World Bank. Relevant international, National policies and articles have emerged to talk about inclusive education. Inclusive education means that schools should accommodate all children regardless of their physical, social, intellectual, emotional, linguistic or other conditions (United Nations Educational, Scientific and Cultural Organizations [UNESCO], 2008).

One of the strategies for implementing inclusive education is by setting a system for conducting effective functional low vision assessment. Regarding learners with low vision (LWLV), Visual Functional assessment provides evidence upon which decisions about their educational needs can

be met. American Foundation for the Blind (2017), describe Visual functional assessment (VFA) as an assessment test of how a learner uses the vision and visual efficacy he or she has in everyday activities. Among other aspects, this assessment determines how the child accesses his/her visual environment such as how far he/she can sit from the blackboard and what print size he/she is able to see. So, it is usually not done with learners who are totally blind or have light perception only. Since a learner's visual condition and abilities can change over time, the VFA needs to be repeated periodically. Functional low vision assessment determines how they can use their vision for near tasks, 16 inches intermediate tasks 16 inches to 3 feet, and distant tasks more than 3 feet away. Quality functional low vision assessment requires that the professionals conducting the assessment be someone with a high level of expertise in the area of visual impairment and learning. This professional will most often be the teacher of learners with visual impairments or sometimes an orientation and mobility specialist. The staff of the Statewide Vision Resource Centre revealed that, assessment of learners' with low vision is made up of capital letters, numbers, symbols or pictures which are large at the top and smaller at the bottom of the eye chart (Blaze et al., 2013).

According to Global Blindness statistics, 285 million people are estimated to be visually impaired worldwide. 39 million are blind and 246 have low vision. About 90% of the world visually impaired live in low-income settings. 82% of the people living with blindness are aged 50 and above. 80% of all visually impaired can be prevented or cured (World Health Organization [WHO], 2014). Being part of an inclusive school, learners with low vision need to enjoy the good intention of Education for All (EFA) which is a UNESCO's strategy to ensure provision of equal and quality education for all learners including those with low visual. Assessing the learner's strength and weaknesses is one of the most important prerequisites in

planning educational programs for learners with visual impairment in inclusive schools. Proper assessment needs a multidisciplinary team.

Assessment globally is still a challenge. Even in United States, reports about assessment, functional low vision assessment in particular is considered to be a persistent problem, it has been assigned to psychologists or diagnosticians which has always resulted in incomplete or inaccurate assessment because it is not comprehensive enough. (American Foundation for the Blind [AFB], 2017). Several challenges and shortcomings exist within institutional assessment and placement systems, this can be attributed to lack of functional low vision assessment tools and their appropriate use, and failure to enforce policies and adhere to systematic procedures. This debate implies that the preparation, assessment and placement process, at a minimum, subject to improvement.

In Asia, a report from school principals revealed that, schools admit learners with special needs (LWSN) including those with low vision in inclusive schools, but do not have multidisciplinary team to determine the eligibility of learners for special education service (Mitiku, Alemu, and Mengitu, 2014). The journal further report that after identifying LWLV, they do not conduct functional low vision assessment procedures to check whether the suspected vision problem exactly exists or not which include distant vision, test using E-chart, measuring field of vision and colour vision test for proper placement.

Australia being the sixth biggest country in the world by land and part of the oceanic and Australasian regions, education of LWLV is marginalized. Vision Australia (2015) reports that, there is inadequate level of support to learners with low vision which includes functional low vision assessment in inclusive primary schools. They noted with disappointment that little has

changed for learners with low vision in regard to access to education since the development of the Australian Act, 2013. A comprehensive and personalized assessment of each learner's educational needs is necessary and should be carried out at regular intervals by a qualified professional, such as an educational psychologist or specialist allied health professional. Such assessments should focus on the functional impact of their vision impairment and not just a clinical diagnosis. They requested the committee secretary, education and employment. (Australia Curriculum Assessment and Reporting Authority [ACARA], 2017), came up with Victoria curriculum and assessment authority which is an independent statutory authority for assessing learners including those with low vision. Assessment data is to enable schools to analyze effectiveness of their assessment programs across the state of Victoria.

In the African continent, functional low vision assessment has been currently seen to be at a very lower level. For example, a report from Mbulaheni (2015) revealed that, teachers are least confident in undertaking functional low vision assessment procedure of learners in inclusive schools. This finding is closely related to the observation made by a range of academics and practitioners in the inclusive education and disability arena that, systemic and administrative failures cause a lack of appropriate implementation of the National Curriculum and Assessment Policy Statement (CAPS) further contributes to delays in provision of accessible learning and teaching Support Materials (Watermeyer, et al., (2017). The recommendation they made is that, all forms of assessment must be provided to schools accommodating learners with low vision, including functional visual assessment of learners with low vision.

In East Africa, International Journal of Education and practice in Tanzania reveals that, there is low teacher pupil ratio, hence the few teachers posted to teach in inclusive schools are said to have inadequate knowledge and skills of assessment. As a result, the teaching methodologies and

functional assessment of children especially those with low vision are not conducive in inclusive classrooms. Teachers need to possess enough knowledge on inclusive education and special needs education so as to deal with the challenges of assessment (Kambuga, 2013).

Uganda is among the fore front countries in implementing the Salamanca statement and other various United Nations documents, fighting for the rights of education in inclusive settings for learners with special needs including those with visual impairment. The UPE policy 1997 clearly spelt out the intention for a deliberate attempt to implement inclusive education. As a way of implementing the Salamanca statement, an Educational Assessment and Resource Services (EARS)/SNE programme was established in August 1992. The programme was established at the ministry and District level throughout Uganda. The main objective of EARS is to prevent disability through early identification, assessment and intervention of children from newborn to 18years. The program was supported by Danish International Development Agency (DANIDA) in partnership with local government. Since it was a government program, the local government had the mandate to appoint and maintain the program. Individual Districts appointed three specialized staff to take charge of the EARS/SNE Centre's. And one of their assessment was to conduct educational assessment for learners with special needs including those with low vision. Another important contribution by DANIDA was to run regular workshops to enhance the competencies of teachers in conducting educational assessment of children with special needs. (Uganda National Institute of Special Education [UNISE] as far as, 1994). Unfortunately when DANIDA pulled out its funding in 2003, districts could no longer support the assessment activities as a result, the officials were given general assignments in the districts, leaving the children with special needs including those with low vision not assessed.

Despite international and national documents emphasizing inclusive education for LWLV, it seems to be very complex when it comes to its implementation. One of The challenges of implementation is lack of functional low vision assessment services. The study is therefore intended to investigate the teachers' competencies in conducting functional low vision assessment of learners with low vision in inclusive schools.

1.2 Statement of the problem

Uganda has put in place a number of positive policies that enhance the assessment of learners with special needs. Government White Paper (Government of Uganda, 1992) stipulates that, among other disadvantaged groups, there shall be development of special educational programs and services for learners with special needs. The services include the functional low vision assessment of learners. The Children Act-chapter 59 laws of Uganda stresses on the early assessment of learners with special needs as possible in order to determine the extent and nature of their disability. Section 10.7 of children's statute emphasizes that the "parents of a child with disabilities and the state shall have the duty to have the child examined and to find out the extent of the disability as early as possible" (children's statute, 1997, p.10). The act specifically provides for assessment, treatment, rehabilitation and education. National Intervention on Uncorrected Refractive Errors (NIURE) programme in 2013 was established in Uganda by the ministry of health. Some teachers in Arua District were trained on how to assess learners with low vision and the learners self-test their eyes. Department of the eye in Arua Referral Hospital sensitize and test the eyes of the learners with low vision. Focal eye care person in Arua who works in Kuluva Hospital sensitized people in radio talk shows. And they were requested to go for eye assessment. This includes learners with low vision (Dr. Aliotratra Robinson, personal communication, May 25, 2013). Despite having these policies and reports that advocate for the

right of learners vision to be assessed, there is insufficient access to the screening facilities, no follow-up and monitoring of teachers. Teachers in Arua district are not competent enough to conduct functional low vision assessment of learners in inclusive primary schools. This has raised concern about functional low vision assessment. The proposed study investigated teachers' competencies in conducting functional low vision assessment of learners in the three inclusive primary schools which have units for visual impairment in Arua district.

1.3 Purpose of the Study

The purpose of the study was to investigate teachers' competencies in conducting functional low vision assessment of in inclusive primary schools in Arua District.

1.4 Research objectives

1. To explore the ways teachers conduct functional low vision assessment of learners in inclusive primary Schools.
2. To investigate the availability of tools used for conducting functional low vision assessment of learners in inclusive primary Schools.
3. To examine the social and psychological factors which influence functional low vision assessment of learners in inclusive primary Schools.
4. To investigate other accessible sources of functional low vision assessment for learners in inclusive primary schools.

1.5 Research Questions

The study sought information to answer the following questions:

1. What are the ways in which teachers conduct functional low vision assessment of learners in inclusive primary school?
2. What tools are available for conducting functional low vision assessment of learners in inclusive primary schools?
3. What social and psychological factors influence the functional low vision assessment of learners in inclusive primary schools?
4. What are other accessible sources of functional low vision assessment for learners with in inclusive primary schools?

1.6 Significance of the study

The findings from this study are presumed to bring about the following contributions to the different groups of stakeholders in the education sector;

Information from the study may create more insight and understanding on the effectiveness of conducting functional low vision assessment of learners, promoting their teaching, learning and transition process in schools in Arua district and in the country as a whole.

This may add to body of knowledge on the issue of functional low vision assessment to teachers. It may also avail data that will help policy-makers in the education sector with relevant information for improving policy formulation in the area of assessment of learners with low vision.

Data from the study may further help in proposing workable strategies that can facilitate effective implementation of functional low vision assessment for learners. Education officials may find information to refer to in their request to improve these programs and teaching of learners with low vision, especially in Arua district and at national level.

From the study, teachers may gain information on how learners with low vision can be assessed. Curriculum developers and other administrators can understand the level of functional low vision assessment for learners in inclusive schools.

Based on this study, academic theorists particularly those in education may use the study's findings as the basis for constructing new theories in order to promote knowledge in conducting functional low vision assessment of learners in inclusive schools.

Finally, the findings is expected to provide opportunity for relevant educational authorities to be aware of conducting functional low vision assessment, and take initiatives to provide required support to improve inclusive education provision for all, including those with low vision.

1.7 Delimitations

This study limits itself to Arua district. Arua district was chosen because of its accessibility and presence of schools with learners with visual impairment. Within the district, it further limits itself to the three primary schools. School A, school B, and school C which have integrated units for visual impairment. Focus is on the learners with low vision, teachers of these learners, their parents, and education officer (SNE).

1.8 Limitations of the Study

Purposeful sampling method was used to obtain information from the participants. This was because the chosen participants have direct information about LWLV. Much as this sampling was used, most teachers who teach learners with low vision in inclusive schools are not special needs teachers. Hence, they did not give answers which were relevant to the questions of the study.

Learners with low vision, like other persons with disability face certain challenges that make it difficult for their parents to grant open and unlimited access to them. This posed a serious challenge and limitation to the study during the sampling of learners with low vision in the study area. Such inaccessibility to these learners especially by unfamiliar person such as the researcher also hindered the research in some instances from personally collecting data from learners with low vision.

1.9 Operational definition of terms

Assessment: gathering information for making a decision about a learner whether she or he is eligible for special education service or not (Gargiulo, 2006).

Functional assessment; is an assessment of learners who have low vision. It is to determine how a learner uses the vision for everyday activities of near tasks, intermediate tasks and distance tasks.

Low vision. Visual abilities that is less than needed by the learners for the performance of their essential daily activities.

Teacher competencies. A wider systemic view of teacher professionalism on multiple levels – the individual, the school, the local community, professional networks.

Competence; A combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world, in a particular domain' (Deakin, 2008).

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents various literature reviews that are related to the study. The study investigated and explores teacher competencies in conducting functional low vision assessment of learners in inclusive primary schools. In this aspect therefore, the chapter first outlined the ways in which teachers conduct functional low vision assessment, it looks into the availability of tools used for the functional low vision assessment, It also paid special attention to examine social and psychological factors which influence functional low vision assessment, lastly, investigated on other accessible sources of functional low vision assessment opportunities available. All these were analyzed in the line of the study objectives.

2.1 Bandura's Social-Cognitive theory

This study was anchored upon the social cognitive theory introduced by Bandura, (1986). The theory has been used in many learning situations. It is a theory which emphasizes that, learning occurs through social contexts and observations as supported by Clarke & Hollingsworth, (2002). According to Lopez, (2018), the theory suggests a self-reflection of regular education teachers regarding their functional low vision assessment experiences with the learners who have low vision and assumes that learner's self-reflection about social experiences and how they perceive that experience can have an impact on the environment and their performance. Therefore, a regular education teacher's perceptions of their experiences with learners who have low vision can impact the presentation of their instruction for these learners. As a result, functional low vision assessment has an impact on a learner's motivation and academic

performance (Patrick, Kaplan, & Ryan, 2011). The theory states that, the way learners perceive their ability to carry out a task in various experiences is known as self-efficacy (Bandura, 1997; Dellinger et al., 2008). Therefore, the social cognitive theory was adopted in this study, as it essentially focuses upon self-efficacy, in this case, teacher's competency.

As observed by (Wang, Hall, et al., 2015), the theory helped in highlighting that every teacher does a self-analysis of their knowledge and skills, implying competence, and their performance throughout their teaching career. This theory is relevant to the study because it focuses on regular education teachers' self-efficacy in regard to their ability to meet the functional low vision assessment needs of learners who have low vision which is in line with the topic that was studied: "Teachers' competencies in conducting functional low vision assessment of learners in inclusive primary schools in Arua District." The theory was useful for the study as it reflects upon teacher's self-efficacy which is important when working with learners with low vision because these learners will need more attention to conduct functional low vision assessment, more encouragement, and someone to instruct them a little more uniquely. Furthermore, a teacher's attitude has an effect on his or her decision making and how they respond to different situations when conducting functional low vision assessment (Amor et al 2016). One of the observed weaknesses of this theory is its inability to consider competencies from the learners' point of view, the theory is biased on the side of the teachers yet for effective learning and assessment both teachers and learners are unavoidable.

2.2 The ways in which teachers conduct functional assessment of LWLV in inclusive schools

A study conducted by UNESCO, as cited in Kabeto, K., A. (2015) elaborated on in ability of curriculum to cater for the needs of learners with low vision in inclusive schools, insufficient preparation of teachers and education leaders and inadequate procedures to conduct functional

low vision assessment of learners. However, school and teachers find it difficult to accommodate learners with low vision and they try to make the learners to adopt to the school instead of adapting schools to the needs of these learners with low vision.

Similarly, a study conducted by (United Nations International Children's Emergency Fund [UNICEF], 2015) revealed that, there are very few teacher-training programs that address the needs of learners with disabilities including those with visual impairment. In cases where learners have been mainstreamed, they are often placed in classrooms with teachers who have little knowledge and skills for conducting function allow vision assessment, Teachers without specialized training are unaware of specific strategies and tools developed specifically for dealing with the challenges of teaching an inclusive classroom and can be detrimental to learners with visual impairment. However, the study did not mention the challenges of teaching in an inclusive classroom.

Similarly, Amato (2011), For that, there is currently a critical need for well qualified teachers of learners with visual impairments and blindness, as there is worldwide shortage of professionals who work with learners with visual impairments. Kirk and Gallagher (2015) asserted that, many countries managed to overcome this shortage and according to the two scholars, United States universities created two professional programs which allow the teaching staff to work with school age exceptional learners. One is a "Teacher of learners with low vision, the second is program of Orientation and Mobility Specialist". The mentioned programs are based on a separate professional standard.

Hallahan and Kauffman (2008) contend that, effective teaching needs to have certain ways such as, modifying behavior, management, knowledge, and skills of related field. These competencies

ensure quality and quantity of educational services and were quick to add that, it is, the same scenario for learners with low vision, the presence of criteria and standards or what we called competencies is important to deliver educational services which include conducting functional low vision assessment of learners.

Another study conducted by Kuyini and Mangope (2011), Johnstone and Chapman (2011) in Botswana revealed that learners with special needs (LWSN) were admitted without assessment to join standard Primary One which made a significant number of CWSN enter Class Room unassessed. This responses implies that, the admission of LWSN without assessment was consequent upon teachers' incompetence as was evidenced by lack of resources which accounted for 47%, lack of knowledge and skills which scored 41% of the responses and other factors such as time limit (4%) as well as lack of administrative support (Mangope, Kayini, & Major, 2012).

In a Similar development, in South Africa, Sourav, Nenty, and Okechukwu (2012) reported that, it was on account of lack of trained special educators who lacked knowledge and skills, heavy workloads, large class size, lack of parental involvement, lack of time, and lack of resources and fund that, teachers and Head Teachers were concerned about the inability of teachers to meet the learning needs of students with disabilities who were placed in their schools. However, the report was silent on assessment of the learners with low vision in inclusive Schools which form the focus of this study but rather capitalized on the needs of learners with disabilities in general hence, creating a knowledge gap which this study intended to explore.

In a study conducted in Balqaa Province Area Schools in Jordan, by Charles (2014) the findings revealed that cultural bias in functional low vision assessment made learners and their families

often subjected to a multitude of evaluations and functional low vision assessment. For one to be eligible for something, a learner with low vision must have medical evaluation, psychological evaluation and developmental assessment. Many professionals completing this assessment for placement are often not competent enough regarding cultural differences about disability issues, which results to misinterpretations and false functional low vision assessment. One may not feel comfortable to give information about different culture. The study concluded that teachers of learners with low vision in Al-Balqaa province schools need to have special education competency-based services that need general reviewing for the system of special education. Whether this conclusion also applies to teachers of learners with low vision in Arua District, remains to be explored.

In addition, Mmbaga (as cited in Baraka, 2013) argued that, there are few special needs teachers posted to teach in inclusive schools and besides that these teachers have inadequate knowledge and skills of conducting functional low vision assessment. As a result, the teaching methodologies and functional assessment of learners with low vision are not conducive in inclusive classrooms. Unfortunately Mmbaga, (as cited in Baraka, 2013) did not suggest what the Teachers need to do so as to deal successfully with the challenges of functional assessment hence, creating a gap which this study would wish to close.

2.3 Tools used for functional assessment of LWLV in inclusive school

For a very long time, learning has been considered as a product of teaching. It is by conducting functional low vision assessment using appropriate tools that learners with low vision can learn. A tool used for assessment is any instrument or simple piece of equipment that one holds in his/her hand to do a particular kind of work. Or anything used as a means to perform an

operation or achieving an end. The New Tool Kit provides the majority of tools needed to complete a Functional Visual and Learning Media Assessment (FV/LMA). It includes acuity charts; photos, colored pictures and line drawings to match and sort; an array of environmental print and reading passages. This assessment tool helps teachers gather, store, track, and analyze information regarding learner's functional vision and appropriate learning media (Burnnett & Sanford, 2014). However, the study ignored to mention the challenges in preparing the tool by teachers for functional low vision assessment.

Kaiser and Herzberg (2017) conducted a survey study on 314 teachers of learners with visual impairments regarding the tools and procedures used in completing functional vision assessments (FVAs) in Canada. It was found out that that the teachers assessed near and distance visual acuity and that they also used a screening tool in determining the need for an orientation and mobility (O&M) evaluation and the procedures and tools used by teacher in completing FVAs varied, based on the specific student being assessed. The study recommended that, teachers should explore whether they should assess additional visual skills in order to provide a rich description of how the learner uses his or her vision throughout the day in a variety of environments he or she is in.

Carmens, (2015) observed that, the most common tools that teachers use to assess functional vision of learners with low vision in inclusive schools are Snellen chart and E – chart and he asserted that, the tools assess the eyes ability to see details at near and distance. It involves reading letters, numbers or symbols of different sizes on an eye chart. Usually, each eye is tested by itself. Then two eyes may be tested together, with and without corrective glasses if they are worn. However, Carmens, (2015) mentioned the most common tools that teachers use to assess

functional vision of learners with low vision in inclusive schools but declined to mention other tools that are not commonly used.

According to Blaze et al., (2013) staff of the Statewide Vision Resource Center emphasized that, Snellen chart has several rows of letters arranged on top which are large and from bottom are to the smallest. It is used to test those who are able to read and write. While E chart has several rows which contains only letter E, but in different positions. It is used to test those who are unable to read and write. The charts are made up of capital letters, numbers, symbols, or pictures. But nothing was indicated on the efficiency and the weakness of the tools which leaves a grey area for this study.

Keeffe (2004) argues that LogMAR (logarithm of the minimum angle of resolution) is essential to be used when it comes to assessing both near and distance vision, rather than traditional Snellen tests. The chart was developed at the National Vision Research Institute of Australia in 1976, and it is in most cases used by ophthalmologists, optometrists and vision scientists to estimate visual acuity. In a Log MAR test, the steps between each size are the same throughout the test. However this helps in to determine the need for magnification. Distance visual acuity tests based on designs by Bailey and Lovie have 5 letters in each line so that there are enough symbols to test both good and poor vision. Logarithmic principle of regular step in size is produced as a single letters or groups of letters, Numbers, or symbols on a card which other tests can use.

Similarly, Noushad, Thomas & Amin (2012) observed that, acuity chart that follow the principle of logMAR charts are considered to be the gold standard for the assessment of distance vision. However, it is not well accepted for routine eye assessment due to increased assessment time and the complexity of scoring. The journal further explained that, the study was designed to check

whether a modified log MAR chart with three optotypes would provide reliable acuity assessment compared to standard logMAR charts for routine eye assessment. The study found out modified logMAR chart with three optotypes lesser assessment time compared to the standard logMAR chart for assessing distant visual acuity.

Barber, et al., (2018) conducted a study on formal assessment tools for vision loss and concomitant issues. The study found out that, there is lack of assessment tools for conducting functional low vision assessment of learners' in primary inclusive schools. "This presents a challenge in obtaining complete and representative assessment information" (p.36). The study also urged the assessors to have experience and knowledge related to appropriate assessment tools for conducting functional low vision assessment for learners who may be having low vision in inclusive schools.

Similarly, Vimont and McKinney (2016) observed that, when conducting functional low vision assessment, the learners is asked to read an eye chart. The chart measures the visual acuity or sharpness of vision. To Vimont and McKinney, the most commonly used eye chart is known as the Snellen chart which is usually shown 11 rows of capital letters. The first line has one very large letter. Each row after that has increasing numbers of letters that are smaller in size. The authors also identified a vision testing chart using simple pictures of houses, flowers, and other objects. This type of chart is used to test the eyes of young learners who cannot read and write. On the other side, the eye charts do not help to tell whether the learners have an eye diseases like glaucoma or a problem with the retina. In addition, the charts do not assess other vision problems such as loss of peripheral or side vision.

A part from assessing low vision using the charts for print, a study conducted by Heidary & Gharebaghi (2013) revealed that, Dr. Shinobu Ishihara in 1917 introduced Ishahara test which is the most well-known colour blindness test of learners with low vision. It determines if the learner has a colour blindness. The tool has 1-17 plates and each contain a number. Plates 18-24 contains one or two wiggly lines. To pass each assessment, learner must identify the correct number and trace the wiggly lines on the plate correctly. However, the study never mention that teachers of learners with low vision who might be colour blind may not use Ishahara test effectively.

Flash light as assessment tool is used to assess learner's reaction to light, head turn towards a light source and blink response to light. For an adequate test vision must not be entirely lost. Marcus gunn pupil is the assessment of how the pupils in the eye react to a swinging light. When a bright light is swung from one eye to another, the pupil of the affected eye will constrict less. If a learner does not suffer from any problem of the pupil, shining a light from one eye or the other should not affect the expansion or constriction of the pupil in either eye. When the eye is affected, the light shone directly to the eye will make the eye to constrict less than it would when the light is shone into the unaffected eye (Emrich 2012).

2.4 Social and psychological factors which influences functional assessment of

LWLV in inclusive schools

Social psychology is about understanding individual behavior in a social context. It looks at human behavior as influenced by other people and the social context in which this occurs. Social psychology is to do with the way feelings, thoughts, beliefs, intensions and the goals are constructed and how such psychological factors, in turn our interactions with the others (McLeod, 2007)Learners with low vision need opportunities to interact with a wide range of peers, including those with very good social and psychological skills. All learners need to have opportunities to choose peers for some activities. It is important to provide opportunities to learners with low vision, even if adults disagree with their choice. It is important to understand why learner with low vision may choose a particular peer, and to extend their interests and opportunities to develop positive interaction and friendships (Roe, 2008).

According to Shapiro (2009) Psychological factors are mental factors that help or prevent someone from being in the right frame of mind to perform well. They influence our interactions with others. Therefore, it is important for the teachers to often conduct functional low vision assessment, and studies how learners with low vision think, act, and feel in the context of the society in inclusive school. This is because the behavior probably changes depending on the person you are with.

UNESCO (2013) conducted a survey on teachers view regarding inclusive education and found out that, in Countries where teachers favor education for all children in inclusive classroom, functional low vision assessment of learners is not a problem. But in countries offering sophisticated segregated education, teachers are not in favors of inclusive education. Teachers are key implementers of any education policy and their perception is very vital towards success

or failure of the policy. Some of the barriers to education is teacher's low perception of learners with low vision and unwillingness to meet their educational needs like conducting functional low vision assessment.

According to Blazé and Bowen (2013), effective social and psychological interaction skills are essential for teachers for conducting functional low vision assessment of learners. Sighted learners and adults have learned almost all their social skills by visually observing other people and behaving in socially appropriate ways based on that information. Teachers who have low social and psychological interaction with the LWLV may not be able to conduct functional low vision assessment in a way of social interaction in this casual and incidental fashion.

In support of this, Annette et al., (2009) observed that the learners may require thorough, careful, conscious, and sequential teaching and effective social and psychological interaction skills to enable the learners to participate in healthy and safe social relationships, seek information to solve problems, and participate in recreation/leisure activities. Hence, understanding the role of body language, facial expressions, gestures and vocal tones is especially important when the visual cues cannot be used.

Similarly, Brown (2007) stresses that, most early years teachers spend a great deal of time assessing children for placement. They do this because they want to make sure that children are progressing, they need to identify any special needs that children have, they want to gauge the effectiveness of their teaching, they need to support the parents and other teachers about children's learning and they need to complete formal assessment at the end of the foundation stage. They spend their time on gathering information, recording information and acting on functional low vision assessment information for placement.

According to the African Child Policy Forum [ACPF] (2011), inaccessibility of physical environment like entrance ways to the building and classroom, appropriate sitting, rest room facilities, among others are as a result of attitudinal barriers due to negative attitudes. Harmful beliefs create significant barriers to learners with low vision, especially labeling (blind).

Furthermore, Atherton (2011) posits that, inclusion is one of the most talked about subjects within the area of special education and opined that, provision of educational resources to learners with low vision such as support from teaching assistants did not ensure good quality intervention or adequate progress by the learners. Specialist teachers, good functional low vision assessment, and the commitment and positive attitude of school leaders to ensure good progress for all learners regardless of those with low vision.

In a similar development, the ministry of education (2015) in New Zealand, commented that teachers need to prepare for learners with low vision by talking to the learners, their parents, and other members of the team of the learner. This will make the teachers to conduct functional low vision assessment easily, and understand the learners learning potential. But the Ministry failed to mention about the need for teachers to acquire more skills and knowledge in preparation to conduct functional low vision assessment of the learners.

In addition, Alphen et al., (2012) in the Massachusetts recommend that, Districts should consider a teacher of learners with visual impairment as the appropriate person to conduct functional low vision assessment of learners. Hence, the trained specialist teachers who have knowledge and skills describe his/her observations and questions about the learners in school, interest, abilities, social relationship, and other unique needs. The functional low vision assessment result determines the kind of teaching/learning methods, and strategies for the learner.

Tamale, Sewankambo, Nuwagaba, Kakinda, and Rokooko (2015) reported that, in Uganda salary increment for teachers would improve attitude of teachers and service delivery in inclusive schools. Today teachers are not focused in quality education; as such less emphasis is put on conducting functional low vision assessment of learners. They request the government to work on other things that include number of learners in the class room especially with low vision and scholastic materials. However these academicians declined to echo the need for closing the manpower gap for teachers in inclusive school and the need for further training to change attitude change and improve service delivery.

In a study conducted by Kabeto (2015) in Ethiopia, it was found out that, in most cases, the attitude and feeling of teachers and that of sighted learners towards learners with low vision was negative, indicated social isolation and withdraw of learners with low vision from learners with normal sight and Guralnick (2013) added that, factors such as visual impairment, language, motor or cognitive delays have proportional effect on social competence exhibited by a child. However, the scholar did not specifically consider visual impairment which is the focus of this study.

In addition, WHO (2013) documented that, in Pakistan learners with visual impairment may suffer from repudiation, umbrage, inferiority complex, anxiety, depression and similar psychological problems because of their incapacity in comparison to the normal learners or due to the feeling of low esteem. However, the report dwelt only on the situation in Pakistan whose setting is different from that of Uganda and particular Arua District where the present researcher intends to conduct this study.

2.5 Other accessible sources of functional assessment of LWLV in inclusive schools

Learners should be conducted by or in partnership with personnel having been trained in the education of learners with visual impairments and their parents. Careful and comprehensive educational assessments of learners with visual impairments are essential if instructional programs are to meet individual needs (Fraser & Maguvhe, 2008).

AFB (2017) in South Africa, documented that School psychologists or educational diagnosticians were assigned the task of assessing all learners with disabilities. This approach, according to them, has often resulted in incomplete or inaccurate assessments and concluded that, quality functional low vision assessments for placement require that the professional conducting the assessment be someone with a high level of expertise in the effects of visual impairment on learning. This professional should be the teacher of learners with visual impairments or the orientation and mobility instructor.

Karakoski and Strom (2009) observed, in Tanzania, that the confusion regarding roles of the assessment and special needs teacher is that, there is no collaborative approach between the teachers and the assessment staff for comprehensive assessment of learners with low vision. These teachers are responsible to provide specific information about the learner and the level of their vision.

Sometimes parents are the ones who may suspect that their child has certain problems or special needs, leading them to mention these to the teacher for further investigation and parents who are interested in their learners with special needs do not hesitate to give information about their children moreover, multidisciplinary assessment team enhances the teacher's capability in functional low vision assessment. However, Paananen, February, Kalima, Mowes, and Kariuki

(2011) asserts that, there are three basic skills that teachers should master before they can successfully identify any problem a child has, namely observation, screening, listening, and questioning.

Parents may not realize that their opinion and feelings are very important to the assessor. Many times they feel nervous. Best assessment result is got when someone who knows the assess like the parents /guidance are involved in the assessment, the level of involvement and comfort of LWLV and the family during the assessment process be increased by looking for all the possibilities.

Hatlen (2018) in a related publication from American Foundation for the Blind Press noted that clinical low vision evaluation assesses whether or not a child will benefit from optical devices such as monocular telescopes and/or magnifiers. The evaluation, which is performed by an optometrist or an ophthalmologist, centers on how the child, in this case the learner, uses his/her vision on a daily basis in both the school setting and at home and that in this assessment, measures for visual acuity, visual field and color vision are taken and the specialist will check the refractive errors and the potential for the child to benefit from optical device.

Similarly, Bell, PAVE, Peabody, Vaanderbilt and Siller (2018) concurred that, functional low vision assessment of learners is usually conducted by ophthalmologist or optometrist, but could be carried out by an appropriate trained orthoptist. The aim is to understand the impact of low vision on the learners' daily activities, among other activities support for education is very crucial. Keeffe (2004) added that, the main purpose of the ophthalmology is to diagnose eye conditions and examine the health of the eye, and also give a prognosis of the visual impairment.

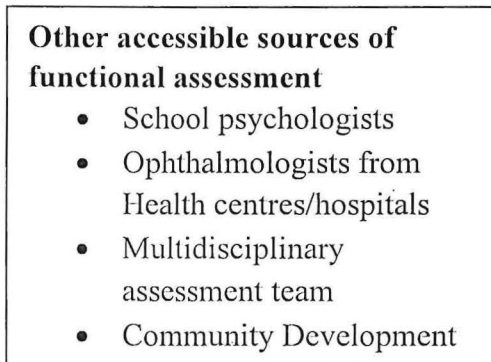
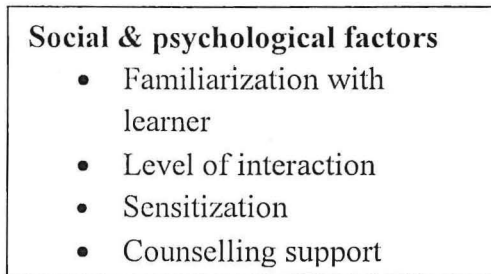
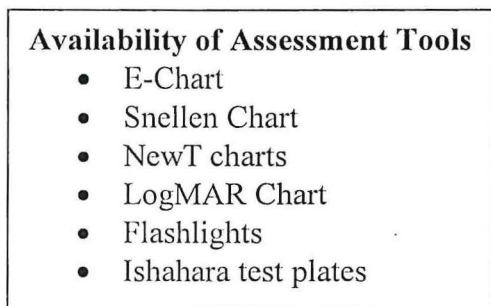
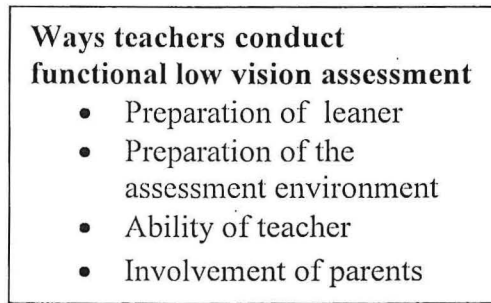
They do not emphasize on the use of functional vision. Eye report is needed from ophthalmologists' in order to initiate special education services for learner with low vision.

Near and distance acuity, is an acuity assessment that is taken at near range, usually at a distance of 16 inches, using a near vision acuity chart. This measurement is often recorded in print size such as 2M (large print) at 16 inches. Other functional near tasks such as how the child accesses information on baseball cards, identification of coins and the distance at which the child can see print on the whiteboard or imitate hand movements given by the physical education teacher (AFB,2018).

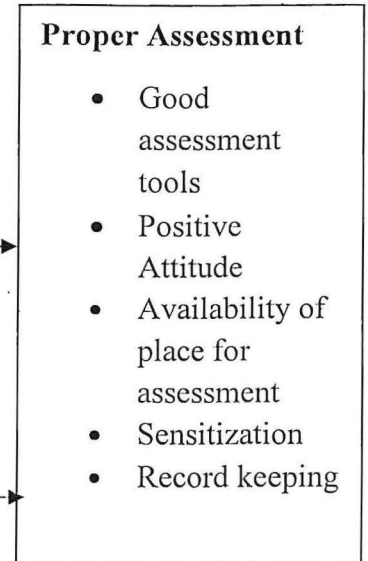
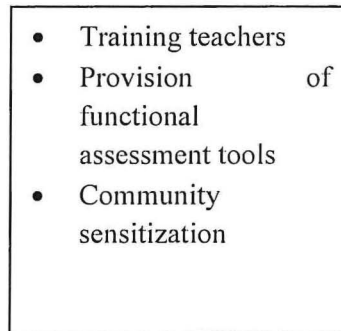
According to Sewell (2007), more other accessible functional low vision assessments for learners are done by the ophthalmologists. The assessment includes muscle balance which describes the alignment of the eyes and how they move together, binocular vision which involves assessment of the ability to perceive three-dimensional depth by fusing the images of each eye, eye preference assessment which is concerned with assessment of the eye a person prefers to use for accessing his/her visual environment, this is the main assessment for this study. More so, light sensitivity assessment involves measurement of learners' performance in a variety of illuminated settings, color perception assessment which measures a child's ability to perceive differences in color-this is important as many facets of daily life are influenced by colors such as traffic lights, crayons and color of clothing and depth perception-a measurement of the ability to distinguish an objects solidity and its position in space relative to other objects not in the same plane.

2.5 Conceptual frame work for teachers' competencies in assessment of functional low vision

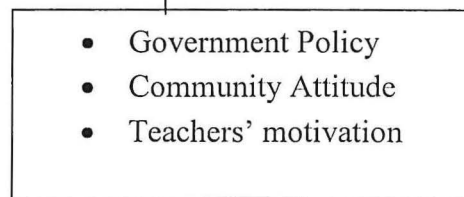
Teachers' competencies



Functional low vision



Output



Source: Adapted from Roelofs & Sanders (2007)

Figure 1. Conceptual Framework Showing the Relationship between Teachers' Competencies and Functional Low Vision Assessment.

The conceptual framework (figure 1) is a diagrammatic presentation of a theory that is presented as a model, when study variables and the relationship between the variables are translated into a visual picture to illustrate the interconnections between the independent variable, the intervening variables and the dependent variable (Msuya, Duvel, & Rwambali, 2014). In the framework, the researcher represents that; teachers' competencies directly affect functional low vision assessment of learners. The independent variable which is teachers' competence, has been conceptualized as ways teachers conduct functional low vision assessment of learners in terms of preparation of learner, preparation of the assessment environment, ability of teacher to conduct functional low vision assessment and involvement of parents. Availability of assessment tools with dimensions of E-Chart, Snellen chart new-T charts, LogMAR Chart, flash flights and ishahara test plates. Social & psychological factors, which was measured in form of attitude of learners. Teachers/parents, emotions, feelings of parents, learners, teachers and relationships among teachers/learners. Other sources of functional assessment with attributes of school psychologists, ophthalmologists from Health Centers/Hospital, multi-disciplinary assessment team and community development officers and the intervening variables with parameters of government policy, community attitude and teachers' motivation which were likely to affect functional low vision assessment of learners but were not of the study interest.

The conceptual framework further shows that with better training of teachers, provision of functional low vision assessment tools and community sensitization about functional low vision assessment can lead to proper assessment as evidenced by teachers' adequate knowledge or skills, positive attitude and availability of place for assessment.

The researcher assumes that, if teachers are competent, then functional low vision assessment of learners will be conducted properly. The framework suggested that teachers' competence directly affect functional low vision assessment of learners in terms of proper and improper assessment.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the methodology that was adopted for this study in order to reach the sampled participants, collect and analyze data to answer the research questions. It consist of the research approach, research design, scope of the study, participants, population, sampling techniques and sample size, data collection methods/instruments, data collection procedure, data analysis, and ethical considerations.

3.1 Research Approach

This study used a qualitative research approach. This is because the study wanted to investigate on the teachers competencies in conducting functional low vision assessment of learners in inclusive primary schools. According to Ary, Jacobs & Sorensen, (2010) qualitative research approach considers collecting information from participants in order to understand the phenomenon under the study from the perspectives of those involved in the research. This study sought, therefore, to use this approach in order to have a detailed account of teachers' competencies in conducting functional low vision assessment of learners. Moreover, qualitative research approach was considered relevant for this study due to its nature of providing data from the participants in the natural settings (Gall, Gall & Borg, 2007). The natural setting for this case was the inclusive school, where functional low vision assessment is conducted by the teachers. Teachers were observed to see how they conduct functional low vision assessment of learners in inclusive school. By using qualitative research approach, the different strategies for improved

teachers' competencies was generated as well as thorough facts about the research problem which can only be got and understood well enough.

3.2 Research Design

This study used a descriptive qualitative research design. Descriptive research allows the researcher to gather information, summarize, present, and interpret the situation on the teacher competencies in conducting functional low vision assessment of learners in inclusive schools in Arua district. Research design is described as “overall plan for a piece of research, including 4 main idea; the strategy, the conceptual frame work, the question of who or what will be studied and the tools to be used for collecting and analyzing empirical materials” (Keith, 2005, p. 142). Rahman, (2017 p.103), states that qualitative research which was used for this study is;

Any type of research that produces finding that not arrived at by statistical procedures or other means of quantification. It can refer to research about persons' lives, lived experiences, behaviors, emotions, and feelings as well as about organizational functioning, social movements, cultural phenomena, and interactions between nations. This means that qualitative research is not statistical and it incorporates multiple realities.

Some limitations of the qualitative research are, for instance, smaller sample size and time consuming (Rahman, 2017).

3.3 Scope of the study

The study was carried out in Arua district. Three primary schools were purposively sampled because they have units for learners with visual impairment. The schools are; school A, which has unit for learners with visual impairment (boys) within Ayivu County, Dadamu Sub County.

School B, which has unit for visual impairment (girls) within Ayivu county Pajulu Sub County and school C, which is a unit for boys and girls (mix) with visual impairment. School C is in Teregu county Bileafe Sub County.

3.4 Participants

The study used purposive sampling technique which is non-random method of sampling where the researcher selects information rich cases for study in depth. Purposive sampling attempts to select the respondents based on the certain characteristics or criteria (Johnson and Christensen, 2012). Purposive sampling is a common type of population sampling in Case study design, and qualitative studies in general.

Participants used in this study are: one education officer (SNE), twelve experienced special needs and ordinary teachers who have stayed longer in these schools, six parents of LWLV (two from each school) and six LWLV.

The selected parents were those who were always close to the school and always took active part in school activities. The six LWLV from each school, were those who had spent at least five years in the school. These different categories of participants were chosen for the study because they have direct information about academic background, interest and needs of LWLV and they are policy makers in school and understand these learners better. The learners themselves are the direct beneficiary to this study. The 12 teachers were selected in such a way that two special needs and two ordinary teachers from each school. In school A, there was only one special needs teacher, so this made the researcher to interview three ordinary teachers in school A.

3.5 Population

The study population comprised a total of 1 education officer (SNE), teachers of primary schools with units, parents of learners with low vision, and learners with low vision from the schools in Arua district

3.6 Sample

The study procedure employed purposive sampling. In purposive sampling the aim is to choose cases that are likely to be information rich with respect to the purpose of the study (Gall, Gall, and Borg, 2007). Considering the focus of the study, teachers' competencies in conducting functional low vision assessment of learners in inclusive schools in Arua district, Uganda. Total of twenty five (25) participants. Education officer (SNE) is purposefully selected because functional low vision assessment and placement of learners with low vision according to their disabilities in schools is one of their roles. Teachers, and parents of LWLV were chosen for the study because they have direct information about academic background, interest and needs of LWVI and they are policy makers in school and understand these learners better. LWLV themselves were chosen because they would give better information about themselves. The study used purposive sampling method which is non-random method of sampling where the researcher selects information rich cases for study in depth.

Three primary inclusive schools which have units for visual impairment in Arua district were sampled for the study. Purposive sampling method was used because sample with the desired characteristic was chosen for the study.

Table 1: Summary of the sample

Categories of participants	Sample	Sampling Technique
Education officer (SNE)	01	Purposive sampling
Teachers	12	
Parents of LWLV	06	
Learners with low vision	06	
Total	25	

The study there for would target twenty five (25) participants

3.6 Sampling procedure

The study limited the scope of the research, confining the purposive sampling to three primary inclusive schools. The study samples are school A in Dadamu Sub County (unit for learners with visual impairment- boys), school B in Pajulu Sub County (unit for learners with visual impairment - girls), and both are in Ayivu county. School C (unit for boys and girls) in Teregu County. The choice for the study is based on the fact that each of these schools had its own history, culture of learning and teaching. The study was interested in finding out to what extent teacher’s competencies plays part in conducting functional low vision assessment of learners in these inclusive schools.

The study chose primary schools because of researcher’s greater familiarity with this context. It was also because of functional low vision assessment policy in schools that has happened over a long period of time so that education officer (SNE), primary school teachers, and parents of LWVI have had more time and exposure to the new policy as opposed to secondary school teachers. (Merriam, 2009) explains that “purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample

from which the most can be learnt” (Merriam, 2009, p. 266). The study chose primary school teachers on the grounds of practicality and purpose.

The reason for limiting this sample to the above participants was to obtain in-depth qualitative information from each participant that would provide the opportunity to become closely familiar with each participant in terms of their ways to conduct functional low vision assessment, tools used, social and psychological factors affecting the assessment, and other accessible sources that carry out functional low vision assessment. The study focuses on Arua district and particularly primary inclusive schools which have units for LWVI because of the researcher’s familiarity and experience.

3.7 Methods for data collection

This study investigated teacher competencies in conducting functional low vision assessment of learners in inclusive schools. The data collection plan included two methods to obtain information from the participants. The study used individual semi-structured interview schedule which is frequently used in qualitative research, and it was the main instrument used to collect data from all the four participants. The Study also used observation schedule which was used as a support method to the interviews with the aim of gaining clarity or understanding the truth of the matter in detail.

3.7.1 Semi-structured interviews

An interview is a verbal conversation for getting information. It involves interviewer, who coordinates the process of the conversation, and asks questions. While, the interviewee responds to the questions (Easwaramoorthy &Zarinpoush, 2006). Semi-structured interviews was

designed for 4 categories of the participants. The interviews aimed at identifying the teacher competencies in conducting functional assessment of LWLV in inclusive schools, focused on to answer the research questions. The study relied entirely for its findings and conclusions on information given by participants during interviews. Interviews were also tape-recorded with full permission and consent from the participants, to ensure that important information was not omitted. The interview was carried out by all the participants selected to participate in the study. The maximum time spend when interviewing the participants was 35 minutes.

Reasons for choosing interviews was for better control over the types of information the current study received, since the study asked specific questions to obtain rich and thick data. Semi-structured interviews involved direct interaction between the researcher and the participants and allow the researcher to move the conversations to cover any aspect of interest that arises. The study also sought to ask supplementary questions in order to explore general views or opinions in more detail. The study hoped to use semi-structured interviews because they are buildup of open ended questions that allow participants to respond in their own ways. In-depth, face to face, semi-structured interviews, provided me, the interviewer, and the interviewee with an opportunity to clarify questions and answers in order to ensure accurate and therefore to give a true reflection of the respondents opinions. Besides its goodness, interview can created fear in respondents since he/she was interacting with unfamiliar person like the researcher. And also consumed a lot of time because in interviews, there was room for clarifications and also supplementary questions were asked in order to explore more views.

3.7.2 Observation schedule

The observation aimed at establishing the facilities available for assessing LWLV. McLeod (2015) stresses that; observation is an obvious method of carrying out research in psychology. Observation also provides important additional source of data for verifying, identifying, and expanding the information obtained by other methods such as interviews. Therefore, it can be defined in the following way:

“That observation is a research method that enables the researchers to systematically observe and record people’s behavior, actions and interactions. The method also allows the researchers to obtain a detailed description of social settings or events in order to situate people’s behavior within their own social –cultural context” (Bailey, Hennink &Hutter, 2011, p.170).

This study used a non-participant observation- approach. This refers to the conducting an observation without participating in the activities that you are observing (Leavy &Biber, 2011). Several observations were conducted. The following were observed; the availability of assessment room, assessment tools used, records of assessment results, and other needful materials.

The observation schedule was preferred as it verified the truth of the statement that the participants made in the context of interview schedule. Observations were fairly quick to conduct, which means that many observations took place within a short amount of time. On the other side of the coin, some of the participants acted differently when knowing that they were going to be observed as teachers conduct functional low vision assessment. They took time to accept to be observed because of fear. This resulted in some findings lacking good functional assessment results. Too much involvement of the researcher would lose objectivity and become

bias. This is a problem as the researcher could selectively report information instead of noting everything she/he observed thus, reducing the validity of the data.

3.8 Procedure for data collection

The methods for data collection were designed. These included semi-structured interview questions for the four categories of respondents as mentioned above. Observation schedule for SNE teachers and ordinary teachers. Researcher then went to the various schools and offices where the participants are with the introductory letter from Kyambogo University. Introduced herself and gave brief explanation on the interview schedule and observation schedule. Researcher requested them to answer the interview schedule according to their understanding and experience and assured them that the information will not be revealed out. Researcher also agreed with the respondents on when to have the observation and individual interview. All the participants participated.

3.9 Data analysis

Data analysis in qualitative studies begins immediately after the first data collection process to discover if there is any information that is necessary, missing. Data analysis was based on the research objectives. Data collected from the interviews was coded, edited, organized and analyzed using thematic analysis. General steps need to be taken to ensure thematic analysis is systematic and thorough. Qualitative data analysis model can be outlined in five steps: compiling, disassembling, reassembling, interpreting, and concluding. Compiling means transcribing so that the researcher can see the data. Disassembling involves taking the data apart and creating meaningful groupings. Reassembling is putting the codes or categories to which each concept is mapped in to context with each other to create themes. Interpreting is where the

researcher makes an analytical conclusions from the data presented as codes and then themes. Conclusion are the response to the research questions or purpose of the study (Elsevier, 2018). The process of thematic analysis was described within this frame work. Thematic analysis is a method of identifying, analyzing, and reporting patterns (themes) within data. The approach to data analysis was an interpretive approach in order to explore the themes and concepts in-depth (Saunders, Lewis, &Thomhill, 2012). Using thematic analysis of qualitative data, researcher presents work that is trust worthy and credible. However, thematic analysis is hard work. Interpretation may not be proper if key concept is missed.

3.10 quality control

This was achieved by addressing the issue of credibility, trustworthiness and validity of the instruments used as described below:

3.10.1 Credibility

Credibility is a substitute to internal validity that is used in quantitative studies. Credibility in qualitative studies refers to the trustworthiness of the findings. It is how the researcher represented the realities of the participants as accurate as possible. Several techniques have been used to ensure credibility of the qualitative research study; some of which includes data, methods and theory triangulation, control of biases through reflexivity, peer review, member checking etc. (Ary, Jacobs & Sorensen, 2010; Bryman, 2004).

In this study method triangulation, member checking and reflexivity were used to ensure the credibility of the study. Method triangulation is when more than one method is used to collect data in the field (Gall, Gall & Borg, 2007). Member checking involves whether what was

recorded by a researcher match with what the participants said or did, during interview and observation sessions respectively (Ary, Jacobs & Sorensen, 2010; Bryman, 2004). Furthermore, reflexivity is a self-reflection of one's own biases, recognize them and eliminate them from the study. The current study used two methods of data collection, namely interview and observation methods. The study also used member checking strategy for the same purpose. I asked the participants to review observational data to check whether what was recorded represented what teachers said during interview and when conducting functional low vision assessment. Reflection on my own biases was done several times as an attempt to maximize neutrality and avoiding biases to interfere the data collection process, and data analysis was also ensured.

3.10.2 Trustworthiness

Finally, Gall, Gall, & Borg(2007) point out that trustworthiness can also be established through reporting the findings honestly and straight forward by using direct quotes from the participants. In this study, reporting the findings honestly was observed. Moreover, statements from the participants were used in order to maintain the original content. It is anticipated that the use of Lugbara language for some participants who do not understand Lugbara language in collecting data for this study ensured trustworthiness of the data and findings, because this is the language well understood by the participants and most of the Lugbara people. Because the language of communication was well understood by the participants, it is likely that the questions were well understood and the responses provided were relevant to the questions. This is accordance with Kirk & Miller as far as 1986 who point out that qualitative research require the use of the native language (a language that is understood by the participants) for data collection.

3.10.3 Validity

To ensure content validity, professional consultation was sought from the experts who made sure that the research instruments much with the study objectives. The researcher examined each item in terms of its relevance to the variables under investigation and the research objectives. The researcher used four sets of interview schedule, one set for education officer (special needs education), second set was for teachers, third set for parents of learners with low vision and the fourth to the learners with low vision. To confirm information given by the participants for objective 1 and 2, observation schedule was used for special needs teachers as they conduct functional low vision assessment.

3.11 Ethical Consideration

According to De Vos et al. (2005), ethics means preferences that influence behavior. Ethics is mostly associated with morality, to deal with issues of rights and wrong among societies. Therefore, ethics in the use of human subject for research should not go without careful examination. Amin (2005) adds that ethics refers to well based standards of right and wrong that prescribe what humans ought to do usually in terms of rights, obligations, benefits to society, fairness, or specific virtues. Polit and Beck (2008) describe ethics as a system of moral values concerned with the degree to which research procedures adhere to professional, legal and social obligations of the participants. Therefore, based on this understanding, the researcher followed the following ethical standards during the process of the study.

3.11.1 Protecting the participants

Every individual is entitled to the right to privacy and dignity. In this study, the researcher will treat the respondents with respect and seeks their cooperation through an informed consent (Polit & Beck 2008). Amin (2005) and Saunders et al. (2009) argue that participants should be told of the research interest and should give permission to proceed. The researcher ensured that the participants' identities are protected so that the information collected will not harm them in any way. No participants' names will be recorded in any form to ensure anonymity and confidentiality (Polit & Beck 2008).

3.11.2 Protecting the right of the Institution

The researcher requested for ethical clearance of the study from Kyambogo University. The researcher also requested for permission from Authorities to conduct the study in education department and schools that have unit for visual impairment in Arua District. The researcher abided by the agreements made for permission to conduct the study.

3.11.3 Integrity of the research

The researcher respected the work of others by acknowledging all the sources that were referred to in this study. The researcher used objective methods to collect, analyze and report the study findings. Therefore, the methodology chosen was based on the research objectives and not any other reason. The data was interpreted according to the methodological standards and not on the researchers' wishes. The researcher maintained honesty when writing and reporting the findings by properly explaining the methods used and the reasons for doing so. No fabrication or

distortion of data was done to fit what the researcher wanted to achieve (Polit & Beck 2008). The researcher only reported what the data revealed.

3.11.4 Participation

Participation is the action to take part in something. The researcher appreciates the Participation in the study. Participation of Participants was voluntary in this study. Participants were to choose to with draw any consent without penalty.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.0 Introduction

This chapter covers data presentation, interpretation and analysis of the major findings of the teachers' competencies in conducting functional low vision assessment of learners in inclusive education in Arua District. This was done in line with the research objectives which were: to explore ways in which teachers conduct functional low vision assessment of learners in inclusive schools, to identify tools that are available and adequate for teachers in conducting functional low vision assessment of learners, to examine social and psychological factors that influence the functional low vision assessment of learners in inclusive schools and to investigate other accessible sources of functional low vision assessment of learners in primary inclusive schools in Arua District.

Data were collected from the field using semi-structured interview and observation instruments. The Observation schedule was used to verify the truth of the information for research question 1 and 2 that the participants made in the context of interview schedule. The four participants are education officer in charge of special needs education, teachers, parents of the learners with low vision, and the learners with low vision.

The teachers, parents and the learners with low vision were from the three unit schools in Arua district. The anonymity of the participants in school A, B, and C is ensured by the use of ordinary/ SNE teacher 1, 2. Parent 1, 2. Followed by LWLV 1, 2 respectively for the entire three schools.

This chapter, therefore, presents the demographic information of the participants as follows:

4.1 Demographic Characteristics of the Participants

The demographic characteristics of the participants are presented in the table below.

Table 2: Demographic information of the participants

Special needs teachers				
Gender:	Male	Female		
Number of participants:	02	03		
Age in Years:	(26-31)	(32-37)	(38-43)	(44-49)
Number of participants:	00	00	01	04
Education Level:	Certificate	Diploma	Degree	Masters
Number of participants:	00	04	01	00
Experience:	(4-12)years	(13-17)years	(18-22)years	22 and above
Number of participants:	00	00	02	03
Ordinary teachers				
Gender:	Male		Female	
Number of participants:	04		03	
Age in Years:	(26-31)	(32-37)	(38-43)	(44-49)
Number of participants:	00	00	00	07
Education Level:	Certificate	Diploma	Degree	never attended
Number of participants:	02	05	00	00
Experience:	(4-12)years	(13-17)years	(18-22)years	22 and above
Number of participants:	00	00	01	06
Parents of learners				
Age in Years:	(26-31)	(32-37)	(38-43)	(44-49)
Number of participants:	00	00	00	06
Education Level:	Primary	Secondary	Tertiary	University
Number of participants:	04	00	02	00
Occupation:	Peasant farmer	Business	civil servant	unemployed
Number of participants:	04	00	02	00
Learners with low vision				
Age in Years:	(5-7)	(8-10)	(11-13)	13 above
Number of participants:	00	00	04	02
Class:	P.4	P.5	P.6	P.7
Number of participants:	00	02	00	04

The data from Table 2 indicate that majority of the special needs teachers 4 out of 5 had diplomas compared to only 01 who had a degree. This implies that there is need for the diploma holders to go for further studies so that they can handle the learners more competently. Although

all the 05 teachers were trained in handling learners in inclusive education, majority of them still need to go for degree studies. Majority 03 had teaching experience of 22 years and above, only 02 of them had experience between 18 - 20 years. This suggests that all the special needs teachers had some teaching experience and therefore they would be competent in assessing learners given the experience and qualifications attained, and workshops attended.

Regarding the ordinary teachers, majority (06) had taught for over 20 years, only one had taught for 18 to 22 years respectively. In addition majority of them 06 had attended workshops and seminars which enabled them to teach learners with low vision compare to only 01 who had no training in special needs education, but managed to teach learners with low vision because he had experience since he was born blind and grew up in the system. All the ordinary teachers in the three schools had attended trainings in teaching learners with low vision through workshops, they had teaching experience of 22 years and above, and understood inclusive education as teaching learners with disabilities together in the same class with the normal learners.

All the parents (06) were within the age bracket of 35 to 50. Majority (04) of them had attained basic education compared to 02 of the parents who were civil servants. Majority response implies that a large proportion of the parents were poor peasant farmers. Interestingly, each of those parents had only one child with low vision that developed later after birth suggesting that the low vision is not contagious. Majority (04) of the learners were within the age bracket of 11 to 13 years and were in primary seven, followed by those (02) who were in primary five implying that they were few distributions of learners. Majority (04) had their eyes tested in the health facilities, while for others (02) the eyes were tested by the teachers. Additional information

revealed that, the education officer has Masters in public administration and management, and bachelor's degree in special needs education. She has served for 4 years in Arua District.

4.2 Ways in which teachers conduct functional low vision assessment of learners in inclusive schools

The first objective of this study was to explore the ways in which teachers conduct functional low vision assessment of learners in inclusive Schools. To achieve this information, teachers as the main participants of this study were required to respond to this objective by answering the interview schedule and were observed as they conducted functional low vision assessment of learners. The following were their responses;

Table 3: Showing teachers responses on ways in which teachers conduct functional low vision assessment

Ways teachers conduct functional low vision assessment	No. of responses
Preparation of assessment tools	08
Availability of assessment room	02
Preparation of learners with low vision for assessment	06
Correct measurement of distance from the chart to the learner	02
Ability of the teachers	05
Invitation of the parents for assessment	03
Assessment of one eye after another	02
Keeping record of the assessment	02

The data from Table 3 above indicate that 08out of the 25 respondents said that preparation of assessment tools for conducting functional low vision assessment of learners is one of the ways to conduct functional low vision assessment. The data further shows that 06out of the 25

respondents reasoned out that preparation of the learners for assessment is away to conduct functional low vision assessment compared to 05 out of the 25 respondents who believed in the ability of teachers. Invitation of parents for functional low vision assessment was recommended by 03 out of the 25 respondents. From the data still, 02 out of the 25 respondents suggested that there is need to have an assessment room, correct measurement of distance was revealed by another 02 respondents out of the 25 while 02 respondents pointed out assessment of one eye after another, 02 respondents revealed record keeping as ways of conducting functional low vision assessment. Comments from the 4 groups of 2 teachers each suggested that teachers have limited ways to conduct functional low vision assessment. The data therefore reveal that majority of the respondents were of the view that teachers conduct functional low vision assessment through preparation of assessment tools.

To supplement the findings on ways teachers conduct functional low vision assessment, the Education Officer had the following to say;

Teachers need to have the tools for assessment, mobilize and sensitize the learners, and draw their attention towards you for all that you prepare for them. Have records. Take a short period of time with them so that their interest is aroused and they participate.

In addition to the above findings, majority of the parents said that the eyes of majority of the learners were not tested at the school by the teachers as indicated. This finding was supported by parent 1 in school A, who said;

“Teachers did not test the eyes of my child, but before I took the child for enrolment in school, i had already taken him to Arua Hospital for the testing of his eyes.”

This was supplemented by the response of both parents from school C and B who said; yes, the eyes of their children were not tested by the teachers. However, parent 2 when interviewed on whether the eyes of her child were tested, and whether teachers know the ways to test the eyes, she said:

The eyes were tested, and teachers know the ways because there was a time the child was taken to Arua Hospital where also the same thing was conducted in the same way, so the teacher did the right thing.

According to the interview results, some teachers were able to conduct functional low vision assessment of learners in the schools. For example in School A: When learner 1 was asked about the ways in which teachers test the eyes, the learner answered:

“Yes, she would not have tested my eyes if she had not known the ways. The teacher has knowledge and skills to test eyes because she was able to test my eyes”.

While for Learner 2 in the same school, the eyes were not tested by the teachers, but by doctors from Kuluva and Arua hospital.

A learner in school B had a similar response:

“The eyes were not tested by teachers in the school. Teachers’ from different schools in the District normally gather during blind sports and take us to the hospital for our eyes to be tested by the doctors.”

Those learners could not know whether the teachers had knowledge and skills to conduct functional low vision assessment. While According to learner 1 in School C, his teacher had knowledge and skills on how to test the eyes. He had this to say:

“Yes. Because the teacher was asking me whether I can see the letters on the black board and he made me to read some letter.” This is supported by figure 3 Appendix 17.

Regarding this question on the ways in which teachers conduct functional low vision assessment, learner 2 could not answer the question because his eyes were not tested by any teacher.

This response implies that availability of tools, mobilization and sensitization of the learners is a pre-requisite for practice for ways in which teachers conduct functional low vision assessment. Hence this suggests that ways of the teachers in conducting functional low vision assessment. The findings further imply that, the parent could not know about the ways in which teachers conduct functional low vision assessment and that the teachers had some ways in conducting functional low vision assessment although the eyes of some of the learners were not tested at the schools but at health facilities. This is supported by the observation schedule figure 2 appendix 17.

4.3 Availability of tools for conducting functional low vision assessment of learners

To investigate the availability of tools used for conducting functional assessment of learners with low vision in inclusive schools was the second objective for the study. Participants were required to respond to interview questions and the observation schedule. Their responses are provided in table 4 below:

Table 4: Showing responses on availability of tools used for conducting functional low vision assessment of learners in schools

Names of the tool	School A		School B		School C	
	No. required	No. available	No. required	No. available	No. required	No. available
E - chart	01	01	01	01	01	00
Snellen chart	01	00	01	00	01	00
New-T chart	01	00	01	00	01	00
LogMAR chart	01	00	01	00	01	00
Flashlight	01	00	01	00	01	00
Ishahara test plates	01	00	01	00	01	00
Total no. of tools in each school	06	<u>01</u>	06	<u>01</u>	06	<u>00</u>

According to the data from Table 4, in school A, out of the 6 tools used for conducting low vision functional assessment, only 1 one of them is available, that is E – chart which was drawn on the wall by NIURE programme. Otherwise a part from that, there was no chart in school. Whereas in School B, E - chart was the only tool out of the 6 that teachers use for conducting functional low vision assessment. And in School C, there was no assessment tool at all.

These findings were supplement by the special needs teacher 1 from School A, who was asked about tools for conducting functional low vision assessment. The teacher answered that he normally use interview, observation and asked questions. In addition, ordinary teacher 1 who is blind narrated that, when he normally conducts assessment, he uses oral method because for him he cannot use tools. He assesses using questioning technique so that he can get views about the children. Other teachers used various letters to assess the learners, he added. In addition, ordinary

teacher 2 in the same school had this to say, “I have not been testing myself, but I always inquire from learners what their problem is”.

In School B, special needs teacher1 said:

My area of specialization is hearing impairment. I have seen E-chart being used for conducting functional low vision assessment of learners in the school, they make the child to read the big letter, if the child is able they also make him to read the small one then they see the level whether the child has low vision or the child incompletely blind.

In support of teacher 2, ordinary teacher1 added that, there was some health department which used E- chart to test their eyes. They either take the learners to the medical personnel or just observe them as the learners will be attending the lesson. When observed that the learner is unable to perform other things normally then they will know that the learner is suffering from visual impairment. This implies that the teacher use observation to conclude intuitively.

Considering special needs teachers in school C, teacher1 commended and said that she writes some letters on a manila card then put up and tells the learners to read the letter at a distance. If the learner fails to read, she will draw him/her near then try to see whether he/she can tell the letters.

Regarding the responses from special needs teacher 1, in school C, she does not know the tool she uses to conduct functional low vision assessment. She also conducted functional low vision assessment in a class room by making the learners with low vision to read letters on the blackboard. This is in line with the response from the learner 2 in the same school who mentioned that teachers do not conduct functional low vision assessment. One would have known the tools for his/ her routine work. In addition to that, special needs teacher2said, for him

he uses EM tool. You put some letters which may be at a distance for the learners to read, then the teacher will establish what the learner is suffering from. When researcher requested for clarification about how the EM tool looks, whether it has different letters called Snellen letters or the same letters known as E-chart? He answered that it has different letters and the chart is called E- chart.

These results were supported by the response of the parents for example; Parent 2 from School A, the problem with the eyes of her child was discovered by teachers after the child had joined the school. When the interviewer asked her to tell the tools that she saw the teacher using, she said:

“Teacher was using some letters which were on a certain chart. She does not know, but there were some letters of different shapes, and the child was able to read them.” For the case of Parent2 the problem with the eyes of her child was discovered by teachers after the child had joined School. The eyes were tested by the in charge of the unit. When the interviewer asked her to tell the tools that she shows the teacher using, she explained that, the teacher was using some letters which were on a certain chart, but there were some letters of different shapes, and the child was able to read them. The Snellen chart has different letters, and the E-chart has only letter E which faces in different directions. The interviewer prompted her for clarification. She replied that it is the chart with the same letters with different sizes. It is concluded that the chart is E- chart is the only assessment tool in schools.

Considering school C, both parent 1 and parent2 confirmed the statement of parents in school B, by saying the eyes of their children were not tested by the teachers when the children were brought to school for the first time for enrolment. They went on to say that they know nothing

about the tools that teachers use for conducting functional low vision assessment. In school C, Learner1, eyes were tested by a teacher. He was asked to write some figures and numbers on the chart.

Other teachers used different methods. For example, ordinary Teacher 1, a blind teacher, answered that:

Normally when I conduct assessment, I use oral method because for us we cannot use tools. We assess using questioning technique so that we can get views about the children.

Other teachers use various letters to assess the learners.

This teacher used the oral method because he was blind and could not use observation or written text. In addition, ordinary Teacher 2 in the same school narrated that:

As I had said I have not been testing myself, but I always inquire from them what their problem is. For example, when the child does not see, when he /she is far from the chalkboard what you do is bring the child closure, as a teacher when your hand writing is tinny, for others you can write the letters boldly and others will be able to see. Meaning when you are doing exams, what you do is you change the size of the letters for them. It is what I normally say large print.

Another teacher said that;

I have seen E-chart being used for conducting functional low vision assessment of learners in inclusive school, I think the tool I have seen is, there is letter E. They make the child to see the big one, if the child is able they also make him to read the small one like that then they see the level whether the child has low vision or the child is completely blind.

Special Needs Education teacher 2 explained that, there are two charts, they are Snellen chart and E-chart. He said in most cases E-chart is used:

There is what is known as Snellen chart and E-chart and in most cases we use E-chart. And the E-chart has letter E. In a layman's language we say that the legs are put in different directions. For low vision, we just place that person 6m away from the chart and one of his eyes is covered and we make him to tell us where the legs are, either up or down or sideways. Where he cannot tell, we shall say that he cannot read print.

In support of teacher 2, ordinary teacher 1 added that:

“Sometimes, there was some health department which used E- chart to test them, and then there was one doctor who came on ground to see the level of their sight by using their machine.”

The major finding was that the only tool found in some inclusive schools is E- chart while others have none. This denies learners with low vision from assessing other areas of vision, like colour vision assessment.

This implies that there were inadequate assessment tools in schools for conducting functional low vision assessment. Teachers have not even seen some of the tools or heard about the tools. The findings further imply that the teacher uses learners to know that the learner has low vision instead of conducting functional assessment. This implies that functional assessment of learners with low vision conducted in the schools by the teachers gives wrong results, suggesting that the teachers had inadequate tools to conduct functional low vision assessment. This is supported by figures 3,4,5 and 6 appendix 17

4.4 Social and psychological factors that influence assessment of learners with low vision

The third objective of this study was to examine the social and psychological factors which influence functional low vision assessment of learners in inclusive Schools. The responses of the participants are summarized in Table 5.

Table 5: Showing summary of responses in relation to social and psychological factors

Factor	No. of responses
Familiarization with the learner	13
Level of interaction	12
Sensitization	12
Counseling support	10
Attitudes and beliefs	10
Intimacy	08
Level of motivation	08
Perception	08
Teamwork	07

The data from Table 5, indicate that majority (13 out of 25) of the participants believed that teachers familiarization with the learners influenced functional low vision assessment compared to 12 of them who believed in the level of interaction of teachers and the learners. The other 12 out of the 25 participants suggest sensitization by the teachers. Ten (10) participants out of the 25 suggested counseling support, 10 participants argued that attitudes and beliefs influences assessment socially and psychologically. Intimacy, level of motivation and perception were revealed by 08 participants for each factor and only 07 of the participants felt that team work is one of the social- psychological factors.

The major finding was that familiarizing with the learner was the most noted social and psychological factor which influences functional low vision assessment of learners in inclusive schools.

These findings from the Table 5 are supported by the special needs teacher 1 in school A, who said:

Make friend ship and find out what is happening with the learner in order to give help to the learners with low vision, other teachers help to identify and refer learners with low vision to special needs teachers for functional low vision assessment.

In addition, according to ordinary teacher 1 in school A, social and psychological factors are ways of teachers interacting with the learners, helps learners with low vision to be helped like any other learner in the school as he narrated that;

They keep them normal, they interact normal and help them as others. There is no segregation, they take them as their own children and give them what they need in the school. Other teachers help those who conduct assessment in many ways which includes, controlling the learners during assessment, help in taking records of the assessment, they

also find out and see how to help the child and then after that they help the child according to their disability. And also help to gather materials to assess the child. This is as a result of cooperation among the special needs and ordinary teachers in conducting functional low vision assessment in inclusive schools.

Similarly, ordinary teacher 2 revealed that, teachers interacted with learners through making friendship as indicated by the statement that, they interact in good manner.

In School A, special needs teacher 1 was asked about social and psychological factors which influence functional low vision assessment. The teacher said:

You make friendship and find out what is happening with the learner in order to give help to the learners with low vision, placing in the class for learning and giving the activities like counting numbers, playing with balls and skipping. Other teachers help to identify and refer learners with low vision to special needs teachers for functional low vision assessment.

Ordinary teacher 3 reacted by saying that teachers' interaction with the learners with low vision is not bad in the school, he stated that:

Well, I see that the interaction is so cordial teachers have feelings for those children with special needs because everyone is now thinking if I were in this situation, what would it be. So they have impressed them and they have loved them and helped them both in class work and outdoor activity. Especially, when they are moving around and are not following the right path, I see teachers guiding them.

It transpired that, conducting functional low vision assessment is not only the work of those who could conduct the assessment, but other teachers also contribute in one way or the other. That is,

by identifying the learners, and free interaction among teachers and the learners with the low vision.

In school B, special needs teacher 1 explained different ways of social and psychological factors to conduct functional low vision assessment of learners in the school. He said, “Teachers’ interact positively to these learners with low vision like any other children who are normal as evidenced by the following statements that, he has seen them interacting normally and interacting like any other learner.” Teachers who do not conduct functional low vision assessment gives support by playing a big role in giving other information to those teachers responsible to conduct the assessment as mentioned by ordinary teacher 3 in school A, and as cited by this teacher,

“My role as a teacher is to identify these children with special needs and refer to teacher in charge to carry out functional low vision assessment”.

The statement reveals that teachers have concern upon the learners with low vision and they have many ways of identifying learners with low vision in the class of inclusive schools. In addressing this question about social and psychological factors, special needs teacher 2 said that;

“When we get these children for assessment, we assess and after confirming that he/she has problem with the eyes, we take the child to the teacher responsible. We also address the issue in the assembly”.

Like other teachers, special needs teacher 2 explained that other teachers are not left to stay. But they are involved in conducting functional low vision assessment by taking records and asking some back ground information from the parents about the learners to be assessed.

A part from teachers interaction, ordinary teacher 1 elaborated that, the roles of other teachers in conducting functional low vision assessment of learners with low vision is to identify them and

send learners with low vision to special needs teachers for assessment. Since for them the ordinary, they are not specialists in conducting the assessment. Ordinary teacher 2 stresses that, socially and psychologically, teachers' interaction with learners with low vision is alright. This is both in classroom and outside the classroom. Conducting functional low vision assessment is not done by all the teachers in school. Still, those who do not participate have their roles to play in the assessment. Ordinary teacher 2 point out that, the teachers identify the learners with low vision and take them to the in charge for assessment.

Regarding School C, special needs teacher 1, had this to say about teachers social and psychological factors: "we SNE teachers sensitize learners with low vision and the whole school about these learners".

Special needs teacher 2 narrated that, their interaction has been good. They involve the learners in school activities like compound cleaning; they are assigned duties like prefectural roles. We also have prefect in charge of special needs. He said:

"One of their roles is to sensitize other learners to have positive attitudes towards LWSN and guide and council the parents as well as those learners and other learners not to have negative feelings towards these learners".

Sensitization has been mentioned by most participants as a way of influencing socially and psychologically. This indicates that teachers are doing their best in inclusive schools to prepare the whole community for conducting functional low vision assessment.

Ordinary teacher 1 noted that, they ask the children whether the eyes are paining or they are getting treatment, all these are done to create good relationship between the teachers and the learners with low vision. She is not different in her statement of identification of learners with

low vision and refers to the teachers responsible. Ordinary teacher 2clearly said that, teachers in their school do interact with learners outside during compound cleaning. On the other hand, he said, they also identify learners with low vision and direct them to teachers for assessment because for them they do not have the knowledge to help the learners' with low vision. This implies that those teachers who conduct functional low vision assessment do not work alone, other teachers do help them.

This implies that teachers conducted functional low vision assessment of learners through various social and psychological factors, but the most important factor is the familiarization with the learners.

4.5 Other accessible sources for conducting functional low vision assessment

The fourth objective of this study was to investigate other accessible sources of functional low vision assessment of learners with low vision in inclusive schools. To achieve the objective, education officer, teachers, parents and learners with low vision were required to answer interview questions.

Table 6: Showing summary of responses in relation to other accessible sources for conducting functional low vision assessment

Accessible places functional low vision assessment	No. of responses
Arua referral hospital	21
Kuluva hospital	18
Health centres	06
Flying Doctor	02
CDOs (Community Development Officers)	02
Clinics	01
UNEB eye specialists for PLE	01

As shown in Table 6, the data indicate that 21 out of 25 participants believed Arua referral hospital as the only competent accessible sources of functional low vision assessment in Arua District as shown by most of the participants. The number of responses of participants that suggests Kuluva hospital is the best place for accessible source for conducting functional low vision assessment was 18 out of the 25 participants. Health centers as being one of the sources was revealed by 06 participants out of the 25. Flying doctors was mentioned by 02 participants and 02 other participants suggested community development officers as one of the accessible sources for conducting functional low vision assessment. Only participant suggested clinics as an accessible source. And lastly, 01 participant revealed that UNEB eye specialist for PLE is among other accessible sources for conducting functional low vision assessment.

To supplement on data in Table 6, teacher1, from School A ordinary teacher 3 confessed that, other accessible sources of information about conducting functional low vision assessment of learners with low vision can be compared with the one of the eye specialists in the Hospitals like Arua Regional Referral Hospital and Kuluva Hospital:

Well, I think what we do here in School; we feel it is in adequate sometimes we refer to the Hospital for further testing. After confirming them then advice, that according to your referral, this is what we have found .and it is now true the level of the vision is like this.

The findings on other accessible sources of conducting functional low vision assessment for learners with low vision, the responses indicates that, majority of the eyes of the learners were assessed in Arua Referral Hospital and Kuluva hospital. However, there is no need for a learner to remain unassessed. The findings above was supplemented by the Education Officer who said; “Special needs education office in the District assesses learners and directs them to unit schools accordingly; the health officials and CDOs office who assess from the communities and the

reports are forwarded to district education department". Hence, the education officer identified the three key accessible sources of information of functional low vision assessment in the District. This shows that education officer is well versed with the functional low vision assessment of learners in the District.

Special needs teacher from School A responded that doctors in Kuluva Hospital do the same work of testing the eyes of those learners who have problems with their eyes. This revealed that apart from teachers, there are other accessible sources that conduct functional low vision assessment. Ordinary teacher 1 confessed that after assessment, they sometimes refer other learners to the Hospital. Within, there was one person who came from Kuluva and did the assessment for children with visual impairment. This implies that there are other sources that conduct functional low vision assessment like teachers do. Besides that, ordinary teacher 2 stated clearly that there was some health workers who came to check the eyes in school. This implies that the teachers obtain external support from other accessible sources of information about functional low vision assessment of learners with low vision. In support of ordinary teacher 1, from School ordinary teacher 3 confessed that, hospitals like Arua Regional Referral Hospital and Kuluva hospital are responsible for conducting functional low vision assessment. This reveals that teachers feel the assessment they have done is inadequate sometimes and refer the learners to the Hospital for further testing. It suggests that, hospitals are other accessible sources of conducting functional low vision assessment. In addition to the above, this suggests the teachers supplement their test results by other external accessible sources of functional low vision assessment institutions such as hospitals, clinics. This was confirmed by a special needs teacher 1,

In School B, special needs teacher 1 confessed that, she knows a hospital as institution that have eye specialists. They also do conduct functional low vision assessment of learners with low vision like the teachers in inclusive School: According to Special Needs teacher2, a handful of personnel from different institutions do conduct functional low vision in their School. He listed them as “CUAAM, Kuluva hospital, Arua referral hospital, Ediofe health center and lastly, eye specialists from UNEB. They come and assess the eyes of the candidates for PLE. The assessment helps them to go and print large print.” The findings reveals that teachers do not rely on their assessment results only, but the results from other accessible sources. Ordinary teacher 1, disclosed and said she knows specialists from the medical department. These are the eye specialists. She stated that the vision is detected mostly by the medical personnel. This suggests that the teacher believed strongly that teachers can compare their results of conducting functional low vision assessment with only professionals from the Hospitals. Ordinary teacher 2suggestedthat sight savers and doctor kith, who is a flying doctor and stationed in Kuluva Hospital who could come and assess the learners with low vision. This implies that teacher2could compare their result of conducting functional low vision assessment of learners with low vision with the some NGOs and the medical departments.

In School C, Special Needs teacher 1commended that, there is other accessible sources for conducting functional low vision assessment in the hospitals of learners with low vision as narrated that, there was a time they invited doctor from Kuluva Hospital to assess these children. This shows that teachers do not only depend on their assessment results. They, also invite other professionals responsible for conducting functional low vision assessment for comparison. Special needs teacher 2commended that, they have those from the medical department, education department and the Sub- County, they have the councilor in charge of persons with disabilities.

This means that, it is not only the teachers who conduct functional low vision assessment of learners.

There are other groups of people from different Departments. Ordinary teacher1 confirmed by retelling that, there are other accessible sources of functional low vision assessment of learners in our community and the hospitals. That is a doctor from Kuluva. Learners with low vision were also taken to the Sub county headquarters to go and test their eyes. Ordinary teacher2 said, some organizations have been coming to assess these learners in the school. The statement confirms that the teachers receive support from other stakeholders who work together with them in functional low vision assessment of the learners. When the parents were further probed for their views on other accessible sources of functional low vision assessment for learners in inclusive Schools, Parent1, in School A, elaborated that:

Mainly the medical specialists who normally deal with eye problems come from hospitals. Organizations like Obulamu, conduct assessment within schools, hospitals, even within communities in our district. More so the flying doctor who is the expert in the surgical operations of the eyes.

Parent 1 revealed that eye specialists from Arua regional referral hospital and organizations visit learners with low vision in their schools in order to conduct functional low vision assessment. Similarly, Parent2 mentioned a doctor from Kuluva hospital who at times come and assess the learners in school, and they also at one moment take these learners to Arua hospital. What was more common in both Parent 1 and parent 2 in school B is, they declared that, whenever the eyes of their children start itching, they normally take them to Arua hospital for testing their eyes. This implies that, both parents know Arua referral hospital as the only accessible source to conduct functional low vision assessment of learners.

CHAPTER FIVE

DISCUSSIONS

5.0 Introduction

The discussions of the findings in chapter five are in the line of the objectives of the study. The chapter reviews and discusses only the main findings of the study. The discussions of the findings are presented in relation to the existing literature reviewed of the previous research which have been mentioned in chapter two of the thesis.

Data were collected using interview schedule which was the main instrument and the observation schedule.

5.1 Ways in which teachers conduct functional low vision assessment of learners

The teachers had an idea of what inclusive education means although they defined as teaching learners with disabilities together in the same class with the normal learners without segregation. This implies giving equal treatment and opportunity in education. In addition, the teachers had sufficient ways in conducting functional assessment this is supported by the fact that majority of the teachers had diploma in teaching in inclusive schools. The result of this study agrees with Hallahan and Kauffman (2008) who contend that, effective teaching needs to have certain competencies in teaching, such as, modifying behavior, management, knowledge, and skills of related field. These competencies ensure quality and quantity of educational services which include functional low vision assessment of learners, and were quick to add that, it is the same scenario for learners with low vision, the presence of criteria and standards or what we called competencies is important to deliver educational services to the learners with low vision.

Although the teachers carried out functional low vision assessment in schools and some children were taken to hospitals, it was not clear whether the testing were being done before the child is admitted in the school or after admission. All the learners in school B, one in school A and one in school B confessed that their eyes were not tested. This was also confirmed by their parents. It would be better if testing was done before admission or immediately after admission and that would challenge the result of a study conducted in Botswana by Kuyini and Manope, (2011), Johnson and chapman, 2011) who revealed that learners with special needs (LWSN) were admitted without assessment to join standard Primary One which made a significant number of CWSN enter Class Room without being assessed. These responses implies that, the admission of LWSN without assessment was consequent upon teachers' incompetence as was evidenced by lack of resources which accounted for 47%, lack of knowledge and skills which scored 41% of the responses and other factors such as time limit (4%) as well as lack of administrative support (IJSRE, 2012). Lack of proper ways to conduct functional low vision assessment is revealed in photograph figure 1 and 2 where the teacher does not know the tools used to conduct functional low vision assessment, she does not consider the distance which is 6meters, and both the eyes are open and gave the tool to the learner to read.

In addition, it was found out that, all the teachers had varied length of experience ranging between 12 to 27 years and they had attended workshops related to teaching in inclusive schools as a result, some teachers were able to conduct functional low vision assessment of learners in the schools as seen in the photograph figures 1 to 5. The ordinary teachers although not qualified, they also had taught for long in the inclusive schools and moreover they too had been attending workshops which puts them at the proper ways of conducting functional low vision assessment

in inclusive schools. Rating the ways teachers conduct functional low vision assessment, ordinary teacher was the best as seen in the photograph, Figure 1. This is followed by the two special needs in figure 4 and 5 and other special needs teachers came last in the assessment observed.

The use of the ordinary teachers implies shortage of qualified teachers in special needs education. As a result, in school A, there is only one special needs teacher. This is in line with a study conducted by UNICEF (2005) which revealed that, there are very few teacher-training programs that address the needs of learners with disabilities including those with low vision. In cases where learners have been mainstreamed, they are often placed in classrooms with teachers who have little knowledge of ways for conducting functional assessment, Teachers without specialized training are unaware of specific strategies and tools developed specifically for conducting functional low vision assessment in an inclusive classroom and can be detrimental to learners with low vision. Yes this is true, but the harm can be reduced by continuous empowering them with different ways to conduct assessment through trainings as was done when the ordinary teachers attended workshops.

In support, Amato (2011) argued that there is currently a critical need for well qualified teachers of learners with visual impairments, as there is worldwide shortage of professionals who work with learners with low vision. Kirk and Gallagher (2015) asserted that, many countries managed to overcome this shortage, and according to the two scholars, United States universities created two professional programs which allow the teaching staff to work with school age exceptional

learners. One is a “Teacher of students with low vision, the second is program of Orientation and Mobility Specialist”. The mentioned programs are based on a separate professional standard.

Furthermore, this study revealed that most of the teachers had few learners with visual impairment. For example: in School A, teacher 1 had 4 learners with low vision, teacher 2 had five; in School B, teacher 2 had only one learner and in School C, teacher 2 had only 2 learners. This implies that the workload was less. Hence, this study is tempted to claim that the teachers met the learning needs of the learners of which one is assessed of the learners’ visual acuity. This finding is consistent with the result of a similar study that was conducted in South Africa by Sourav, Nenty, & Okechukwu (2012) who reported that, heavy workloads, large class size, were concerned about the inability of teachers to meet the learning needs of learners with disabilities who were placed in their schools. However, the report was silent on assessment of the learners with low vision in inclusive Schools which form the focus of this study but rather capitalized on the needs of learners with low vision hence, created a knowledge gap which this study closed.

5.2 Availability of tools for conducting functional low vision assessment of learners

In investigating the availability of tools used for conducting functional low vision assessment of learners in inclusive Schools, this study found out that some teachers used interviews and observation as reflected by Special Needs Teacher 1 in School A, who answered, she normally use interview, observation and ask questions.

Some of the teachers used oral method as evidenced by blind teachers. This result is in disagreement with Barber et al., (2018). The study revealed that, lack of formal assessment tools to conduct functional low vision assessment, presents challenges in obtaining complete and

representative functional low vision assessment information by the teacher of learners with low vision. Lack of tools was presented by special needs teachers in school C and school A, where they improvised something like Snellen chart. This is seen in figure 2 and 3. This study found out that the teacher varied distance and the size of the letters in an attempt to test the learners visual acuity. In support of the findings, Kaiser and Herzberg (2017) conducted a survey study on 314 teachers of learners with visual impairments regarding the tools and procedures used in completing functional vision assessments (FVAs) in Canada and found out that that the teachers assessed near and distance visual acuity and that they also used a screening tool in determining the need for an orientation and mobility (O&M) evaluation and the procedures and tools used by teacher in completing FVAs varied, based on the specific student being assessed.

This study revealed that the teachers used Snellen's Chart. They write the letters on manila card for conducting functional low vision assessment of the learners as indicated by statement of a parent that, the teacher was using some letters which were on a certain chart. He does not know, but there were some letters of different shapes, and the child was able to read them.

This implies that the teachers in inclusive Schools in Arua District use Snellen chart with different letters in addition to the E-chart. This finding is in agreement with Blaze et al., (2013) staff of the Statewide Vision Resource Center, who emphasized that Snellen chart, has several rows of letters arranged on top which are large and from bottom are to the smallest. It is used to test those who are able to read and write. While E chart has several rows which contains only letter E, but in different positions. It is used to test those who are unable to read and write. The charts are made up of capital letters, numbers, symbols, or pictures. Thus, E-chart is most used by teachers in Arua to conduct functional low vision assessment of learners as observed in

photograph figures 1, 4 and 5 for literate learners. But nothing was indicated on the efficiency and the weakness of the tools by the staff of the Statewide Vision Resource Center, which leaves a grey area for this study.

This finding is consistent with Carmens, (2015) observed that, the most common tools that teachers use to assess functional vision of learners with low vision in inclusive schools are Snellen chart and E – chart and he asserted that, the tools assess the eyes ability to see details at near and distance. It involves reading letters, numbers or symbols of different sizes on a chart. Usually, each eye is tested by itself. Then two eyes may be tested together, with and without corrective glasses if they are worn. However, Carmens (2015) mentioned the most common tools that teachers use to assess functional vision of learners with low vision in inclusive schools but declined to mention other tools that are not commonly used.

The findings further revealed that, all the teachers who were observed in conducting functional low vision assessment used the tools when they assessed the learners with low vision as seen in the photograph. The E-chart were in good condition. However, the Snellen charts that the teachers improvised were in bad condition. While one of the special needs teachers had wanted to use a piece of iron sheet and knife to conduct functional low vision assessment. Inappropriate tools used by some of the special needs teachers is harmful to these learners and this presents challenge in obtaining complete and representative assessment information in inclusive schools in Arua District.

5.3 Social and psychological factors that influence functional low vision assessment of learners.

In examining the social and psychological factors which influence functional low vision assessment of learners in inclusive Schools in Arua District, this study found out that there were organization of indoor activities such as games and sports and that Psychological and social skills were provided to the teachers for easy assessment of the learners as confirmed by the Education Officer. This finding matches with the view of Shapiro (2009) who opined that psychological factors influence our interactions with others. Therefore, it is important for the teachers to often conduct functional low vision assessment, and study how learners with low vision think, act, and feel in the context of the society in inclusive school. This is because the behavior probably changes depending on the person you are with.

The results of this study revealed that there were recreation activities and the teachers interacted with the learners, helping them in a cordial relationship as stressed by special needs teacher in school A and ordinary teachers 1 and 2 in the same school. This result is collaborated by the view of Blazé and Bowen, (2013) who maintain that, effective social and psychological interaction skills are essential for learners with low vision and that, Sighted learners learn almost all their social skills by visually observing other people and behaving in socially appropriate ways based on that information. However, learners who have low vision may not be able to learn skills of social interaction in this casual and incidental fashion.

In support of this, Annette(2009) observed that the learners may require thorough, careful, conscious, and sequential teaching and effective social and psychological interaction skills to enable the learners to participate in healthy and safe social relationships, seek information to solve problems, and participate in recreation/leisure activities, more so functional low vision

assessment. Hence, understanding the role of body language, facial expressions, gestures and vocal tones is especially important when the visual cues cannot be used.

This study also revealed that, the learners were involved in school activities such as compound cleaning and team work together with other teachers as narrated by Special needs teacher 2 in school C. This is consistent with the report of the Ministry of Education (2015) in New Zealand, which held that, teachers need to prepare for learners with low vision by talking to the learners, their parents, and other members of the team of the learner. This will make the teachers to conduct functional low vision assessment easily, and understand the learners learning potential.

Furthermore, the findings of this study, revealed that teachers were friendly to the learners , patient with them and they would organize remedial lessons as was reported by parent 2 in School A and similarly learner 1, in school C, implying that the teachers cater for slow learners. This suggests that the teachers had positive attitude and feeling towards the learners. This result is inconsistent with the finding of a study conducted by Kabeto (2015) in Ethiopia, where it was revealed that, in most cases, the attitude and feeling of teachers and that of sighted learners towards learners with low vision was negative, which suggested and indicated social isolation and withdraw of learners with low vision from learners with normal sight.

Further support, was gathered from the view of Guralnick, (2013), who added that, factors such as visual impairment, language, motor or cognitive delays have proportional effect on social competence exhibited by a child. However, the scholar did not specifically consider low vision which was the focus of this study.

In a nut shell, the findings indicate that the teachers catered for the social and psychological factors that influenced the functional low vision assessment of learners in the inclusive Schools

in Arua District. This finding departs from the report of WHO, (2013) which documented that, in Pakistan learners with visual impairment suffer from repudiation, umbrage, inferiority complex, anxiety, depression and similar psychological problems because of their incapacity in comparison to the normal learners or due to the feeling of low esteem. However, the report dwelt only on the situation in Pakistan whose setting is different from that of Uganda and particular Arua District where this study was conducted.

5.4 Other accessible sources of functional low vision assessment of learners

In investigating other accessible sources of functional low vision assessment for learners in inclusive schools in Arua District, the finding of this study revealed various other accessible sources. One of the sources is through the special needs education officer where, the learners go and they are assessed and directed to unit schools as narrated by the Special need Education Officer.

This study also found out that learners can access other source of functional low vision assessment can be got from Government Hospital where there are eye specialist for example, Arua Regional Referral Hospital as revealed by Teacher 1 in School A, parents 1, 2 in school B and learner 1 in school B. also the Private Hospitals, for example Kuluva Hospital as narrated by the teachers. These findings are in line with Vanderbilt and Siller (2018) who concurred that, functional low vision assessment of learners is usually conducted by ophthalmologist or optometrist - meaning trained personnel - but could be carried out by an appropriate trained orthoptist, the aim is to understand the impact of low vision on the learners' daily activities, among other activities support for education is very crucial. Keeffe (2004) added that, the main purpose of the ophthalmology is to diagnose eye conditions and examine the health of the eye, and also give a prognosis of the visual impairment. In support of the foregoing argument, the

Health Centers, which also contain specialists, were also reported to be providing the functional low vision assessment service, the example given by learner 1 in School C, was Aria Health Center.

Furthermore, the findings of this study indicated that, the CDO office also provides access to functional low vision assessment. This is supported by American Foundation for the Blind (AFB, 2017) which, in South Africa, documented that School psychologists or educational diagnosticians were assigned the task of assessing all learners with disabilities. This approach, according to them, has often resulted in incomplete or inaccurate assessments and concluded that, quality functional assessments for placement require that the professional conducting the assessment be someone with a high level of expertise in the effects of visual impairment on learning. This professional should be the teacher of learners with visual impairments or the orientation and mobility instructor. This implies that the assessment should be done by specialist in recognized institutions not in any place anyhow.

Similarly, some organization as narrated by ordinary teacher 2 who said, some organizations have been coming to assess the children. The statement confirms that the teachers receive support from other stakeholders who work together with them in functional low vision assessment of the learners. This result relates to Fraser and Maguvhe (2008) who posited that learners should be conducted by or in partnership with other personnel having been trained in the education of learners with visual impairments and their parents. Careful and comprehensive educational assessments of learners with visual impairments are essential if instructional programs are to meet individual needs.

In conclusion, the other accessible sources of functional low vision assessment for learners in inclusive schools in Arua District that support teachers' efforts include doctors from Arua

Regional Referral Hospital, health workers from private hospitals such as Kuluva, health workers from Health Centers, for example Aria Health Centre, Ediofe health centre, support in form of functional assessment of learners through Community Development Office and Non-Governmental Organizations.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter consists of the summary of the findings, the concluding remarks based on the findings of the study and recommendations. Recommendations for action to improve teachers' competences in conducting functional low vision assessment of learners with low vision and recommendations for research in the area of focus of the current study. The purpose of the study was to investigate teachers' competencies in conducting functional low vision assessment of learners in inclusive schools in Arua District, Uganda. The data was collected using interview schedule and the observation schedule. The sample of the study comprised of the education officer (Special Needs Education), teachers, parents and learners with low vision

Summary of the Findings

This is done in line with the objectives of this study that was set earlier on in chapter one and is as follows:

6.1 Ways in which teachers conduct functional low vision assessment.

Concerning the ways in which teachers conduct functional low vision assessment, this study found out that, teachers had an idea of what inclusive education means although they defined as teaching learners with disabilities together in the same class with the normal learners without segregation and they had limited ways in conducting functional low vision assessment. As by most teachers, Ordinary teacher 2 revealed that teachers in school C do not conduct functional low vision assessment, but they register these learners by seeing them.

6.1.1 Tools for conducting functional low vision assessment

Regarding tools and functional low vision assessment of learners in inclusive schools in Arua, the findings of the study revealed that the tools used include interviews and observations, oral method in some cases like that of the blind teacher, variation of distance and the size of the letters in an attempt to test the learners visual acuity. But very few competent teachers used Snellen's Chart and E -- Chart which was the appropriate and commonly used tools to conduct functional low vision assessment.

6.1.2 Social and psychological factors

In relation to this objective, this study revealed that, unlike the situations in Pakistan where learners with low vision suffer from inferiority complex and depression, the setting in Uganda, Arua in particular is different. Socially and psychologically, teachers in their various schools develop positive attitudes towards learners with low vision. This is in agreement with the reports from participants that; there is free interaction with learners with low vision, they are involved in activities of the school, and they are always friendly and patient enough to the learners with low vision. Hence this prepared learners with low vision for functional low vision assessment.

6.1.3 Other accessible sources of functional low vision assessment

Under his objective, the study found out that eye specialists from the hospitals are the immediate accessible sources of functional low vision assessment of learners besides teachers. In Arua, there is Arua referral hospital and Kuluva hospital which are commonly used by the learners for functional low vision assessment. Other accessible sources are; health centers, Kith who is a

flying doctor, CDOs and the office of special needs education in the district. Hence functional low vision assessment of the eyes depends majorly on eye specialist but not teachers.

6.2 Conclusions

On the basis of the findings, the following conclusions are drawn following the objectives of the study;

6.2.1 Ways in which teachers conduct functional low vision assessment.

As regards ways teachers conduct functional low vision assessment, not all the teachers in inclusive schools in Arua District know the ways to conduct functional low vision assessment of learners. Most Teachers have limited ways to conduct functional low vision assessment. There was no assessment room in schools, teachers do not have correct measure of distance 6 meters, no record of assessment, and most of the learners are not assessed by the teachers. The few teachers who conduct the assessment do not involve the parents of these learners. No multi-disciplinary team during functional low vision assessment.

6.2.2 Tools for conducting functional low vision assessment

Based on the findings of tools used to conduct functional low vision assessment, the most common tool teachers used to conduct functional low vision assessment in schools is E-chart. It was found in school B, and A. Those teachers who made Snellen chart did something far different from Snellen chart. Hence, there is shortage of tools for conducting functional low vision assessment of learners in inclusive schools.

6.2.3 Social and psychological factors

As regards social and psychological factors that influence the conducting functional low vision assessment of learners with low vision, teacher prepares these learners for the function allow vision assessment. This is as a result of involvement of them in school activities. Teachers love them, and teachers cater for them in both indoor and outdoor activities. This made the learners to open up in the absence of their parents during functional low vision assessment.

6.2.4 Other accessible sources of functional low vision assessment

The study revealed that, teachers do not conduct functional low vision assessment of learner's with low vision in inclusive schools. Parents take their learners with low vision to the hospital to be assessed by the medical personnel who are eye specialists in the department of eye.

6.3 Recommendations

Recommendations for action

This following are recommendations from the study:

1. This study has concluded that teachers have limited ways when conducting functional low vision assessment of learners in inclusive schools. Therefore, I recommend that, Arua District local government should ensure that there are tools, assessment room, and knowledgeable and skillful personnel for conducting functional assessment of learners with low vision in inclusive schools. Multi-disciplinary team should be involved from different disciplinary during functional low vision assessment to participate in functional low vision assessment. They include among others, the parents of learners, eye specialists, psychologists, trained special needs teachers and social worker.

2. Regarding tools that teachers used to conduct functional low vision assessment, this study has concluded that, common tool that some few teachers used is E-chart which some schools do not have. Therefore, my recommendation is that, the government of Uganda together with Arua District local government should ensure that there are adequate and different types of tools in the unit schools for the teachers to conduct functional low vision assessment for both literate and illiterate learners with low vision in inclusive schools. The District should organize supervision, monitoring for all teachers teaching in inclusive schools. And workshops for refresher courses on how to use the tools.
3. This study has also concluded that, teachers prepare the learners with low vision for functional low vision assessment. Socially and psychologically, teachers involve these learners in all the indoor and outdoor school activities which prepare them to open up during functional low vision assessment when their parents are absent. Therefore, I recommend Policy makers to ensure that teachers teaching learners with low vision in inclusive schools have basic training in special needs education. Psychology and function allow vision assessment in the training should be compulsory. Educators should reach out to sensitize the community about the functional assessment of learners with low vision in inclusive schools.
4. Lastly, the study has concluded that, teachers do not conduct functional low vision assessment of learners in inclusive schools. Parents take their children with low vision to be assessed in Arua referral hospital and Kuluva hospital. Therefore, I recommend the government of Uganda to train more special needs teachers to teach and conduct FVA of learners with low vision. The government should also motivate the few special needs teachers by increasing their salary. As the government prepares teachers for quality

education of learners with low vision, the government need to collaborate with the eye departments in the hospitals for functional low vision assessment of the eyes of learners.

Recommendations for research

This study suggests the following areas for further studies

- i. Challenges encountered by teachers in conducting functional visual assessment of learners with low vision in inclusive schools.
- ii. The parental influence in conducting functional low vision assessment of learners in inclusive schools.

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APPENDICES

APPENDIX 1

Approval of research proposal



APPROVAL OF RESEARCH PROPOSALS:

This is to confirm the approval of the Research Proposal for
FIRUAH AGNES Registration No.
15/U/15952/GMEN/PE on the topic:
TEACHERS' COMPETENCIES IN CONDUCTING
FUNCTIONAL ASSESSMENT OF LEARNERS
WITH LOW VISION IN INCLUSIVE SCHOOLS

The student can now proceed for data collection.

Signed: 
PRINCIPAL SUPERVISOR

Date: 3/5/2018


SUPERVISOR II

Date: 3/5/2018

APPENDIX 3

Consent form for education officer (SNE) to collect data for the study

.....

Consent form for education officer (Special Needs Education)

TITLE OF THE STUDY: TEACHERS' COMPETENCIES IN CONDUCTING FUNCTIONAL ASSESSMENT OF LEARNERS WITH LOW VISION IN INCLUSIVE SCHOOLS.

Dear Education officer (SNE),

The researcher is a student at Kyambogo University, faculty of special needs and rehabilitation. She is pursuing a masters of special needs education. She intend to carry out a study on the TEACHERS' COMPETENCIES IN CONDUCTING FUNCTIONAL ASSESSMENT OF LEARNERS WITH LOW VISION IN INCLUSIVE SCHOOLS IN ARUA DISTRICT. The finding of the study will assist the stake holders to improve in conducting functional assessment of learners with low vision in inclusive primary schools in the district.

I request you to participate in answering some few questions through interview which shall be audio recorded. The research findings will only be used for the study purpose which will be treated with confidentiality. Your participation in this study is voluntary. You may choose to participate or withdraw from the study at any time without a penalty Feel free to contact Kyambogo University or conducts below for any concern or complaints.

Regards,


Researcher (0777441118, firuaha@gmail.com)

Signature/thumb print of the education officer (SNE)

.....  SPECIAL NEEDS EDUCATION

Date 07.08.2018 07. AUG. 2018.

Name of the education officer (SNE)

.....  P.O. BOX 1 ARUA
INZIKURU ESTER OBITIA

APPENDIX 4
Consent form for teachers to conduct research study in school A

A

Consent form for head teachers to conduct research study in the school

TITLE OF THE STUDY: TEACHERS COMPETENCIES IN CONDUCTING FUNCTIONAL ASSESSMENT OF LEARNERS WITH LOW VISION IN INCLUSIVE SCHOOLS.

Dear head teacher,


I am FIRUAH AGNES, a student pursuing masters of special needs education in the University of Kyambogo, department of special needs studies. As a partial fulfillment of the requirement for the course, I'm expected to carry out a research entitled, TEACHERS' COMPETENCIES IN CONDUCTING FUNCTIONAL ASSESSMENT OF LEARNERS WITH LOW VISION IN INCLUSIVE SCHOOLS IN ARUA DISTRICT. I hope that this information will help in conducting functional assessment of learners with low vision in primary schools.

I hereby request you to accept the teachers, parents of learners with low vision and the learners themselves to participate in this study by answering a few questions through interview. I would also request to carry out observations about functional assessment. I will be writing some notes and audio recording the interview schedule. All information in this study shall be held confidential.

Participation in this study is voluntary and the potential participants may choose to withdraw consent at any time without penalty. You may contact Kyambogo University or conductors below for any concern or complaints regarding the way in which the study is or has been conducted.

Researcher (0777441118 - firuaha@gmail.com)

Signature of the head teacher


Date .. 09/07/2018



Name of the head teacher .. AJUMA BEN SOLOMON

Appendix 8
Consent form for parents of learners with low vision B

Consent form for parents of learners with low vision

TITLE OF THE STUDY: TEACHERS' COMPETENCIES IN CONDUCTING FUNCTIONAL ASSESSMENT OF LEARNERS WITH LOW VISION IN INCLUSIVE SCHOOLS

Dear parent,

I am FIRUAH AGNES, a student of Kyambogo University pursuing a masters in special needs education. I am conducting research on TEACHERS' COMPETENCIES IN CONDUCTING FUNCTIONAL ASSESSMENT OF LEARNERS WITH LOW VISION IN INCLUSIVE SCHOOLS. I kindly request for acceptance of your child to participate in this study. Your child has been chosen for this study because she/he is a direct beneficiary of this research project.

Your child will participate in this study voluntary. She/he may choose to participate or withdraw from the study at any time without a penalty. In case your child gets a complaint on the way she/he has been treated pertaining her/his rights during the course of participation, please feel free to contact Kyambogo University or contact below for any concern or complain.

Researcher (0777441118, firuaah@gmail.com)

Signature/thumb print of the parent

.....


Date ..08/08/2018..

Name of the parent

.....
Driwary Hellen

Appendix 11

Interview schedule for education officer (Special needs education)

TOPIC: Teachers' competencies in conducting functional low vision assessment of learners in inclusive schools.

An interview on teachers' competencies in conducting functional low vision assessment of learners in inclusive primary schools

1. For how long have you served as Education officer (SNE) in this district?
2. How many special needs teachers with diploma and degree are there in the district?
3. How many learners with low vision are there in the three primary schools that have unit for learners with visual impairment? (Arua demonstration, Ediofe girls and Liria P/S?
4. What ways do teachers have in conducting functional low vision assessment of learners?
5. How has the district been measuring the competencies of teachers in conducting functional low vision assessment of learners in inclusive schools?
6. What roles do you play in promoting social and psychological factors in conducting functional low vision assessment of learners in the schools?
7. What impact does your role have on the social and psychological Factors that influence the conducting of functional low vision assessment of learners in schools?
8. What are other accessible sources that conduct functional low vision assessment of learners within schools, hospitals and community in the district?

The end

APPENDIX 12

Interview schedule for teachers

TOPIC: Teachers' competencies in conducting functional low vision assessment of learners in inclusive schools.

An interview on teachers' competencies in conducting functional low vision assessment of learners in inclusive primary schools

1. How old are you?
2. What is inclusive education?
3. How long have you been teaching in an inclusive school?
4. Were you trained in diploma or degree in special needs education? If yes, what is your area of specialization (if any)? If no, how are you managing the teaching of LWLV?
5. In what direction or manner do teachers conduct functional low vision assessment of learners?
6. What assessment tools do you use to conduct functional low vision assessment of learners?
7. How do teachers interact with learners with low vision in your school?
8. What roles do other teachers play in conducting functional low vision assessment of learners?
9. What other accessible sources of information about the functional low vision assessment of learners that conduct functional assessment within the school, hospitals and the community in the district?

The end

APPENDIX 13

Interview schedule for parents/guidance

TOPIC: Teachers' competencies in conducting functional low vision assessment of learners in inclusive schools.

An interview on teachers' competencies in conducting functional low vision assessment of learners in inclusive primary schools

1. How old are you?
2. What is education level?
3. What work do you do?
4. Do you have other children with the eye problems?
5. When did this child develop this eye problem?
6. Were the eyes of your child tested when you brought him/her for enrolment for the first time in this school? If yes, who tested the eyes? If no what did you do?
7. Do you think the teacher who tested the eyes of your child knows how to test eyes? If yes what indicated to you that he/she knows? If no why do you think so?
8. What things did the teacher use to test the eyes of your child?
9. How was the relationship between the teacher and your child with low vision during testing of the eyes of the child in school?
10. How does your child feel during the testing of his/her eyes in school by the teachers?
11. What are some of the authorities apart from the teachers that test the eyes of the learners with low vision within schools, hospitals and the community in our district?

The end

APPENDIX 14

Interview schedule for learners with low vision

TOPIC: Teachers competencies in conducting functional low vision assessment of learners in inclusive schools.

An interview on teachers' competencies in conducting functional low vision assessment of learners in inclusive primary schools

1. How old are you?
2. In which class are you?
3. Were your eyes tested? If yes, who tested your eyes?
4. What about your teacher? Did he/she make any test?
5. Do you think the teacher who tested your eyes knows to test eyes? If yes, what showed to you that he/she knows? If no why do you think so?
6. What things did the teacher use for testing your eyes?
7. Who were there when the teacher was testing your eyes in school?
8. How did you feel when the teacher was testing your eyes?
9. Who else would have tested your eyes in your community apart from your teachers?

The end

APPENDIX 15

Observation schedule for teachers'

Observation checklist is to answer some part of research question 1 and 2. The questions are about the ways in which teachers conduct functional low vision assessment of learners and available of tools to conduct functional low vision assessment of learners. Under these questions, the following aspects are to be examined,

1. Observation of ways in which teachers conduct functional low vision assessment of

S/N	Ways in which teachers conduct functional low vision assessment	Adequate 1	Average 2	Little 3	Not there 4
1	Confidentiality				
2	Correct measurement of the distance				
3	Assessment of one eye after another				
4	Records of the assessment				
5	Pointing of the letters or figures from top to the bottom				
6	Using the pointers to point at the letters or figures.				
7	Individual standing at 6m while testing the eyes				

learners.

2. Tools available for teachers to conduct functional low vision assessment of learners.

S/N	(a) Assessment room and its arrangement	Available	Condition	Adequacy	Other remarks
	Content:-	Yes/No	Good/Bad	Yes/No	
1	Enough light				
2	Assessment tools				
3	Distance (6)				
4	Glare free				
	(b) assessment tools in school	Available	Condition	Adequacy	Other remarks
1	E- chart				
2	Snellen chart				
3	New –T chart				
4	LogMAR chart				
5	Flashlight				
6	Ishahara test plates				

APPENDIX 16
Letter of appreciation to the school

The head teacher

Teachers

Parents

Learners with low vision

Dear sir/madam,

Ref: Thank you

I am writing back in connection with the data for my research in which your precious school participated. It is not usually easy for researchers to collect data. But for my case, it was a success because I got a maximum support and cooperation both from your school administration, teachers' learners with low vision, and parents of these learners all of whom participated willingly. Without your support and cooperation during the data collection, I would have done nothing.

I therefore would like to extend my heartfelt thanks to you, teachers, parents and learners with low vision for making it possible for me to obtain the data for my study. I hope to finish up with the remaining part of my research successfully when I go back to Kyambogo University.

God bless your school

Yours sincerely,

Firuah Agnes - Kyambogo University

Masters of Special Needs Education student

APPENDIX 17: FIGURES



Figure 2: Wrong assessment by a teacher

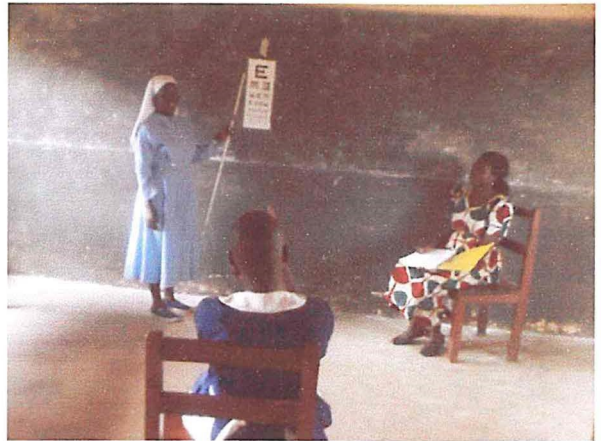


Figure 3: Use of E-charts majorly



Figure 4: Proper functional low vision assessment

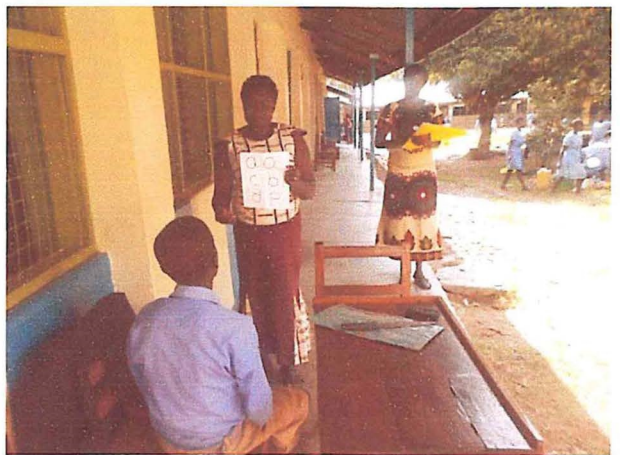


Figure 6: Wrong tool for functional low vision assessment

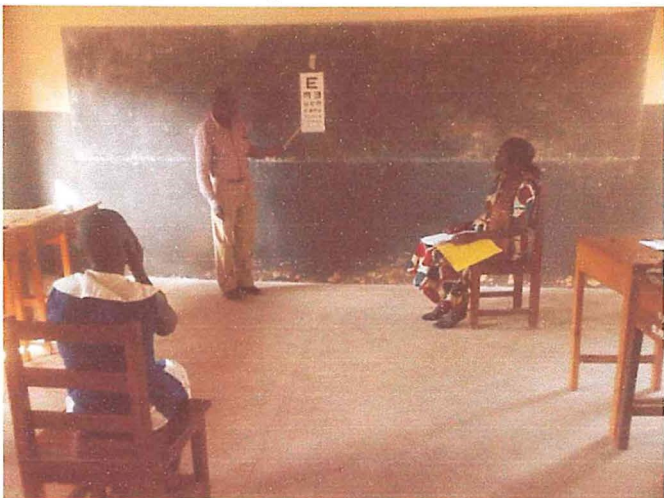


Figure 5: Use of E-charts by another teacher