UNIVERSITY OF EDUCATION, WINNEBA

SUPPORTS TEACHERS PROVIDE FOR PUPILS WITH LOW VISION IN THE REGULAR CLASSROOMS AT KONA CIRCUIT IN THE SEKYERE SOUTH DISTRICT, AGONA-ASHANTI

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A Dissertation in the Department of SPECIAL EDUCATION, Faculty of EDUCATIONAL STUDIES, submitted to the School of Graduate Studies, University of Education, Winneba in partial fulfilment of the requirements for the award the of MASTER OF EDUCATION (SPECIAL EDUCATION) Degree.

DECEMBER, 2014

DECLARATION

CANDIDATE'S DECLARATION

I, Douglas Fofie, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Candidate's Name: Douglas Fofie

Signature.....

Date.....

SUPERVISOR'S DECLARATION

I, hereby certify that the preparation and presentation of this thesis was supervised in accordance with guidelines and supervision of thesis laid down by the University of Education, Winneba.

Supervisor's Name: Dr. S. K. Hayford

Signature.....

Date.....

ACKNOWLEDGEMENTS

In a bid to undertake this study, I relied on the services of many people without whose assistance the work would not have been successful. I wish to recognize and acknowledge my indebtedness to Dr. S. K. Hayford of Department of Special Education of the University of Education, Winneba, who as my principal supervisor, painstakingly read through the original manuscript and offered valuable suggestions.

Equally, I would like to thank Mr. Awini Adam for his untiring efforts, invaluable contributions, suggestions and using the SPSS to analyse the data collected, which made this work to see the light of the day. Finally, I would like to thank my family and friends for all the love and support they have shown me during this process. I thank you all.

DEDICATION

I dedicate this work firstly to my lovely and adorable brother Kwadwo Ofori Christopher, secondly to my lovely sons; Asuo Fofie Noble, Fofie Junior Mensah and Barimah Yaw Fofie. I love you very much.

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ABSTRACT

The purpose of the study was to examine the supports teachers provide for pupils with low vision in regular classrooms in the Sekyere South District, Agona. The descriptive survey research design was used for this study. The sample size was 100 respondents. Purposeful sampling technique was used to select the sample size. The instrument employed to collect data was questionnaire. Data was analysed using frequencies, mean and standard deviations. The findings revealed that there were varieties of real materials and objects in the schools. For example, with large shapes, large print charts available in the schools for teaching pupils with low vision. The findings also revealed that there are resource teachers, guidance and counselling services, eye screening, and audiological services available in all the schools. Findings from the study indicated that adapted materials enhanced the academic progress of pupils with low vision in the schools. Adapted materials such as large prints, the use of optical and non-optical devices enable pupils to grasp concepts that are presented during the teaching and learning process whereas peer support systems brought about effective cooperation of pupils with low vision in the schools. The findings showed that teachers were burdened with adapting instructional materials to meet the needs of pupils with low vision. The researcher recommended that teachers who teach pupils with low vision should be given in-service training to update their skills in managing resources available for the pupils. Resource teachers should cooperate and collaborate with teachers in order to ensure effective resource utilization for pupils with low vision in the basic schools.

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

The need for support for pupils with low vision in general education classrooms in Ghana is critical because regular school teachers do not have the necessary skills to teach to the differential needs of the pupils. In the context of this research, support refers to assistance, in the form of human and materials teachers, parents or other professionals provide to pupils who are seen struggling to meet their personalised learning needs to enable them cope with learning in regular education classrooms. A study by Avoke and Yepkle (2006) showed that there are students with mild disabilities and special educational needs in regular education classrooms in the Winneba Municipality of the Central Region of Ghana. Also, the Sekyere South Education Office and Special Education Division of the Ghana Education Service suggested that significant number of children in the regular schools at Kona circuit have learning needs which hinder their academic performances (Sekyere South Education Office, 2012). This trend suggests that pupils need to be adequately supported if they are to progress academically.

The Salamanca Declaration of 1994 proposes individuals with special needs must have access to regular schools which should accommodate them within child-centered pedagogy capable of meeting these needs, regular schools with these inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society achieving education for all. Moreover, they provide an effective education to the majority of children and improve the sufficiency and ultimately the cost-effectiveness of the entire education system cited in (Hayford, 2013). The government of Ghana has in

principle adopted inclusion as its official policy and consequently its educational strategic plan seeks to include all children including those with disability in the mainstream by 2015(Hayford, 2013).

The main interest in this study was to profile pupils with low vision to ascertain how they were coping with class activities, since the majority of teachers, are unlikely to be familiar with specific strategies involved in arranging learning and programming for them (Avoke & Ocloo, 1997). Individuals with low vision have some limited or residual vision which is very useful as far as the performance of daily activities is concerned (Avoke & Ocloo).

At the moment, there is a large number of pupils with low vision in the regular schools at the Kona Circuit in the Sekyere South District but are not benefiting from the broad range of curriculum experiences, arising in part from the absence of relevant intervention from teachers (Sekyere South Education Office, 2012). UNESCO (2000) also has stressed that the importance of support is to ensure that all students who are included benefit from the school programme; otherwise regular schools become a dumping ground for students with disabilities and special needs. These authors' views suggested that when regular schools are adequately supported or have the right support, they provide numerous benefits to students with special needs.

According to Ocloo, Hayford, Agbeke and Gadagbui (2002), many children with special needs in regular schools go through education without any support, as such some of them drop out of school and those who managed to go through end up with poor grades. In a study by Hayford (2008) among basic schools in Winneba and Swedru Districts, many pupils continually perform poorly because teachers lack skills and knowledge to address the special educational needs in the classrooms. Many of the pupils reportedly became frustrated and anxious during classroom activities

because they did not receive any support from teachers or their peers. Some of these pupils failed, repeated class and some of them eventually dropped out of school (Hayford, 2008).

However, literature shows that in the United States of America, students with special needs in regular schools are provided with support. This is in the form of special assistance including when necessary, individualized instruction from specialists (Hardman, Drew & Egan, 2005). The general education teachers also receive assistance from specialists. Professionals such as resource teachers or special education consultants participate in planning educational programmes for students with special educational needs, provide suggestions for the modification of general education classroom activities, and supply of special materials and equipment. In addition, there are supports depending on the needs of the student. The supports include physical assistance and therapy, counselling and psychotherapy, modified learning environments, assistive learning devices and behavioural modification techniques. In line with this, Alley and Deshler (1997) have noted that issues concerning child support, guidelines or directions play central roles in classroom teaching and learning.

1.1 Statement of the Problem

Basic schools at Kona circuit are among schools in the Sekyere South District of Ghana where pupils with low vision are receiving education in the regular education classroom (Sekyere South Education Office, 2012). However, supports which are crucial for meeting the personalised learning needs of these pupils seem not to be available. Furthermore, teachers in these regular schools appear not to have adequate training and experience as well as personnel to assist them to address the

differential needs of the pupils with low vision. The problem is that if these pupils learning needs are not addressed, they would continuously perform poorly, fail and repeat classes and some may eventually drop out of school.

1.2 Purpose of the Study

The purpose of the study was to examine the supports teachers provide for pupils with low vision in regular classrooms in the Sekyere South District, Agona – Ashanti in order to establish whether or not such pupils receive requisite support to enable them to learn successfully.

1.3 Research Objectives

The study addressed the following objectives:

- To examine how regular teachers assist pupils with low vision to participate in teaching and learning activities.
- To identify the challenges regular teachers face in assisting pupils with low vision to participate in learning.
- The study will also identify the competencies of regular teachers who have pupils with low vision in their classrooms.

1.4 Research Questions

To achieve the aims of the study, certain pertinent questions need to be answered. For this reason, the following research questions are raised.

1. How do regular teachers assist pupils with low vision to participate in teaching and learning activities?
2. What challenges do regular teachers face in assisting pupils with low vision to participate in learning?

3. What are the competencies of regular teachers who have pupils with low vision in their classrooms?

1.5 Significance of the Study

It is envisaged that the results of the study would outline the various supports teachers provide to pupils with low vision at Kona circuit basic schools in the Sekyere South District, Agona. It would also guide the Ministry of Education in reforming and restructuring programmes for pupils with low vision so as to improve service delivery. The study would make provision for pupils with low vision to talk about the problems that they have been facing in the classroom and how these problems have impact on their learning and general education as a whole. Thus the study would enable the voice of pupils with low vision to be heard.

In addition, the results of the study would help reveal the level of supports for pupils with low vision in the general education classrooms and how these services enable regular classroom teachers to effectively meet the learning needs of these pupils in the regular schools. These would assist parents, itinerant/resource teachers and the Ghana Education Service GES) to find solutions in addressing the limited support for pupils with low vision in the general education classrooms in the district.

1.6 Limitation of the Study

The main limitation to the study was the challenges the researcher encountered. Some of these challenges were financial resources and time constraints, since the researcher had to combine resource work with the research work. In addition, the cost of transportation and the risks involved in travelling from Kona to Winneba fortnightly to see the supervisor was a constraint. These notwithstanding the

researcher adopted appropriate strategies and data collection procedures to ensure that the findings were reliable and valid.

1.7 Delimitation of the Study

The study cover only schools at Kona circuit and pupils with low vision due to the peculiar interest of the researcher. These schools were conveniently chosen because of their proximity to the researcher. This will enable the researcher to find out the root causes of the problems pupils with low vision face in the regular classrooms and exploring strategies that could be used for supporting these pupils to learn effectively.

1. 8 Operational Definition of Terms

Low vision devices: These are special facilities/equipment which enhances visual functioning of an individual with low vision.

Low vision: A condition where a person has significant vision loss even after treatment and/or standard refractive correction, and has visual acuity of less than 6/18 to light perception or visual field of less than 10% from the point of fixation but who uses or is potentially able to use vision for planning or execution of a task.

Support: In the context of this research, support refers to assistance, in the form of human and materials teachers , parents or other professionals provide to pupils who are seen struggling to meet their personalised learning needs to enable them cope with learning in regular education classrooms.

Pupils with visual impairment: Individuals who cannot see well even with correction and this adversely affects their educational performance.

Regular Teachers: Trained professionals in the field of education. They usually teach in regular schools. Their traditional role is to teach students without disability

and difficulties. These teachers are not specifically trained to deliver special education services.

1.9 Organization of the Study

The study has been organized into five chapters. Chapter one constitutes the introduction which discusses the background to the study, statement of the problem, purpose of the study, research questions, significant of the study, delimitation, limitation, definition of terms and organization of the study. The second chapter dilates on the review of related literature. Chapter three deals with the methodology used in the study. Chapter three highlights the population, sample size/sampling technique, research design, instrumentation, data collection procedures and methods of data analysis. Chapter four covers the findings and discussions. In this chapter, findings of the study have been discussed in relation with the research questions and literature. Chapter five summarizes the entire study, provides limitation, conclusion and recommendations on the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter reviewed related literature on supports teachers provide for pupils with low vision in their regular schools. The chapter has been organized under the following strands:

- The theoretical framework of the study.
- Assistance that teachers provide for pupils with low vision.
- Challenges teachers face in providing assistance to pupils with low vision.
- Competencies of teachers in handling pupils with low vision.
- Summary of the literature review.

2.1 Theoretical Context of the Study

Lerner and Teti (2005) explain that a model is a theoretical construction that represents something, with a set of variables and a set of logical and quantitative relationships between them. Similarly, Bullock and Selz (2007) describe models as framework for thinking and acting suggest that any profession in which people intervene in the lives of others must have a "model" of practice which guides those interventions. The suggestion of Bullock and Selz, is critical because models provide a framework for selecting, sequencing, and organizing interventions (Boer, Niel-Ingvar, Van Baalen & Kumar, 2004), and they guide the process of decision-making, and assist in answering questions in research (Mezirow, 2000). A number of theories are applicable to education of students with special needs including pupils with low vision in regular education classrooms. In this study the social model of disability was adopted.

2.1.1 Social models of disability

The selection of the social model of disability was to explain how it relates and influence societal contribution to the education of children with disability. Avoke (2005) stated that the social model views social restrictions for the disabled as consequence for their dysfunction. It is the social systems or set ups that act as barriers to the participation of the disabled. The social model of disability takes a broader view that the ability to execute activities is dependent upon accessible environments, which are a consequence of social organization. Underling this social approach to disability is the belief that disability is a social construct, which promotes the perspective that disability is created by the social view that persons with disabilities with certain conditions or impairments are different or abnormal.

From an exploration of the literature and views from some researchers such as Avoke (2005) on the social model of disability, it can be inferred that participation of persons with disabilities in their own society are restricted due to barriers put in place by social systems. This in turn affects the person`s academic work and performance as well as services for them. In other words, the model views disability as a consequence of environmental, social and attitudinal barriers that prevent people with impairment including pupils with low vision from maximum participation in society.

The social model emphasizes that it is the environment that limits access and opportunities for work, education, and social participation of persons with disabilities. The social prejudices, discrimination, and stigma are inherent part of the social model (Smart, 2001). In effects, majority of persons with disabilities become restricted with regard to access, participation, and adequate provision to equality education. The social model of disability as already explained, is a reflection of human right and equality (Smart, 2001). The assumption is that it was not individual that were disabled

by their physical or mental impairments as purported by medical conceptualization of disability but rather organization of society as designated by non-disabled people that were more significantly disabling (Brynner, 2000; Fraser, Meltzen, Ryba, & Neilson, 2000).

Within the social model, the locus of the problem is not within the individual but within the oppressive aspects of societal, political, and un-enabling economic environments in which disabled people live (Barnes, 2002; Drake, 1996; Fraser et al., 2000; Swain, French, Barnes & Thomas, 2004). Since the 1990's the disability movement began to argue that the problem of disability lies in the restructuring of society and not in "normalization" or "care" as found in the medical model. This view point formed the basis of the social model, which perceived disability as the result of any behaviour or barrier in society that prevents people with impairments from being able to play an equal role in life (Oliver, 2013). Such barriers can either be physical (for example, inaccessible buildings, transport or lack of sign language interpreters) or attitudinal (for example, discrimination in the workplace.

Swain, French and Cameron (2003) point out that in the social model, the management of the problem requires social action, and thus, it is the collective responsibility of society at large to make the environmental modifications necessary by providing the needed support services for the full participation of people with disabilities in all areas of social life. The issue is both cultural and ideological, requiring individual, community, and large scale social change. Viewed from this perspective equal access for people with impairment/disability is a human right issue of major concern (Swain, et al., 2003). With the social model, society and people must be changed attitudes and perception about persons with disabilities (Finkel-Stein, 2001). This particular model is relevant to this study in that it emphasizes that

states should ensure that the education for persons with disabilities and special needs is an integral part of the education system. Thus, general educational authorities should be responsible for the education of persons with disabilities and those with special needs in integrated settings. Education for persons with disabilities should form an integral part of national education planning, curriculum development and school organization. By and large, education in mainstream schools presupposes that provision of adequate and other appropriate supports are available to meet the needs of persons with disabilities including pupils with low vision (Oliver, 2013).

2.2 Assistance that Teachers provide for Pupils with Low Vision

The following resources have been identified by literatures as supports that teachers can provide to pupils with low vision in their school. The resources have been delineated into two namely; human resource and material resource. Human resource consists of personnel's in the area of special education who provides services for children with special educational needs. In the context of this study, the following human resource supports are considered:

2.2.1 Itinerant/resource teacher services

For general education teachers to be effective and efficient in providing support for pupils with lo vision in their classrooms, they rely on the services of the itinerant or resource teachers. This service aims at placing and supporting visually impaired individuals in regular classrooms to enable them achieve the best in learning. Resource teachers are specialists who are trained and attached to the district education offices and they go from school to school to identify, assess children and plan management programmmes for regular teachers to enable them support pupils with low vision in their teaching and learning (Special Education Department, 2007).

Baine (2001) pointed out that these specialists are consultants who travel from school to school to assist teachers in methods of assessment, instructions, materials preparation and equipment building. Okyere and Adams (2003) opined that in most of the mainstream schools in Ghana, specialist teachers of the visually impaired provide resource room support. The bulk of the teachings are done by the regular classroom teachers while the exercises of the visually impaired are transcribed by the resource teacher for the regular teacher to mark. In another area of support, specialist teachers also help the students identify landmarks to help them orient themselves to their environment.

According to Okyere and Adam, resource teachers provide in-service training for the other teachers on how to manage the visually impaired child in learning. The techniques and methods of teaching some subjects are demonstrated for regular classroom teacher to adopt. In the community, the resource teachers target the schools, the clinics as well as going to homes to educate students and parents on disability issues. The provision of these services in most cases help pupils with low vision to adjust in the general education and they benefit from their education (Okyere & Adam, 2003).

Okyere and Adam (2003), further stated that resource teacher encourages realistic understanding of the individual child's needs and abilities, thus helping the child realize his/her highest potential. Ocloo (2011) citing Cruickshank and Johnson (1975) mention interpreting information as an indirect role of the resource teacher. The authors explain that the resource teacher is expected to serve as a liaison between the medical personnel and the regular classroom teachers. He may be asked to interpret medical report and to explain the nature of the eye condition and the

limitations imposed by it. Many resource teachers assume the responsibility for pupils and parent guidance and counselling.

According to Haring and McCornick (1990) cited in Ntim (2003), an important part of the resource teachers` job is to produce an understanding atmosphere in which pupils with visual impairment can express and learn to deal with their feelings about their disabilities. He also helps pupils with visual impairment to cope with the attitude of sighted pupils. With the encouragement from the resource teacher, pupils with visual impairment learn to communicate their needs. To summarize the above roles,

Ocloo (2011) suggested that resource teacher need to; (a) to recommend any child/youth suspected of having a vision problem to be checked by an ophthalmologist or optometrist. (b) To recommend access to specialized equipment and materials to support children/youth that are visually impaired, monitor the functioning of such equipment and arrange for the provision of appropriate vision specific teaching aids. (c) To carry out direct teaching duties in areas such as Braille, orientation and mobility, language, concepts, social skills, independent living skills, use of low vision aids, listening skills, keyboarding skills, assertiveness training, organizational skills, visual efficiency and post-secondary counselling. (d) To prepare materials in alternate format or adapt environment to ensure access to information for the student with low vision. (e) To develop Individualised Education Programme (IEP) for pupils with low vision. (f) Put reading assignments into braille, large print or in tape-recorded form. (g) To provide guidance and counselling services to child and the parents. (h) Provide medical knowledge involving the anatomy of the eye and its implications for education and development of the visually impaired pupils. (i) To act as consultant for vision screening programmmes. (j) Help in providing skills in

teaching orientation and mobility. (k) To act as a member of a diagnostic team in Special Education. (l) Develop specialised learning materials (Ocloo, 2011).

As part of the ISSP team, resource teachers identify the services required by pupils with low vision and to facilitate delivery with appropriate support agencies by liaising with them as required (e.g., Ophthalmology, Optometry, Speech-Language Pathology, Occupational Therapy, Physiotherapy, APSSEA, Neuromotor Division of the child Health Program at the Janeway child Health Centre, etc.) conduct workshops and in-services training with teachers, parents and administrators relating to the education of children/youth who are blind or visually impaired (Mintah, 2008).

2.2.2 Physician/nurses support

Regular classroom teachers again rely on the services of physician/nurses before they can render effective and efficient support for pupils with visual impairment in their schools. PL94-142 established the need for greater involvement of medical and health-related personnel in the education of students with special needs including pupils with low vision (Guralnick, 2002). Levine (1992) noted that physician can aid the multidisciplinary team by performing diagnostic tests to assess the student's physical development, sensory abilities, medical problems, and central nervous system functioning; providing an understanding of nutrition, allergies, illnesses, and somatic symptoms; planning and monitoring the effectiveness of medication intervention; and discussing the potential side effects of drug interventions.

International council for Education of the visually impaired (2010) noted that some student may require the services of a medical specialist, who can meet the specific medical and physical needs of students including pupils with low vision by

providing diagnostic and treatment services within their areas of specialization. For example, an ophthalmologist-a medical doctor with a specialty in diagnosis and treatment of eye diseases and defeats. Treatment may include prescription of drugs, glasses, surgery or other therapy. Many medical-related services may be provided by school nurse, who can screen students for sensory and physical problems; treat some illness; offer explanations of medical records; monitor the efforts of pharmacological interventions; teach students specific health-care skills; offer training in nutrition, dental care, and other health-related skills; check the fit, maintenance, and functioning of prosthetic and adaptive devices; and help parents obtain medical services. The services from Physician/Nurses will go a long way to aid regular teachers perform their responsibilities with ease (Friend, 2008).

2.2.3 Psychological support

Regular classroom teachers' count on the services of the school psychologists in order to support pupils with low vision in their schools. An important member of the multidisciplinary team is the school psychologists. In many instances, teams are chaired by school Psychologists because of their training and expertise in the administration and interpretation of standardized tests. In addition to carrying out test-related tasks, school psychologists also collect data from regular teachers on pupils by observing them in their classrooms and interviewing regular teachers who work with the pupils with visual impairments in order to assist them. Many school Psychologists are trained as consultants to assist regular classroom teachers in designing, implementing, and evaluating pre-referral interventions and behaviour management systems (Konadu, 2010).

Psychologists are professionals trained in the science of human behaviour and learning. They have expertise in the area of cognitive, behavioural, social and emotional development (Avoke, Hayford, Ihenacho, & Ocloo, 1998) cited in Konadu (2010) stated that, psychologists offer services to both students with 'normal' and 'abnormal' development. The school psychologist uses information gathered from evaluation procedures to advise teachers about how to stimulate children, both those with and without disabilities to learn. They offer parents strategies to combat the numerous behaviour problems pose by children including those with disabilities. These functions in the view of the authors are quite similar to those performed by the guidance coordinators in our second cycle schools.

According to Avoke, et al, though the function of school psychologist cannot be underscored, these professionals are completely missing in the provision of special services for students in Ghana.

2.3 Material Resources

The purpose of instructional materials is to promote efficiency of education by improving the quality of teaching and learning. According to Ikerionwn (2000), instructional materials are objects or devices which help the teacher to make learning meaningful to learners. Aduwa-Ogiogbaen and Imogie (2005) claim these materials and resources including audio tape recorders, video tape recorders, slide projectors, opaque projectors, overhead projectors, still pictures, programmed instruction, filmstrips, maps, charts, graphs and many more offer a variety of learning experiences individually or in combination to meet different teaching and learning experiences. It is common knowledge in the educational field that teaching at any level requires that the students to be exposed to some form of simulation. Adekunle (2008) asserts that

teaching resources are anything that can assist the teacher in promoting teaching and learning. When pupils with low vision are given the chance to learn through more senses than one, they can learn faster and easier. Ezegbe (1994) classified instructional materials into two. To him, there are visual materials, made up of reading and non-reading materials and audio-visual materials comprising electrically operated and non-electrically operated materials. The use of instructional materials provides the teacher with interesting and compelling platforms for conveying information since they motivate learners to learn more. Furthermore, the teacher is assisted in overcoming physical difficulties that could have hindered his effective presentation of a given topic.

Larson (2001) citing Lane (1994) noted that the use of electronically mediated instruction to duplicate the traditional face to face classroom has resulted in a shift from teacher- to student-centered classes. In this regard, the responsibility for learning is shifted to the students. The teacher only acts as a facilitator and as a coach who gives resource guide and companion in learning.

The use of instructional materials encourages cooperative learning activities among students. Other scholars including Jimoh (2009), Yeager (2000), Nwanyanwu (1999), Bozimo (2002) and Ogbondah (2008) have similarly emphasized the importance of instructional materials and resources in the effective delivery of lessons in schools. These views have been corroborated by many other investigators including Bolick, Berson, Coutts and Heinecke (2003), Kadzera (2006), Killen (2006), Abdo and Semela (2010), Jotia and Matlale (2011). Bolick, Berson, Coutts and Heinecke (2003) observed that while some educators are fascinated by the potential of instructional materials in enhancing teaching and learning, other teachers lagged behind in using instructional materials to teach. Teaching special needs children including pupils with

low vision depends on the use of a number of resources. Osakwe and Itedjere (1993) summarized these resources as textual like books, audio-visual and human resources. They stated that these resources are either used individually or collectively in any meaningful inclusive teaching and learning situation.

According to Amponteng (2014), for teachers to be effective and efficient in carrying out their responsibilities of providing support to pupils with low vision in their schools, the availability and supply of material resources cannot be overlooked. Therefore, it is important for teachers to acquaint themselves with material resources. In the context of this study, the under listed materials have been considered.

2.3.1 The use of tactile materials

Pauline (2008) noted that teachers must be aware, that students with visual impairments have deficit in conceptual experiences and understanding due to absence of visual ability, therefore adaptations of teaching materials become paramount, if they have to learn all the things other students without visual impairments learn in the class. To help this, therefore, these students should be taught physically using concrete experiences (Bishop, 1996; Pauline, 2008).

Following this proposition, these students should be given an opportunity to explore tactile diagrams. Tactile diagrams are very important to understand images and concepts which are difficult to explain and describe in words. Therefore, they should apparently be used when shapes and patterns are very important to understand the concept but also, when the real objects are not available to help teaching (Salisbury, 2008). Tactile images or diagrams can be drawn on braille papers using a special mat and stylus. This produces a relief image or diagram that can be easily felt (UNESCO, 2001). Teachers who teach blind children in ordinary classrooms need to

provide adequate special materials and equipment. There is almost universal agreement that the special materials and equipment needed by a visually impaired student in a regular school are essential to success (Bina, 1993; Bishop, 1990; 1996; Hatlen, 1993; Holbrook, 1996; Kadmon, 1989; Kinos, 1993; Lebech, 1990; Lewis, 1994 cited in Amponteng, 2014). Therefore every creative effort to acquire the necessary materials and equipment should be explored.

In addition, (Sacks et al., 1992; Hoben & Lindstrom, 1980 cited in Amponteng, 2014) friendly user materials are good teaching materials for the visually impaired and creative materials which are provided to visually impaired children enhance dialogue and social interaction to complete an assignment. Pauline (2008) stated that the more significantly cognitively impaired the student, the greater the need for specialized materials, and the greater the need for the teacher's high expectations that will lead to success in reading. During the instruction of new materials, it is recommended that teachers who adhere to established guidelines to maximize engagement should provide four to six opportunities per minute for students to respond. When students are working with learned during independent practice activities, the recommended number of opportunities to respond need to increase to 8-12 responses per minute with 90% accuracy. Even students with visual impairments whose knowledge of concepts is strong would have difficulty keeping pace with this rate of instruction, unless it is entirely verbal (Pauline, 2008).

Lowenfeld (1973) cited in Amponteng (2014) asserts children who are visually impaired need concrete experiences that become even more important for children who have cognitive disabilities. Using only letters as the beginning reading instruction is abstract and bears little relation to blind children's past experiences compared to these of student's for whom letters are a natural part of their early

language experiences, even when environments include braille, children need physical contact to experience it. Sight is a distance sense, learning by touch has to take place within arm's reach, or it is comprised. Unlike letters, familiar words do have meaning, and using words that represent a student's experiences gives the student a meaningful starting point in reading not provided by letters (Lowenfeld, 1973 cited in Amponteng, 2014).

2.3.2 The use of real objects in teaching pupils with low vision

According to Ocloo (2011), in education, realia are objects from real life used in classrooms instruction by educators to improve students` understanding of other cultures and real life situations. The author gave examples of such objects as ball, comb, scissors, toothbrush, zipper, string of beads and spoon among others. Again, the author stated that instructional materials help pupils with visual impairment understand concepts easily in the sense that they add concreteness to verbal explanation and description. Real objects, as aids, give the warmth and true life experiences to pupils with visual problems.

Pupils with low vision for instance can use their residual vision to see, handle and play with these concrete materials which eventually assist them to register the concept permanently in memory and this facilitates easy recall (Ocloo, 2011).

Ewudo (2009) stated that instructional materials help pupils with visual impairments to improve in their learning procedure. Through the use of instructional material, skills are developed. It helps students range of experiences and to achieve their desired aim (Ewudo, 2009). Urom (2010) stated that Instructional materials stimulate pupils desire to learn. It equally assist the them in their learning process by making assimilation and memorization of materials easy and help to hold attention as

well as longer retention of information. Ogbu (2006) opined that real objects develop pupil's ideas through the creation of events and objectives which will improve the pupil's continuity of thought. Equally, instructional material facilitates, stimulates and aids students to take active interest in the subject under study. It improves the emotional instruct of students by providing them with the required knowledge. It improves students from understanding the working model introduced by the teacher. The pupils capture the true picture of what is taught by the teacher. In presenting subject content and motion pictures, real objects play an efficient role by making sure pupils captures the main points or the subject matter (Ogbu, 2006).

2.3.3The use audio, optical and non-optical devices

Salisbury (2008) noted that since students with visual impairments rely mainly on verbal information for their learning, teachers need to be incorporated audio devices to aid their teaching process. Audio devices include things like audiocassettes and compact discs. However, lesson contents with diagrams and tables cannot be well explained in an audio format (Salisbury, 2008). Moreover, teachers can tape recorded their lessons and given to students with visual impairments for later playback at their convenient time (UNESCO, 2001).

Moreover, if a videotape for example has to be shown, it is advisable for teachers to show it to students with visual impairment so that through a specialized teacher's or a classmate's explanation, they understand all the visual concepts in it before the class watch it. For a film with sub titles, a classmate or teacher can read aloud to the class to help those with visual impairment (Spungin, 2002).Optical devices such as eye glasses, magnifiers and telescopes use lenses to increase a person's residual vision. They are normally prescribed by a medical specialist while

non-optical devices do not incorporate a lens and do not need to be prescribed by a specialist. Things like large prints, braille and braille writer, tape recorders, book stands, recorded and talking, books and calculators etc., are examples of non-optical devices (Simon, Echeita, Sandoval, & Lopez,2010).The role of both optical and non-optical devices is to improve vision and increase functionality of students with visual impairments through the use of other senses. It is the role of a teacher to encourage students with visual impairment to use visual devices and assistive technologies to help them with vision (Spungin, 2002).

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Teachings with instructional materials are critical in learning because the materials help learners to see, hear and handle what they learn. Instructional materials help to improve communication and make the teachers' work easier because they talk less (Ocloo, 2011). Many pupils with low vision need some form of materials, devices or equipment in order to learn. For instance, a strong felt pen in a particular colour will enable the child with low vision to see what has been written. Non-shining papers with either no lines or very strong and well-spaced lines will be very useful to many

children with visual impairments. Working papers and books with enlarged print will ease the task of reading for most children with low vision.

Magnifiers of all shapes and sizes are other useful devices which help significantly to ease the problem of reading in children and adults with low vision (Ocloo, 2011). Optical devices play a key role in enhancing vision and reducing visual disability in pupils with low vision. They include standard prescription spectacles, optical low vision devices for distant vision, and optical low vision devices for near vision.

Ocloo (2011) states that, it is important to ensure that children with low vision are refracted and provided with any spectacles they required. Work in South Africa indicates that at least 30% of children with low vision need spectacles. Refraction should always be carried out before a magnification assessment. Again, distance vision magnification requires a telescopic lens system. Telescopes are expensive and have limited applications. It is often more practical for a child to sit near the front of class to see the blackboard than to use the telescope. Also, optical low vision device for near vision uses one or more lenses placed between the eye and an object to alter the retina image size of the object. This makes the object larger and easier to see. These devices play a vital role in giving children with low vision access to print and illustrations in standard textbooks (Ocloo, 2011).

Best (1992) and Keeefe (1995) cited in Ocloo, (2011) suggest some special ways teachers can use materials, devises or equipment to support pupils with low vision; Firstly, a teacher who is going to put a test on the chalkboard can give the material on a piece of suitable paper for the child with low vision. This will enable the child to copy from close range instead. Secondly, a teacher can make simplified drawing for the child with low vision from complicated picture. Finally, when possible; the

teacher can provide the child with visual impairment an original object or animal if it is not harmful, so that the child explores it extensively while the other students are looking at the picture of the object or animal (Ocloo, 2011).

2.4 Adaptive Teaching Methods for Supporting Pupils with Low Vision to Participate in Teaching and Learning Activities

Apart from human and material resources for providing support for pupils with low vision to participate in teaching and learning activities, adaptive teaching methods when properly used by teachers also play a central role in providing support for pupils with low vision. Some of these methods are shown below;

2.4.1 Adapting written texts

For teachers to be effective and efficient in assist students with visual impairment, teaching materials need to be adapted. For example printed text can be adapted through increasing the font size, bolding the text, increasing contrast, adding colour, and adjusting spaces between characters. However, the extent of these adaptations depends solely on the severity of visual defects and the needs of the student concerned (Bishop, 1996; Mastropieri & Scruggs, 2010).

According to Spungin (2002), it is important to consult a specialist teacher on preparation of materials prior to the lesson; because different students use different materials depending on the degree of their visual impairment. Meanwhile, regular teachers should provide students with low vision a copy of notes which are written on the chalkboard or presented on a projector. A specialized teacher for students with visual impairment, should help to clarify the lesson to them, and if possible, should teach them before the main teaching session starts (Spungin, 2002). If a teacher is writing on the chalkboard or uses visual aids, it is important that he or she uses large

writing text on the blackboard or visual aids in order to assist pupils with low vision. In addition, a teacher should use coloured chalks to assist pupils (UNESCO, 2001).

2.4.2 The use of instructional conversation

Best (1992) observed that since students with visual impairments do not see clearly, they rely on the voice of the teacher as one of the main source of information for learning. It is therefore important for the teacher to do some or all of the following: Firstly, the voice of the teacher has to be pleasant. By pleasant, it means that it should produce relaxed tone and pitch (Best, 1992). The author also stated that, the voice of the teacher should be interesting to listen to. Speed of talking, volume and pitch are very important to make the voice interesting for students (Best, 1992). A teacher should avoid vague statements. Phrases like "over here" or "this and that" should be avoided as much as possible, because they do not help students with visual impairments to understand what a teacher is talking about (Mastropieri & Scruggs, 2010).

Spungin (2002) said that during the teaching process a teacher should read the notes aloud while writing them on the board or presenting them on the projector. Mastropieri and Scruggs (2010) and Salisbury (2008) noted that teachers should call the names of students first when they want to address a particular student. Teachers should ask questions or give specific instructions so that students know specifically whom the teacher is talking to. This is important, because it helps students with visual impairments feel part of the class and lessons.

According to UNESCO (2001), it is equally important to use students' names during class discussions so that students with visual impairments would in the position to understand who is talking. Finally, the language that has been used for

content delivery in the class has been a major hindrance for the level of engagement and academic achievement of some students, especially those with visual impairment. Therefore, it is equally important for teachers to use simple and clear language in the teaching and learning process (Grace & Gravestock, 2009; Hannell, 2007). Westwood (1995) stated that the best teacher is the one who uses simple presentation and communication. The best teacher also makes follow up on individual student's tasks in order to make sure that they understand the lesson (Westwood, 1995).

2.4.3 Extra time allowance

According to Mastropieri and Scruggs (2010), students with low vision complete their work very slowly due to the nature of their impairment. Therefore, it is extremely important for classroom teachers to give extra time allowance for these pupils to process visual information, and complete their written assignments (Salisbury, 2008). Students with low vision take longer time to read a text than students with normal vision. Also reading and writing in braille as well as getting information from tactile sources for students with visual impairment consumes a lot of time.

At the same time, students with visual impairment need much time to integrate information coming through hearing (Mastropieri & Scruggs, 2010). Generally, it is acceptable for teachers to add half of the time for students with low vision, and twice as much for students with blindness (Spungin, 2002). Many external examinations recognize this requirement and, therefore, teachers should give them allowance of up to 100% additional time for students with visual impairments (Salisbury, 2008).

2.4.4 Using questions and answers

According to Spungin (2002), oral method of giving instructions and getting responses from the pupils with low vision can also be a good option if general teachers use it. A teacher of pupils with low vision can write down the answers given out orally by a student with low vision. Moreover, a tape recorder can be used by teachers to record the answers the student is giving. However, through this way, a student cannot review the answers he or she has given for possible correction. Therefore, students with low vision and teachers of students with low vision should be consulted before the test is taken, in order to find a better way of assessing a student with low vision (Spungin, 2002).

2.4.5 Encouraging collaborative learning

Mastropieri and Scruggs (2010) opined that in the learning process students differ in capabilities perceived by teachers. Students with low ability will learn from their fellow capable peers. Cooperative learning among students of different learning capabilities and learning needs, in an inclusive classroom, has proved to be effective in promoting academic achievement, positive attitude towards the subject, and improving social interaction among students. For that reason, it is very important for regular classroom teachers employ cooperative learning when teaching pupils with low vision (Mastropieri et al, 2010). Mitchell (2008) stated that cooperative group learning which involves learners working together in small learning groups could be adopted to facilitate collaborative activities among pupils. This helps students with visual impairment to assist each other to carry out different tasks. It is a good strategy of teaching students with visual impairment, particularly in the mixed ability groups. It is especially important in third world countries including Ghana where classes are

very large (Mitchell, 2008). In these groups, regular teachers need to paired students with visual impairments with their fellow sighted students who will help them to organize their works, find correct pages and repeat teacher's instructions (UNESCO, 2001).

2.5 Challenges Teachers Face in Providing Assistance to Pupils with Low Vision

Thomas, Correa and Morsink (2001) noted that the role and support of teachers in the regular classrooms of late are more crucial than in the previous times. This is because the demographic and social changes in today's classroom represent a new population of children and a new set of challenges to teaching and learning (Thomas, et al., 2001).

Teachers are overburdened with overcrowded classes, persistent social problems, diversity of learner's needs, and lack of skills to teach students with various differential learning needs. The ways the learning needs are addressed often create more challenges for their improvement. Avoke et al. (1998) cited in Hayford (2013) explained that, teachers are confronted with a situation of how to balance the conflicting priorities between teachings and helping in terms of support they give to students. These authors believe that there is the need for teachers to be more involved in drawing individualized educational plan as well as taking children through problem solving skills. This will enable teachers incorporate the educational needs of pupils with learning and achievement problems in general classrooms.

2.5.1 Insufficient knowledge of teachers in inclusive education

Meng (2008) observed that many teachers have insufficient knowledge on inclusive education because many education courses offer little on inclusive education. Thus, many new teachers express apprehension in regards to their inability

to teach students with diverse needs in mainstream classrooms and blame their preparation for their ineffectiveness in the inclusion system (Hemmings & Weaven, 2005; Jones, 2002; Winter, 2006).

According to Carroll, Forlin and Jobling (2003),for many teachers, they only exposure to the area of inclusive education is an introductory course in special needs education which is woefully inadequate to teach children with special needs including pupils with low vision in the general classroom. Some studies claimed that there is a specific body of knowledge and skills that one should have to work in inclusive classrooms and that the pre-service teacher training courses do not adequately cover these (Hodkinson, 2005; Jones, 2006). And therefore, newly qualified teachers do not have the necessary knowledge, skills, and attitudes to execute tasks in inclusive settings (Forlin, 2001; Florian & Rouse, 2009).The study by Kesiktas and Akcamete (2011) sought to determine the degree to which the professional standards for Turkish teachers of students with visual impairments were addressed during pre-service training and the degree to which the in-service teachers of visual impairments implemented these professional standards. Findings of the study showed that, there is insufficient knowledge and skills among teachers regarding implementation of inclusive teaching for students with visual impairments.

Another study by Miles (2003) conducted in Temeke district to explore appropriate and sustainable ways of building capacity of key stakeholders in education to reflect, analyse and document their experiences of promoting inclusive education, revealed that inclusive education is a difficult concept to understand among teachers.

2.5.2 The challenge of large class size

In developing countries, one of the reasons why teachers often exhibited negative attitudes towards inclusion is large class sizes (Ali, Mustapha & Jelas, 2006; Chhabra, Srivastava & Srivastava, 2010). Large class sizes, made up of children with different needs including pupils with low vision poses serious classroom management problems and making it impossible for teachers to pay attention to special educational needs children. For example, in Ghana, the recent drive to increase enrolment into general schools through the introduction of the Free Compulsory and Universal Basic Education policy, the Capitation Grants and the School Feeding Programme, have caused many general schools to experience sharp increases in student enrolment (Hayford, 2013; Ministry of Education, 2013). Such large class sizes, according to Avoke and Avoke (2004), made it difficult for students with special needs to be effectively included since teachers are unable to offer support for such students.

The challenges imposed on teachers by large class sizes involve their inability to make time for all the pupils, the difficulty in assessing pupils' progress and difficulty in class management. For example, Ocran (2011) reported that out of 104 teachers surveyed in Basic Schools in the Central region of Ghana (2011), 79% of them taught classes with enrolment that ranged from 36 to 66 pupils. This, according to Ocran (2011), this made it difficult for teachers in these schools to provide quality attention to all learners. According to Hayford (2013), large class size compelled most basic school teachers to spend more than a third of a day marking pupils' work, which is not helpful to inclusive education because teachers may not have the energy to attend to the needs of children with special educational needs during school hours.

2.5.3 Teaching methods

Lewis and Little (2007) conducted a study with an intention of providing insight on the current situation of including pupils with disabilities in the general education in four countries, namely Nepal, Tanzania, Vietnam and Zambia. The findings of the study in Tanzania revealed that, teachers are not educated enough in sign language, use of braille materials, preparation of hearing and aids, tactile diagrams and maps etc. to be able to face the challenges of inclusive teaching. It was also found out that teacher education is insufficient in the components of inclusive education.

Finally, the study revealed that rigid curriculum is also a problem for implementation of including pupils with visual impairment in the mainstream setting. Teaching methods and examination systems are centrally controlled contradicting with the efforts to make inclusive environments for all children regardless of their learning differences (Lewis & Little 2007). The purpose of the above mentioned studies is not different from my research. They all seek to find out the needed supports to be put in place to make the education of children with disabilities successful in regular schools. The contexts of the two researches are rooted in the context Africa.

2.5.4 Inadequate training and support personnel

Research indicated that adequately trained professionals are required to handle students with special needs (Eleweke & Rodda, 2002). Farrell (2000) indicated that having well trained support staff determines the effectiveness of implementing methods that are appropriate to children's needs and to work as part of a team. It is therefore important to provide a structured programme of continuing professional development for support staff working in schools.

Nevertheless, professionals such as support personnel for training programmes, for example, audiologists, psychologists, speech and language pathologists, communication support workers and interpreters are scarce in many countries especially those in the Global South including Ghana (Eleweke & Rodda, 2002). The lack of trained professionals has rendered many countries incapable of implementing inclusive programmes.

As today's classroom settings overflow with new and challenging situations, the best way to assist the teacher to cope with the situation is to provide in-service training for teachers (Rose & Howley, 2007). Supporting this view point, Farrell (2000) postulated that in-service training should be considered an important part of educational planning for teachers in general education to meet the demands of diverse learners.

Also, Luckner, (2002) found that general teachers believed that they had not been sufficiently prepared for and were not able to cope with teaching students with special needs. As such, it has been suggested that in-service training, seminars and workshops must be regularly organized for both specialist and non-specialist teachers in special and mainstreamed schools to update their knowledge to enable them to perform their tasks effectively (Luckner, 2002; Ojedele, 2000).

2.5.5 Lack of resources and poor participation of parents

Simon, Echeita, Sandoval, and Lopez (2010) conducted a study in Spain with the aim of analyzing the process of inclusion to students with visual impairments. The study found out that schools do not have appropriate teaching and learning resources to help students with visual impairments learn better in inclusive classrooms.

Additionally, the study found that, there is a lack of collaboration and participation of parents in the educational affairs of their children. Moreover, the findings revealed that; teachers do not have enough knowledge of inclusion and how to teach students with visual impairments in inclusive classrooms (Simon et al, 2010).

The accommodation of students with a wide range of needs in the same classroom gives rise to many challenges. In mainstreamed setting, instructional materials are used by the teacher to facilitate teaching and learning for the individual child and therefore absence of these materials creates problems for the child (Obi & Mensah, 2005). Deku and Vanderpuye (2008) were of the view that the choice of instructional materials greatly influences any educational programme. They argued that since material availability influences content, quality, and general efficiency of the instructional programme, teachers and schools must be provided with relevant materials to meet the needs of all pupils. However, simple teaching resources that could normally be produced locally, such as maps, charts and other illustrative devices are often not available in many educational institutions in developing countries (Eleweke & Rodda, 2002).

Inadequate or non-availability of teaching and learning materials hampers teaching and learning and limits the ability of children with special needs to study in the same classroom with their peers without disabilities. For example, lack of Sign Language interpreters in schools for the hearing impaired would mean that lessons will remain largely inaccessible to them (Hayford, 2013). Lack of facilities and teaching materials is therefore a major impediment to the implementation of inclusive education (Charema, 2007; Kristensen et al., 2003; Stubbs, 2008).

2.5.6 Inability to adapt curriculum and teaching and learning materials

Shaw and Lewis (2005) have noted that curriculum adaptation is a key area of inclusive education. Accessible and flexible curricula can be a means to creating schools that meet the diverse needs of all students; meeting the learning needs of all learners depends on the degree of responsiveness of the curriculum to meet their individual learning needs. The curriculum must take into consideration the different abilities and needs of all students, so that teachers, classrooms and schools are able to work in a way that accommodates the child's needs (Shaw and Lewis, 2005). Strategies such as flexible time frames for work completion, differentiation of tasks, time for additional support and emphasis on vocational as well as academic goals can be useful in meeting the needs of learners with special needs (UNESCO, 2005). However, contradictions often arise when an education system which is striving to be inclusive, has a curriculum (and also examination system) that is rigidly centrally controlled and inflexible (Shaw & Lewis, 2005). This means that the content of instruction should be adapted by the teacher to make provision for both higher and lower achievers. The teacher will need to apply a wide variety of teaching styles and principles including direct instructions, systematic teaching, discovery learning, cooperative teaching and learning, one to one small group activities, and peer teaching (Shaw and Lewis, 2005; UNESCO, 2005). Adapting these methods will no doubt add to the teachers' workload and this will be extremely challenging to most classroom teachers, particularly those without adequate training in special needs education.

2.6 Competencies of Teachers in Handling Pupils with Low Vision

Recent transformation efforts toward school reorganization aimed at employing effective and efficient inclusive programmes present major challenges for regular classroom teachers. The realization of these efforts depends mainly on the

awareness and readiness of these teachers to meet the educational and social needs of pupils with varying abilities including pupils with low vision. Regular classroom teachers are now required to have a number of extra skills and competencies, not generally practiced in general education settings.

The Open File on Inclusive Education (UNESCO, 2001) has outlined a number of demands to be put in placed on regular classroom teachers from the angle of inclusive curricula such as the following: (a) Regular classroom teacher's involvement in curriculum development at local level. (b) Their skills in the expansion for curriculum adaptation. (c) How these teachers will manage the complex range of classroom activities. (d) How they will provide support to students' learning. (e) How they will work outside the traditional subject borders and in culturally sensitive ways. According to Mastropieri and Scruggs (2010) regular classroom teachers are now likely to perform almost all of the activities as that of a special education teacher. According to them the difference, on the other hand, is that they have not received a thorough training in those skills as special educators have. This study will highlight those extra competencies that regular classroom teachers need to have in their range in order to be effective in the inclusive classrooms. These teachers are now likely to integrate the adaptive dimension in all their efforts for students with special needs.

Hargreaves and Fullan (1992) itemized some level of competencies that regular classroom teachers need to have: (a) Teachers need to have deeper knowledge and greater confidence in teaching their subject. (b) They should develop better capability in classroom management so that more time can be devoted to instructions. (c) Regular classroom teachers should knowhow to teach mixed-ability classes. (d)They should be aware of becoming proficient in new teaching strategies. For

example, co-operative learning or ‘‘whole language’’ methods to learning. (e) They should be knowledgeable and able to retort to the different learning styles of their pupils. According to the authors, when teachers’ pay attention to all these competencies, they can surely help teachers increase their pupils’ opportunities to learn effectively.

Mastropieri and Scruggs (2010) mentioned that regular classroom teachers need to be knowledgeable about the learning styles and the motivational patterns of students with disabilities including pupils with low vision. Again, regular classroom teachers should also need to have knowledge and understand the resources and support systems which are available to assist them for working with students with disabilities. Also, they should present information to the students in a manner which will enable them to assimilate the information more easily. Vaughn & Bos (2012) recommended a number of strategies that regular classroom teachers would need to have in order to provide accommodations to students with disabilities in the regular classroom setting. These strategies include: peer tutoring, cooperative learning, mastery learning and applied behaviour analysis. The literature also points out that regular classroom teachers are required to use instructional strategies such as differentiated instruction. Tomlinson (2003) mentioned activity-based learning as a strategy teachers need to apply when providing support to pupils with disabilities. Krishnaswamy and Shankar (2003) also said that individualized and adaptive instruction plays a central role when assisting pupils with special needs to learn effectively. So, it is the responsibility of regular classroom teachers to use them judiciously.

The Council for Exceptional Children (2010) has also established and authenticated a common core of minimum essential knowledge and skills necessary

for entry into professional practice in special education. They comprised: 1. Philosophical, historical and legal foundations of special education. 2. Physical appearance of learners. 3. Assessment, diagnosis and evaluation. 4. Instructional content and practice. 5. Planning and managing the learning environment. 6. Managing pupils behaviour and social interaction skills. 7. Communication and collaborative partnerships and 8. Professionalism and ethical practices. Whereas all of these skills may not be essential for regular classroom teachers, a definite level of proficiency in these competencies, yet, is required from these teachers when they are expected to work with special needs children.

According to the Council for Exceptional Children (2010) many of the competencies that have been acknowledged, there are specific ones that are field tested and advocated as possible methods for conveying active instruction to students with diverse learning needs. There are many but some of them, that are widely used, plays major role when teaching students with diverse learning needs including pupils with low vision. Stephenson and Warwick (2002) made mention of class-wide peer tutoring. Jenkins (2003) highlights cooperative learning. Snyder and Bambara (1997) also mentioned self-management skills.

According to Tomlinson (2003) differentiated instruction also plays central role when providing support to pupils with disabilities including those with low vision. Dimmitt, Hodapp, Judas, Munn, and Rachow (2006) also stress on the use of assistive technology for assisting pupils with low vision. According to the authors, regular classroom teachers need to be proficient in those skills for effective instruction delivery and appropriate management of a classroom that is considered by diversity.

According to Das, Sharma and Singh (2012), a number of attempts have been made, especially in western countries, to classify the competencies that regular

classroom teachers need to have in order to work successfully with pupils with disabilities. According to the authors diversity of methods including work assessments, survey of educators and other stakeholders, classroom observations, examination of teacher's daily records, experts' opinions, and initiatives of professional organizations such as the Council for Exceptional Children (CEC) have been used to recognize such proficiencies. A wide range of respondents including students with and without disabilities, parents of children with disabilities, special and regular classroom teachers, school principals and teacher educators have been surveyed to identify these competencies (Das, Sharma and Singh, 2012). As a result, more than a few lists of important teacher competencies have been produced; all of which are context and situation specific. These competencies have been categorized under the following classifications. Each of them has been briefly discussed in this study regarding their relevance to include pupils with special needs including pupils with low vision in the general education settings followed by a brief review of literature on that competency. Some of the essential competencies include:

1. Professional Knowledge
2. Collaboration Skills
3. Classroom management
4. Assistive Technology
5. Instructional/Environmental Adaptation for Individuals
6. Cooperative Learning
7. Assessment and Evaluation

2.6.1 Professional knowledge

According to Das, Sharma and Singh (2012), professional knowledge in the perspective of inclusive education is the knowledge and understanding teachers need to have in order to include pupils with disabilities including those with low vision in the general education settings. The authors itemized them as the following: 1. Basic terminology and concepts used in special needs education. 2. Various disabling conditions 3. Rationale and history of inclusive education. 4. Policies, programs and legislations related to inclusive education. 5. Rights, roles and responsibilities of parents, pupils, regular classroom teachers and other professionals as they relate to individuals with special learning needs.

Payne and Murray (1974) cited in Das et al, (2012), conducted a survey of school principals regarding the competencies needed by regular classroom teachers to work effectively and efficiently with students with disabilities. The principals categorized the knowledge of disabling conditions as the most important competency for these teachers. Results of the needs assessment conducted by Gear and Gable (1979) cited in Das et al, (2012), revealed that the regular classroom teachers in Alabama, USA shown a high need of training essential in the "professional knowledge" competency area. Goodspeed and Celotta (2002) carried out a study on the competencies of regular classroom teachers. The researchers surveyed 37 university professors and 64 regular classroom teachers to identify the competencies that regular classroom teachers considered most significant to work with students with disabilities. According to the authors, both professors and regular classroom teachers reported ''knowledge of disabling conditions'' as the greatest significant competency for regular classroom teachers to work in inclusive education classrooms. Sharma (2002) had also reported that Indian teachers require information on the types of

disabilities, curriculum adaptation, educational implications, skills and strategies required for meeting the needs of students with disabilities (Sharma, 2002).

2.6.2 Collaboration skills

Friend and Cook (2010) describe collaboration as an interactive process that enables people with diverse expertise to generate creative solutions to mutually defined problems. An ever increasing diversity in the classrooms has made it necessary for regular classroom teachers to work with special education teachers, parents of students with disabilities, school psychologists, para-professionals (such as speech and language therapists, physiotherapists, occupational therapists, recreational therapists etc.) and instructional assistants. Their shared expertise and shared ownership of problems make the likelihood of success for the program greater than if these educators attempted to deal with the problems in isolation. Friend and Cook (2010) point out that collaboration between regular school teachers, parents of students with disabilities and other school staff is one of the most important issue in the education of students with disabilities in regular school settings. Using a Delphi technique, West and Cannon (1988) conducted a study involving 100 experts from 47 states in the USA to identify essential collaborative consultation competencies needed by both regular and special educators in inclusive education settings. These experts rated awareness of consultancy theory and models, ability to communicate interactively and solving problems collaboratively as the most important collaborative-consultation skills for regular school teachers who are involved in the implementation of inclusive education programs.

Regular school teachers could use the following collaborative strategies in order to provide effective instructional programmes to students with disabilities: peer

collaboration, co-teaching and teacher assistance teams. Peer collaboration involves pairs of teachers working together to solve classroom problems. Pugach and Johnson (2012) found that teachers using this strategy are likely to have significant fewer problems. Friend and Cook (2010) defined co-teaching as "two or more professionals delivering substantive instruction to a diverse or blended group of students in a single space (p.109). This is an effective way to utilize each teacher's strengths. Abundant research is available showing the benefits of co-teaching to improve academic achievement of not only students with disabilities but all students (Friend & Cook, 2010; Hart & Whalon, 2008). Teacher assistance teams are also known as support teams, intervention assistance teams or planning teams. In this strategy, a group of teachers meet and brainstorm options for a teacher experiencing problems in the classroom.

According to Westling and Fox(2005) general education teachers need to appreciate the use of collaboration teaching as a way of assisting pupil with low vision to learn in the regular classrooms. These authors further asserted that collaboration of all the structures involved in the lives and learning of pupils. The authors again that collaboration between educators, parents, pupils and professionals (that is nurses, educational psychologists, social workers, counsellors, physical and occupational therapists, and communication disorder specialists) plays a key role in the education of pupils with visual impairments (Westling & Fox, 2005). In the same way, Sands, Kozleski and French (2000), remarked that collaboration between various departments of the country (on the national, regional, and district levels) is also indispensable for the successful implementation of inclusion.

According to Donald, (1999), health, welfare and education departments must work together as a multi-disciplinary team, to remedy the wide varieties of obstacles

to learning. As revealed earlier, obstacles progress from different contexts. Systemic mediation by the different departments working together as a whole is therefore essential to provide all pupils with quality education and with access to the curriculum (Silberman & Sacks, 1998). Westling and Fox (2005, p. 52) itemized that successful collaboration is characterized by among others the following features: (a) Concern with mutual goals. (b) Recognition of diverse areas of expertise. (c) Sharing of expertise. (d) Equality of team members. (e) Decision making by consensus and (f) Shared responsibility and accountability Westling and Fox (2005).

Swart and Pettipher (2005) remarked that well-functioning inclusive school makes effective use of all the available resources, not just inside the school, but also those inside the community.

According to UNESCO (2005), connecting parents, grandparents, businesses and universities can be advantage to make inclusion a reality in a cost-effective way. Doorlag and Lewis (1999) therefore maintain that the community may offer services such as homework assistance for example; homework hotline with telephone tutors, big brother/sister programs, and sport activities which will eventually makes inclusion a reality. On the other hand, wart (2004) contended that teachers and other professionals should recognize the expertise of parents regarding their own children as this can subsidize to more successful and balanced collaboration and implementation of inclusive education. Nevertheless, Belknap, Roberts and Nyewe (1999) expounded that in spite of the priceless input parents can provide to inclusive education, many of them still feel disempowered and minor. They are often unknowledgeable with their rights in the education of their child and feel that the experts know what the best is. Parents have been led and influenced to hand over complete responsibility of their children's education to the schools. Teachers

regularly judge parents as inadequate and the origin of their children's problems. This creates a hostile atmosphere resulting in parents side-stepping school activities (Nyewe et al, 1999).

2.6.3 Classroom management

According to Das, Sharma and Singh (2012), itemized classroom management for inclusive education to include the following knowledge: 1. Applied Behaviour Analysis (ABA). 2. Basic classroom management theories, methods and techniques for individuals with exceptional learning need 3. Research-based best practices for effective management of teaching and learning. 4. Materials arrangement. 5. Organization of aids and support services, and 6. Creating a positive atmosphere in the classroom. The authors further maintained that diversity in the classrooms presents a variety of management challenges for general education classroom teachers. For example, students with special needs, predominantly those diagnosed with emotional and behaviour disorder (EBD) and autism spectrum disorder (ASD), may present distinctive behavioural challenges for these teachers. According to Wang, Haertal and Walberg (1993 cited in Das et al, 2012) effective classroom management has been found to effective and efficient and contribute more to school learning than curriculum design, classroom instruction, student demographics, home support and school policy. The authors further contend that equally a supportive educational environment has a substantial affirmative impact on overall learning of students with disabilities. On the side of Nielsen (1997), regular classroom teachers need to be knowledgeable in creating a positive psycho-social environment for all students including those with low vision.

According to the author, in addition to the psycho-social environment, the physical characteristics of a classroom also exercise a great impact on the general education classroom environment. The physical environment comprises such aspects as arrangement of desks, lighting and temperature placement of the special needs child in the classroom, in relation to the rest of the students, is also similarly important.

The author continues by adding that depending on the cruelty of the child's disability, the teacher should be able to decide the closeness control. Such control can be easily controlled in primary schools. Nonetheless, a secondary student's nearness control should be touched carefully as many of them do not like to be acknowledged or singled out. It is therefore the duty of the regular classroom teacher to familiarize and regulate the physical and psycho-social arrangement of the classroom to be approachable to the needs of the student with a disability (Nielsen, 1997).

2.6.4 Assistive technology

According to Dimmitt, Hodapp, Judas, Munn and Rachow, (2006), modern advances in technology for special needs students including pupils with low vision has made it conceivable for these students to achieve a number of tasks, while being in regular education environment that was not possible earlier. These comprise the use of ipads, Kurzweil 3000, Read and Write Gold and other communication devices. Therefore, it is domineering that regular classroom teachers have at least some level of information and understanding in the use of such devices and software applications (Dimmitt et al., 2006). According to the authors, in addition to the "traditional" information and skill domains discussed so far, regular classroom teachers are currently also projected to show ability in a number of emergent capabilities. The

'new' abilities originate from the social dynamics that are impacting on the school curriculum. The emergent capabilities comprise sustaining ethical and professional standards (CEC, 2010) and sensitivity toward the cultural background of students with disabilities who are from smaller ethnic backgrounds (Mitchell, 2000).

2.6.5 Instructional/environmental adaptation for individuals

According to Das, Sharma and Singh (2012), individualized and adaptive instruction are educational methodologies that differentiate, antedate and programme for disparity according to the student's background information, learning styles, motivation and personal curiosity. Individualization or creating an educational programme that is made-to-order to the sole needs of a child with disability is the assurance of special education. The authors said that this is what makes special education different from regular education. On the other hand a fusion of both well-established stream of instruction is required from regular classroom teachers if they are to serve all students in their classrooms including those with low vision

A conceptual framework for instructional alterations for students with disabilities was delivered by Glaser (1977) cited in Das, Sharma and Singh (2012), He predicted that instructional alterations as a process of choosing and applying a suitable teaching action succeeding an assessment-based determination that earlier lesson for a student was ineffective. These adaptations, therefore, regular teachers are required to implement alternative teaching actions such as modifying materials, assignments, testing procedures, grading criteria and changing presentation styles in order to improve the success of students with disabilities in regular education classrooms.

Regular classroom teachers can also accommodate variations in learning styles by developing each student's educational programme by using a range of

environmental, physical, social and psychological conditions. For example, needed modification of materials for example, highlighting essential content, varying sequence, decreasing the length of assignments, alternate assignment presentation formats such visual, auditory amongst others and useful learning aids such as advanced organizers, checklists of steps, study guides, story starters amongst others are part of individualized instruction. A huge amount of research shows that instructional adaptations such as variations in teaching/learning materials and grouping arrangements lead to enhance student results (Vaughn & Bos, 2012).

According to the authors, besides the curricular adaptations, instructional and environmental adaptations will also have to be ready. Instructional adaptations include any part of the teaching-learning process, that is, the teacher's instructional methods, materials and strategies, learning activities, performance requirements for each learner, and assessment procedures. Doorlag and Lewis (1999) and UNESCO (2005) gave some instances on how to make instructional and environmental adaptations. They recommended that the teacher should make available additional instruction and support in areas where the learners experience difficulty, structure practice activities to provide learners with enough time to master skills, be flexible with regard to a time-frame, provide special support in particular subjects for example, orientation and mobility over and above the periods assigned for more traditional subjects and change task requirements so that pupils can listen rather than read, or give answers orally rather than write. According to UNESCO (2005), it is also supportive if regular classroom teachers limit the number of difficulties that the learners with learning difficulties must solve or the number of paragraphs that they must write. They also recommended that regular classroom teachers should group learners with related needs for instruction and then change again as necessary. Finally,

regular classroom teachers must also permit learners who struggle extra time in their exams and tests and allow them to use aids such as calculators and dictionaries. Vayrynen (2008), indicated that with respect to exams, a wide range of assessment procedures should be time-honoured in order to mirror the diversity of the students and do not place any student at a disadvantage due to background, language, or disability.

Westling and Fox (2005) argued the importance of setting up Individualized Education Programmes (IEPs) for pupils who experience obstacles to learning. The IEP should contain the present level of the pupil's performance as well as goals and short-term objectives. It should also comprise the support services as well as the supplementary aids and modifications needed by each learner and the extent to which the learner will be able to participate with other learners in the mainstream class. The authors further added that IEP should contain a statement of modifications to assessments, alternative assessments, or a statement of why the learner will not be able to participate in the assessment.

Additionally, the IEP should specify the date on which the support services were started as well as the frequency, location and duration of the support and/or modifications. Beginning at age 6, the IEP must specify transition service needs that focus on the learner's course of study and at age 8, the IEP must provide an individual transition plan that includes interagency responsibilities. Finally, the IEP should display the learner's progress on the individual goals and objectives as well as show how the parents of the learner will be informed. The learners who move from a special school to a mainstream school for example, from a school for the Blind to a mainstream primary school do not have IEPs that accompany them. The new school therefore do not know what support and modifications have been made and what still

need to be made. Even though there are sufficient ways in which learners with disabilities can be supported in a regular classroom. Research has shown that many learners with disabilities in mainstream schools are not always receiving the special educational services that they need to gain full access to the curriculum. This lack of meaningful participation is more often than not due to inaccessible instructional methods (Ajuwon & Oyinlade, 2008).

According to Doorlag and Lewis (1999), environmental changes are changes in the physical environment of the classroom. For instance, a teacher may arrange learner`s desks or learning materials in such a way as to make it easily available to all learners. Learners with visual impairments for example, can be positioned in the front of the room. Learners with behavioural problems may also be seated close to the teacher. The classroom itself may be structured so that there will be several work stations with activities of different levels of difficulty and activities for different styles of learning (Doorlag & Lewis, 1999). The authors further maintained that one station can be more visually-based such as maps, diagrams and pictures; another station can focus on auditory learning with a tape recorder or the teacher giving verbal instructions, and lastly another station may have computers where learners can type instead of writing and do extra study on the topic of the week (Doorlag et al, 1999). Unfortunately, in the context of Ghana, these environmental adaptations present challenges due to the large numbers of pupils in each class, placing a limit on the space available. Teachers in Ghana also need specific training on how to make changes to their methods of instruction because many teachers do not know how (Amponteng, 2014).

2.6.6 Cooperative learning

According to Das, Sharma and Singh (2012), a competitive classroom climate and educational approaches based on comparing pupils with a predetermined standard are not conducive to inclusive education. According to the authors, cooperative learning, on the other hand, encourages students to work together to complete tasks and solve problems. In this approach, teachers are required to specify each student's role for the task, clarify the sequence of activities and monitor and evaluate the interactions of group members.

A number of authors have emphasized that regular school teachers need to be competent in the implementation of cooperative learning strategies to successfully include students with disabilities in their classroom activities (Jenkins, Antil, Wayne &Vadasy, 2003). These strategies have been found to enhance learning, improve inter-group relations, develop problem solving skills and improve the academic and social skills of students with special needs in regular education classrooms (Putnam, 1998). Studies have also demonstrated that teaching social skills to children with disabilities and their nondisabled peers in cooperative groups in inclusive settings resulted in increased frequency, duration and quality of social interactions (Jenkins et. al., 2003).

2.6.7 Assessment and evaluation

According to a number of writers (McLoughlin & Lewis, 2001) regular school teachers are required to demonstrate competency in assessment in order to identify the specific needs of students with disabilities. Taylor (2004) points out that assessment, the process of using testing and other formal and informal means of measurement to make educational decisions, is one of the most valuable needs for a regular classroom

teacher to have in the inclusion of students with disabilities including pupils with low vision in the general education programs. The teachers are required to employ not only basic skill and needs such as gathering learning and background information of students with disabilities but also highly specialized skills such as selecting, administering, scoring and interpreting standardized measurement instruments (McLoughlin & Lewis, 2001). Friend and Bursuck (1999) suggested that regular school teachers could use assessment information for six instructional and placement decisions for students with disabilities including pupils with low vision. These include: screening, diagnosis, program placement, instructional evaluation and program evaluation. The major decision related to diagnosis is eligibility for special education services. To some extent, regular school teachers will play a role in making placement decisions (such as a general education classroom, resource room or full-time special education classroom). The authors further stated that, although the major decisions are made by school psychologists and administrators regarding the placement, regular classroom teachers will assist them in making such a decision as part of the multidisciplinary team. An evaluation report shows whether or not teaching has been effective. It helps validate successful inclusive education programs that should be continued and pinpoints problems that should be rectified. Wang, Anderson and Bram (1985) cited in Das et al, (2012) suggested that regular school teachers should be able to evaluate three aspects of student performance while evaluating their success in general education programs: performance, attitudes and process. Performance measures relate to student's achievement in content areas. Attitudinal measures relate to included student's self-concept and their attitudes toward their teachers and non-disabled peers. Process measures encompass the types of interactions included students have with their teachers and peers. Regular school

teachers need to be knowledgeable about a variety of evaluation methods in order to determine the learning outcomes of students with disabilities. They need to demonstrate competency in performance-based assessments, portfolios and curriculum-based assessments. Performance-based assessments allow teachers to assess students' understanding and proficiency. These assessments allow students to construct a response, create a product or demonstrate what they understand and can do. Friend and Bursuck (1999) contended that these assessments are more likely to reveal student understanding since they call for students to apply knowledge and skills rather than to simply recall and recognize. Alternate assessments such as portfolio assessments are also effective ways of evaluating students with disabilities. According to Friend and Bursuck (1999), portfolios make it possible to capture the learning process over time as well as the assessment of non-traditional strengths and talents such as artistic or visual abilities of students.

Again, curriculum-based assessments (CBAs) also provide regular classroom teachers with information on the demands of instructional tasks and allow them to determine the content and pace of an instructional program. Thus, in addition to providing information on a student's progress, CBAs help regular classroom teachers to match specific instructional practices and materials to a disabled students learning needs which results in improved performance on school related tasks.

In a research study conducted by Mukhopadhyay (1990), found that regular and special education teachers identified evaluation as one of the most important skills and needs for regular classroom teachers who work with exceptional children including pupils with low vision. Shukla and Singh (2011) suggested that a flexible and implementable scheme of Continuous and Comprehensive Evaluation (CCE) assumes evaluation as a routine activities and exercise of teaching learning process

and it encompasses all aspects of pupil's growth such as intellectual, physical, social, personal- qualities, interests, attitudes and values through employing a variety of tools and techniques by an evaluation team. They argued that the CCE is a most suitable procedure due to its underlying principles of flexibility, functionality, accountability and economy in evaluating a child with disability in an inclusive setting (Shukla et al, 2011).

2.7 Summary of Literature Review

This chapter has discussed in detail, literature related to supports teachers provide to pupils with low vision in the regular education classroom. The key issues highlighted in this chapter included; how regular teachers assist pupils with low vision to participate in teaching and learning activities, challenges teachers face in providing assistance to pupils with low vision and the competencies of regular classroom teachers who have pupils with low vision in their classrooms. In the context of literature review, the view points and perspectives of several scholars have been used. Most of these scholars whose ideas were used include; McLoughlin and Lewis (2001), Ocloo (2011), Okyere and Adam (2003), Mitchell (2008), Amponteng (2014), Das, Sharma and Singh (2012), Mastropieri and Scruggs (2010), Westling and Fox (2005), UNESCO (2005), Friend and Cook (2010),Shaw and Lewis (2005), Spungin (2002), Salisbury (2008), Hodkinson (2005), Jones (2006), Ewudo (2009), Hayford (2013), Hemmings and Weaven (2005), Jones (2002), Ali, Mustapha and Jelas (2006) Chhabra, Srivastava and Srivastava (2010) and Simon, Echeita, Sandoval and Lopez (2010).The contribution of these scholars has provided empirical evidence to make the literature more practical which can be used to support the findings of the study.

This chapter shows that the success or failure of providing support to pupils with low vision depends mostly on those processes, structures, conditions and other mechanisms that need to be in place to enable teachers to provide support for pupils with low vision in the regular education classrooms in Ghana.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This section deals with the methods used to obtain information for the study. These include; research design, population, sample, sampling technique(s), instruments, procedure for data correction, validity and reliability and data analysis.

3.1 Research Design

The research design used for this study was the descriptive survey. The use of the descriptive survey allows for easy description and calculation of data. Survey research in education involves collection of information from members of a group students, teachers or other persons associated with educational issues (Blaxter, Hughes and Tight (2010). However, a design according to McMillan and Schumacher (2001) refers to a plan for selecting subjects, research sites and data collection procedures to answer proposed research questions. According to Ary, Jacobs and Rezavieh (2010), survey permits the researcher to gather information from a large sample of people relatively quickly and inexpensively.

Kothari (2007) on the other hand states that a survey is a rigid design that makes provision for protection against bias and maximizes reliability as it aims to obtain complete and accurate data. It was thought appropriate to use the survey method because it is the dominant form of collecting data in education and other social sciences (Fink, 2008). The descriptive survey was further considered the most appropriate design for conducting this study since it is the one that deals with things as they currently are (Creswell, 2009). Again, information gathered from the descriptive research can be meaningful or useful in diagnosing a situation since it

involves describing, recording, analysing and interpreting conditions that exist. Most surveys are based on samples of a specified target population-the group of persons in who interest is expressed. They are designed to provide a 'snapshot of how things are at a specific time'. There is no attempt to control conditions or manipulate variables (Kelley, Clark, Brown, & Sitzia 2003).

Creswell (2009) also noted that a survey study can be done in a short time in which investigators administer a survey to a sample or to the entire population of people in order to describe the attitudes, opinions, behaviours' or characteristics of the population. Creswell (2009) however noted that survey data is self-reported information, reporting only what people think rather than what they do. Survey is also deemed appropriate for the study as the current views, attitudes and opinions of teachers and pupils will be gathered from the respondents. For the purpose of this study, a descriptive survey design was appropriate because views were sampled from respondents on supports teachers provide for pupils with low vision at the Kona educational circuit in the Sekyere South District, Agona-Ghana as a basis for making generalizations.

3.2 Population

According to McMillan and Schumacher (2001), population refers to a group of elements or cases, whether individuals, objects or events that conforms to a specific criteria and to which a researcher intends to generalize the results of a research. In this study, the population comprised all pupils with and without low vision, regular classroom teachers, and headteachers of Kona Educational Circuit. In all, a total of 1272 respondents were targeted. This was made up of 964 pupils without low vision, 261 Regular Teachers, 22 Headteachers, and 25 pupils with low vision.

3.3 Area of Study

The study was conducted in Kona Circuit in the Sekyere South District, Agona located in the Ashanti Region of Ghana. Kona Educational Circuit has 10 pre-schools, 10 primary schools and 7 Junior High Schools. Sekyere South District is one of the twenty-seven (27) districts in the Ashanti Region of Ghana practising pilot inclusive education. There are 6 resource teachers and 1 Special Needs Coordinator helping to sustain the pilot inclusive education in the district.

There are 329 schools in the district. The District Education Service operates in all the communities in the District through the eight circuits. The District has a total of 109pre-schools, 111 primary schools, 84 Junior High Schools, 7 Senior High Schools and 1 Special School scattered in all the eight (8) educational circuits.

Kona Educational Circuit was selected based on the two basic reasons. One is that, the circuit is among the circuits in the District with pupils with low vision at the basic level. Data available at the Sekyere South Education Office and Special Education Division of the GES revealed that significant number of children in the regular schools in Kona circuit have learning needs(low vision) which hinder their academic performances (Sekyere South Education Office, 2012). This trend suggests that pupils need to be adequately supported if they are to progress academically. Practical reasons such as travel distances, communication network, and options for places to stay were also reason that this circuit was chosen.

3.4 Sample Size

Sample is defined as the subset of the entire population of interest to the researcher (Avoke, 2005). Avoke noted that, in research it is usually not feasible to involve the entire population, therefore a sample is chosen from the population. This sample should have identical characteristics with the rest of the population. Ten

public schools were sampled for the study. They can be identified as school A, B, C, D, E, F, G, H, I, and J. The sample size was 100 respondents. Eighty (80) regular classroom teachers who doubled as school-based resource teachers that is 8 from each school and 20 headteachers were covered. This sample was considered appropriate because they rendered services directly to the pupils with low vision in their schools and could therefore provide relevant information on the supports teachers provide for pupils with low vision.

3.5 Sampling Techniques

Purposive sampling technique was used to select the regular school teachers and headteachers. The choice of this technique was influenced by the fact that the schools of focus were practicing the pilot inclusive education project and had therefore been the target for the study. All teachers and headteachers became target and were involved. According to Maxwell (2005), in purposeful sampling, particular settings, person or event are deliberately selected for the important information they can provide that cannot be obtained elsewhere.

Sarantakos (2000) also explained that this type of sampling allows the researcher to choose subjects who in his or her opinion are relevant to the research. Headteachers were chosen because they taught and have records to all the pupils with low vision in the schools and can give authentic data on them. The regular teachers were also chosen because they were school-based resource teachers who worked directly with other teachers as well as pupils with low vision by providing them with the needed support services. Therefore, they were able to give the researcher the important information needed for the study.

3.6 Methods of Collection of Data

The instrument employed to collect data was questionnaire. The choice of this instrument was informed by the fact that descriptive survey research as indicated by Creswell (2009) lends itself to questionnaire. Borg, Gall and Gall (2007) noted that survey research typically employs questionnaire to determine the opinions, attitudes, preferences, and perception of persons of interest to the research. The fact that the present research aimed at finding people's perceptions, attitudes and preferences about support services for pupils with low vision in the regular classroom, it was appropriate for the use of questionnaire for data collection, since this is consistent with survey designs.

3.6.1 Questionnaire

A questionnaire is a printed list of questions that respondents are asked to answer (Fisher, 2007). A questionnaire is a form used in survey design where participants in the study are to complete a form by way of sharing their views and ideas about an existing phenomenon at their own convenience (Creswell, 2009). The researcher used questionnaire as the research tool because he intended to seek information from many teachers and headteachers about their opinions on the support services for pupils with low vision in regular classrooms. The questionnaire was a likert scale type made up of 24 close ended items prepared for teachers and headteachers in the Kona circuit basic schools. This was developed to elicit information on the main variables raised in the research questions.

The likert scale type items had a rating on five points scale involving; 1 = Strongly Disagree, 2 =Disagree, 3 =Somewhat Agree, 4 = Agree and 5 = Strongly Agree. This type of data gathering was appropriate for the study because it was in line with the

assertion of Robson (2005) who commends that a likert scale makes respondents enjoy responding to questions posed by the researcher since in many cases, respondents are just not ready to cooperate in a giving data. The questionnaire was structured into three sections. Section A was devoted to how regular teachers assist pupils with low vision to participate in teaching and learning activities. Section B was on the challenges regular teachers face in assisting pupils with low vision to participate in learning while Section C concentrated on the competencies of regular teachers who have pupils with low vision in their classrooms. Section A was made up of 8 questions, section B, 8 questions, and C, 8 questions. In all, there were 24 question items.

3.6.2 Piloting testing

According to Robson (2005), a pilot study is a mini-version of the study and should be conducted before the researcher engages in the main study. Creswell (2009) on the other hand observes that pilot testing helps to establish content validity of the instrument and improves questions, format and the scale. The questionnaire was pilot tested to ascertain its validity and reliability, the appropriate length of item required to answer it and more importantly, to help in refining the final document. The sample for the pilot study was a group of 50 teachers from six basic schools in the Kona Educational Circuit where the teachers shared similar characteristics with the study area. The pilot was conducted in two (2) batches on 2 different occasions. The pilot revealed that the respondents understood the questionnaire items and thus the items did not require any major restrictions.

3.7 Validity and Reliability of Instruments

Validity is defined as the extent to which an account accurately represents the social phenomena to which it refers (Hammersley, 2000). Avoke (2005) citing Cohen, Manion, and Morrison (2000) validity is where a particular instrument measures what it purports to measure. He further explained that, validity emphasizes trustworthiness, truthfulness, honesty, rich and scope of the data. Silverman (2005) suggests two forms of validation, that of triangulation and that of respondent validation. Triangulation ensures that data derived from different methods are compared to see whether they corroborate one another. Respondents' validation occurs when the finding are taken back to the subjects being studied in order to be verified. Therefore to ensure the validity of the questionnaire, copies were given to two lecturers from the Special Education Department, University of Education, who read through and made necessary corrections to ensure face validity. After this review, the questionnaire items were sent to the researcher`s supervisor for further review.

Reliability as explained by Cohen, Manion and Morrison (2007) is the ability of an instrument to produce consistent results over a period of time. In order words, the results are produced by other researchers and it is characterized by objectivity and precision. According to Seidu (2006), the reliability of the research instrument is the consistency of the instrument providing results. The suggestions from experts and colleagues helped the researcher in the design of relevant questions which were easily understood by respondents.

The reliability of a research instrument is the consistency of the instrument producing similar results given the same testing conditions of different occasion (Agyedu, Donkor & Obeng, 2010). According to Hackman (2002), reliability is the extent to which data is consistent, accurate, and precise. He argued that with the

content of measurement theory, reliability is concerned with the measurement techniques measure the concept of interest to the researcher. The reliability of questionnaire was ensured using test-retest on 50 teachers in schools that were not part of the main study. The test-retest reliability coefficient of the questionnaire items was 0.77.

3.8 Data Collection Procedure

3.8.1 Gaining access

According to Creswell (2005), gaining access involves obtaining permission to sites and individual and negotiating approval with these individuals at a site which can facilitates the collection of qualitative data. Creswell explained further that obtaining permission for data collection is not only part of informed consent process but also an ethical practice. Informed consent was therefore obtained from the authorities of the school prior to the commencement of the study. This was facilitated by an introductory letter obtained from the Department of Special Education, UEW (Appendix A). A pre-visit was then paid to the school to book appointments with school authorities and teachers. The appointments were made such that it was possible to meet all teachers that were involved in the study as a group in one place at their respective schools. During the pre-visit, the researcher took the letter to the school (Appendix A) detailing the purpose of the study. The researcher kept all data from respondents confidential.

3.8.2 Ethical consideration

Ethics in research refers to considerations taken to protect and respect the rights and welfare of participants and other parties associated with the activity (Babbie, 2005). The rights of respondents and other parties involved at every stage of

this study were particular treated with utmost care. The following considerations were made to promote and protect the rights and interests of participants at the difference stage of the study. As a procedure to gain access to the school, an introductory letter from the Department of Special Education, UEW (Appendix A) was presented to the authorities of the schools. The researcher told the participants of their right to participate voluntarily or withdraw from the study at any stage if they deemed it appropriate to do so. Anonymity and privacy of participants were guaranteed by asking them not to write their names on the questionnaire. To try to make participants informed before signing the letters of informed consent (Appendix B). Participants were verbally assured that there would be confidentiality in the handling of any data or information obtained from them.

3.8.3 Administering the questionnaire

For the questionnaire, the researcher personally went to the sampled schools, and administered it to the teachers and headteachers to respond within 21 days after which they were collected. According to Johnson and Christensen (2000), a high response rate was important to the accuracy of the study as well as proper representation of the identified population. A response rate of ninety-five percent (90%) therefore provided a high degree of accuracy for the results of this present study.

3.9 Data Analysis

Responses to the questionnaire items were read and cross checked with other respondents from each school. Similar views were put into categories according to their reflections on the research questions. Five options were available for respondents under each item (these were 1 = Strongly Disagree, 2 =Disagree, 3 =Somewhat

Agree, 4 = Agree and 5 = Strongly Agree). Questionnaire items and their responses were coded and the Statistical Package for the Social Sciences (SPSS version 16) used in the analysis of the data in the form of tables, frequency, mean and standard deviations. This package of programmes easily allows the researcher to access data and interprets results for statistical analysis provided procedures (Bryman & Cramer, 2001).

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.0. Introduction

This chapter expounds the findings from teachers and headteachers in the Kona educational circuit on supports teachers provide for pupils with low vision in the regular classrooms based on the specific objectives of the study as outlined in chapter one. The data gathered from the field were analyzed and presented with the aid of tables and figures. This chapter is divided into three main sections: the demographic data of respondents; analysis of the results and discussion of results.

4.1 Demographic data of Respondents

Table 1: Gender of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
Gender	Males	65	65
	Females	35	35

Source: Field Data, 2014.

Results in Table 1 illustrate the data on gender of the respondents. The results show that the majority 65% of the respondents were males while 35% of them were females. It therefore follows that, there were more males respondents than females in this study.

Table 2: Age of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
Age in Years	20-30	10	10
	31-40	12	12
	41-50	45	45
	51-60	33	33

Source: Field Data, 2014

Results from table 2 indicate that majority 45% of the respondents in this study were between the ages of 41-50 years, 33% were within 51-60 years of age, 12% were 31-40 years of age, whilst the remaining 10% of the respondents were within the age brackets of 20-30 years. The mean age of the respondents was 45.5 years.

Table 3: Teaching Experiences of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
Teaching Experiences in years	1-5	13	13
	6-10	32	32
	11-15	45	45
	16-20	8	8
	21-30	2	2

Source: Field Data, 2014.

Results from table 3 illustrate the teaching experience of the respondents in this study. Results show that majority 45% of the respondents in this study had taught between 11-15years, 32% had taught between 6-10years, 13% of the respondents had taught between 1-5years, 8% had taught between 16-20years while the remaining 2% had taught between 21-30years. The mean years of teaching experience of the respondents was 10.8 years.

Table 4: Academic Qualification of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
Qualification	Master's Degree	2	2
	Bachelor Degree	40	40
	Diploma	50	50
	Certificate "A"	8	8

Source: Field Data, 2014.

Results from table 4 illustrate academic qualification of the respondents in this study. Results show that majority 50% of the respondents had diploma, 45% had Bachelor`s Degree, 8% had Certificate "A" whilst the remaining 2% had Master`s Degree.

4.2 Analysis of the Results

The following three main themes were extracted from the analysis: assistance that teachers provide to pupils with low vision, challenges of regular teachers and the competencies of regular teachers in handling pupils with low vision.

4.2.1 Assistance that teachers provide to pupils with low vision

Table 5: Highlights responses with respect to assistance that teachers provide to pupils with low vision

Statement	1	2	3	4	5	Mean	S.D
1. I use models of objects in teaching pupils with low vision.	45	26	2	12	5	1.95	1.25
2. Tactile materials are accessible for pupils with low vision in my school.	30	40	2	9	9	2.18	1.27
3. There are varieties of real materials/objects in my school for teaching pupils.	3	7	0	40	40	4.18	1.02
4. I collaborate with specialists when preparing TLMs for pupils with low vision.	21	33	8	22	6	2.54	1.27
5. I adapt instructions and materials in order to assist pupils with low vision to learn with ease.	9	27	2	25	28	3.41	1.43
6. Collaborative learning is practised in my class.	6	11	2	50	21	3.76	1.14
7. Optical and non-optical devices are available in my school for assisting pupils with low vision.	10	8	5	40	27	3.73	1.28
8. Instructional conversation is practised in my class.	33	29	10	8	10	3.74	1.33
Overall mean						**3.19**	**0.54**

Source: Field Data, 2014.

Means were calculated from a scale of 1 = Strongly Disagree, 2 =Disagree, 3 =somewhat agree, 4 = Agree and 5 = Strongly Agree

Eight different assistances that teachers provide were identified and used as shown in Table 5. The respondents were asked to determine the assistance that teachers provide to pupils with low vision in their various schools. From table 5 the respondents agreed that most available assistance in all the schools were variety of real materials (mean score of 4.18), which was followed by collaborative learning (mean score of 3.76), instructional conversation (mean score of 3.74), optical devices such as magnifiers, telescope and lenses (mean score of 3.73) and instructions and materials adaptations (mean score of 3.41). The mean scores of 4.18, 3.76, 3.74, 3.73 and 3.41 show that the respondents reportedly agreed that their schools practiced those assistances to facilitate teaching and learning. On the other hand, the low mean scores of 1.95, 2.18, and 2.54, the respondents disagreed that assistance such as real objects, tactile materials and collaborating with specialists when preparing TLMs were available in their schools. The varied standard deviations for example, 1.25, 1.43, 1.02, 1.27, and 1.27 and so on, show that there were variations in the responses from the respondents with respect to the issues raised.

4.2.2 Challenges of regular teachers

Table 6: Responses of the respondents with respect to challenges teachers face in providing assistance to pupils with low vision

Statement	1	2	3	4	5	Mean	S.D
1. Adapting instructional materials to meet the needs of pupils with low vision burdens my work as a regular teacher.	3	7	5	30	45	4.18	1.06
2. As a regular teacher, I receive assistance from special educators in order to provide effective teaching for pupils with low vision.	4	6	5	35	40	1.07	1.07
3. Funds are available to procure teaching and learning materials.	1	7	0	12	70	1.41	0.92
4. Instructional materials are readily available in my school.	2	13	5	20	50	1.82	1.17
5. Resource teachers do not cooperate with me in delivery of services to pupils with low vision.	9	23	15	31	14	2.75	1.22
6. I do receive in-service training in order to manage pupils with low vision.	20	60	1	4	5	2.04	0.95
7. In spite of large class size, I involve pupils with low vision in demonstration lessons.	3	10	2	35	40	1.90	1.10
8. As a regular teacher, I do not have necessary skills to manage pupils with low vision.	3	6	0	33	48	4.30	1.01
Overall mean						**2.54**	**0.33**

Source: Field Data, 2014.

Eight different statements were formulated on the challenges regular teachers faced in providing assistance to pupils with low vision in table 6. The challenges regular teachers faced in providing assistance to pupils with low vision in all the schools were; inadequate knowledge and skills in managing pupils with low vision (a mean score of 4.30). A mean score of 4.18 showed that teachers were burdened with adapting instructional materials to meet the needs of pupils with low vision. With a mean score of 2.75, the respondents agreed that resource teachers did not cooperate with teachers in the delivery of assistance to pupils with low vision. Another mean score of 2.04 indicated that teachers did not receive in-service training in order to manage pupils with low vision. The standard deviationsof1.22, 1.07, 1.17, and 1.06 showed the variations of responses on each of the statements raised.

The high mean scores of 4.30, 4.18, 2.75 and 2.04 shows the affirmation of the respondents on the challenges they encountered in providing support to pupils with low vision in their schools. However, with low mean scores of 1.07, 1.41, 1.85, and 1.90, the respondents disagreed to statements associated with as challenges they encountered in providing support to pupils with low vision in their schools.

4.2.2 Competencies of regular teachers

Table 7: Responses of the respondents with respect to competencies of teachers in handling pupils with low vision

Statement	1	2	3	4	5	Mean	S.D
1. As a teacher, I need skills in collaborative teaching for pupils with low vision.	45	35	0	2	8	1.74	1.00
2. Knowledge in the utilization of IEP for pupils with low vision is important as a teacher.	40	35	5	15	5	2.22	1.23
3. Knowledge in classroom management for pupils with low vision is very crucial as a teacher.	10	15	5	30	30	3.61	1.38
4. Skills and knowledge in software application for pupils with low vision is relevant as a teacher.	9	6	1	40	34	3.93	1.25
5. Training of teachers in cooperative learning for pupils with low vision in necessary.	12	8	3	32	35	3.81	1.36
6. Competency in the use of low vision devices is necessary.	54	30	0	2	4	1.57	0.95
7. It is very relevant to select effective teaching strategies to teach pupils with low vision are necessary.	54	28	2	16	4	2.06	1.26
8. Proficiency in adapting instructional materials for pupils with low vision is important as a classroom teacher.	7	13	10	45	15	3.53	1.16
Overall mean						**2.81**	**1.06**

Source: Field Data, 2014.

Eight different competencies of teachers were identified and used for the study Table 7. The respondents were asked to determine the competencies of teachers in their various schools. Generally, the respondents somewhat agreed on the competencies of teachers in their schools. The competencies of teachers that the respondents agreed to be most available in all the schools were knowledge in software application (which had a mean score of 3.93), training of teachers in cooperative learning for pupils with low vision (mean score of 3.81), classroom management (mean score of 3.61) and adapting instructional materials (mean score of 3.53). The high mean scores of 3.93, 3.81, 3.61 and 3.53 shows that the respondents agreed that those teachers' competencies were available in their schools. However, with the low mean scores of 1.57, 1.74, 2.06 and 2.22, the respondents disagreed that teacher's competencies such as competency in the use of low vision devices, skills in collaborative teaching, effective teaching strategies and knowledge in the utilization of IEP for pupils with low vision were available in their schools. The varied standard deviations for example, 1.00, 1.25, 1.38, and 1.23 and so on, show the variations of responses on each of the statements raised.

4.3 Discussion of Results

This section provides the discussion of results with respect to the findings and research questions that were raised in chapter one.

4.3.1 Assistance that teachers provide to pupils with low vision

The result from the findings in table 5 showed that teachers assisted pupils with low vision in various ways. For instance, with a mean score of 4.18, teachers provided varieties of real materials in their schools for teaching pupils with low vision. Real materials such as fruits, plants and counters among others help pupils

with low vision to understand concepts taught in class. Real objects are readily available in localities that teachers can rely on to teach pupils with low vision. Unlike those with normal vision who learn a great deal from incidental everyday observation, students with vision impairment may need direct access to objects, materials, procedures and operations to gain knowledge and to integrate information into concepts. Real materials help pupils with low vision attain to their high level of effective development through the use of appropriate instructional objectives and use of materials. Pupils who manifest a lot of inconsistencies in their behaviours are those who are not able to attain enough development in this aspect of the affective domain. This finding concur with the sentiments made by Ocloo (2011) who noted that in education, realia are objects from real life used in classrooms instruction by educators to improve students` understanding of other cultures and real life situations. The author gave examples of such objects as ball, comb, scissors, toothbrush, zipper, string of beads and spoon among others. Again, the author stated that instructional materials help pupils with visual impairment understand concepts easily in the sense that they add concreteness to verbal explanation and description. Real objects, as aids, give the warmth and true life experiences to pupils with visual problems. Pupils with low vision for instance can use their residual vision to see, handle and play with these concrete materials which eventually assist them to register the concept permanently in memory and this facilitates easy recall (Ocloo, 2011).

The result from the findings in table 5 further revealed that collaborative learning is one of the assistance teachers' used in their various schools in order to help pupils with low vision learn with ease. This agrees with the findings of Mastropieri and Scruggs (2010) who noted that in the learning process students differ in capabilities perceived by teachers. Students with low ability will learn from their fellow capable

peers. Collaborative learning among students of different learning capabilities and learning needs, in an inclusive classroom has proved to be effective in promoting academic achievement, positive attitude towards the subject, and improving social interaction among students.

Furthermore, it was revealed from the findings in table 5 (a mean score of 3.73) that optical and non-optical devices were available in the schools for assisting pupils with low vision. Optical devices such as eye glasses, magnifiers and telescopes use lenses to increase a person's residual vision. They are normally prescribed by a medical specialist while non-optical devices do not incorporate a lens and do not need to be prescribed by a specialist. Things like large prints, braille and braille writer, tape recorders, book stands, recorded and talking, books and calculators etc., are examples of non-optical devices. Optical devices play a key role in enhancing vision and reducing visual disability in pupils with low vision. This in line with Spungin (2002) who said that the role of both optical and non-optical devices is to improve vision and increase functionality of students with visual impairments through the use of other senses. It is the role of a teacher to encourage students with visual impairment to use visual devices and assistive technologies to help them with vision.

4.3.2 Challenges of regular teachers

The data analysis from table 6 revealed challenges that teachers faced when providing assistance to pupils with low vision in their schools. The data showed with a mean score of 4.30 that teachers did not have necessary competences to manage pupils with low vision. The availability of specialized equipment and other resources require specialized skills to utilize them. The use of braille, photographs, illustrations filmstrips, charts, maps, globes, posters, diagrams, speech assisted computers demand technical skills in their usage. It is quite worrying that the respondents had no skills in

using the few available equipment and materials. This supports the research conducted by Mendy (2007), who noted that teachers need to be equipped with skills in screening, identification and management of children who are blind and low vision. Mendy observed that teachers who go through the training colleges have some limited basic information of special needs in general. They do not have in-depth knowledge on the specific areas of disability such as low vision and consequently are not able to cater for all the children.

The data analysis noted in table 6 further revealed that resource teachers did not cooperate with regular classroom teachers in the delivery of services to pupils with low vision. Teacher support is always built on cooperativeness, commitment and understanding. But situations where these values are lacking, the probability that in-class support will just not work. Farrell (2000) indicated that having well trained support staff determines the effectiveness of implementing methods that are appropriate to children's needs and to work as part of a team. It is therefore important to provide a structured programme of continuing professional development for support staff working in schools. However, professionals such as support personnel for training programmes, for example, resource teachers, audiologists, psychologists, speech and language pathologists, communication support workers and interpreters are scarce in many countries especially those in the Global South (Eleweke & Rodda, 2002). The lack of trained professionals has rendered many countries incapable of implementing inclusive programmes.

The analysis from table 6 additionally revealed that adapting instructional materials to meet the needs of pupils with low vision burdened the work of regular teachers. Fisher and Ryndak (2001) noted that adapting the curriculum involves differentiating instruction to provide learners with a variety of ways to process information and

demonstrate what they have learned, in order to “match” the way in which each learner learns most effectively. This demands time and commitment in order to serve pupils with low vision effectively in inclusive settings. Teachers have to spend time and energy in addressing diversity in the teaching and learning situation. Armstrong (2000) noted that adapting the curriculum involves differentiating instruction to provide learners with a variety of ways to process information and demonstrate what they have learned, in order to "match" the way in which each learner learns most effectively. This, Armstrong asserts that, could be cumbersome to teachers to handle.

4.3.3 Competencies of regular teachers

The findings from analysis in table 7 showed the extent to which respondents agreed with some statements on the various needs of teachers who have pupils with low vision in their classrooms. For instance, with a mean score of 3.93, teachers needed skills and knowledge in software application for pupils with low vision. The findings concur with the sentiments made by Dimmitt, Hodapp, Judas, Munn and Rachow (2006) that recent advances in technology for special needs students including pupils with low vision has made it possible for these students to accomplish a number of tasks, while being in regular education environment that was not possible earlier. These include the use of ipads, Kurzweil 3000, Read and Write Gold and other communication devices. Therefore, it is imperative that regular classroom teachers have at least some level of knowledge, skills and understanding in the use of such devices and software applications.

The data analysis noted in table 7 further revealed that training of teachers in cooperative teaching for pupils with low vision was necessary. According to Das, Sharma and Singh (2012), a competitive classroom climate and educational

approaches based on comparing pupils with a predetermined standard are not conducive to inclusive education. According to the authors, cooperative learning, on the other hand, encourages students to work together to complete tasks and solve problems. In this approach, teachers are required to specify each student's role for the task, clarify the sequence of activities and monitor and evaluate the interactions of group members. A number of authors have emphasized that regular school teachers need to be competent in the implementation of cooperative learning strategies to successfully include students with disabilities in their classroom activities.

Furthermore, it was revealed in the findings from analysis in table 7, with a mean score of 3.61 that teachers require assistance in classroom management for pupils with low vision. This supports the research conducted by Das, Sharma and Singh (2012), classroom management for inclusive education includes the knowledge of: 1. Applied Behaviour Analysis (ABA) 2. Basic classroom management theories, methods and techniques for individuals with exceptional learning need. 3. Research-based best practices for effective management of teaching and learning. 4. Materials arrangement. 5. Organization of aids and support services, and 6. Creating a positive atmosphere in the classroom. The diversity in the classrooms presents a variety of management challenges for regular school teachers. For example, students with special needs, particularly those diagnosed with emotional and behaviour disorder (EBD) and autism spectrum disorder (ASD), may present unique behavioural challenges for these teachers. Nielsen (1997) supported this assertion and contends that regular classroom teachers need to be competent in creating a positive psycho-social environment for all students including those with low vision. In addition to the psycho-social environment, the physical aspects of a classroom also exert a great influence on the inclusive classroom environment. The physical environment includes

such aspects as arrangement of desks, lighting and temperature. Placement of the special needs child in the classroom, in relation to the rest of the students, is also equally important. Depending on the severity of the child's disability, the teacher should be able to decide the proximity control. Such control can be easily handled in primary schools. However a secondary student's proximity control should be handled carefully as many of them do not like to be identified or singled out. It is therefore the responsibility of the regular classroom teacher to adapt and adjust the physical and psycho-social arrangement of the classroom to be responsive to the needs of the student with a disability (Nielsen, 1997).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of the study was to examine the supports teachers provide for pupils with low vision in regular classrooms at Kona Circuit in the Sekyere South District, Agona-Ghana. The research design used for this study was the descriptive survey. The purposive sampling technique was used to choose 100 respondents within the schools for the study. A likert type questionnaire was used to collect data in order to answer the following research questions:

1. How do regular teachers assist pupils with low vision to participate in teaching and learning activities?
2. What challenges do regular teachers face in assisting pupils with low vision to participate in learning?
3. What are the competencies of regular teachers who have pupils with low vision in their classrooms?

Descriptive statistics in the form of frequencies mean and standard deviations were employed to analyse the collected data. Frequency tables were constructed in line with the variables raised in the research questions to support the data analysis.

5.1 Summary of Major Findings

The analysis of the data revealed that teachers provided varieties of real materials in their schools for teaching pupils with low vision. The findings also revealed that collaborative learning was one of the assistance teachers' used in their various schools in order to help pupils with low vision learn with ease. Furthermore, it

was revealed that optical and non-optical devices were available in the schools for assisting pupils with low vision.

In terms of the challenges teachers faced in providing assistance to pupils with low vision in their schools, the findings revealed that teachers did not have necessary competences to manage pupils with low vision. The data analysis noted in table 6again revealed that resource teachers did not cooperate with regular classroom teachers in the delivery of services to pupils with low vision. The analysis from table 6 additionally revealed that adapting instructional materials to meet the needs of pupils with low vision burdened the work of regular teachers.

Regarding the competencies of teacher of pupils with low vision, the findings revealed that teachers needed skills and knowledge in software application for pupils with low vision. It revealed that training of teachers in cooperative teaching of pupils with low vision was necessary and that teachers required assistance in classroom management for pupils with low vision.

5.2 Conclusion

It emerged from the study that several real materials as well as optical devices were provided by teachers to assist pupils with low vision in the schools. It came out from the study that teachers faced challenges in providing assistance to pupils with low vision in their schools which could be traced to competencies that were addressed.

5.3 Recommendations

The following recommendations have been made based on the findings from the study:

- Teachers who teach should be given in-service training to update their skills and knowledge in managing resources available for pupils with low vision.
- Resource teachers should cooperate and collaborate with teachers in order to ensure effective resource utilization for pupils with low vision in the basic schools.
- The Ministry of Education as well as the stake holders of the schools should build more classroom facilities to eliminate overcrowding as well as high pupil teacher ratio in schools.

5.4 Suggestion for Further Research

This study was conducted in one circuit of the Sekyere South District; Agona-Ashanti and therefore further studies could be extended in the other circuits. Apart from that, this study was delimited to pupils with low vision and as such a study on supports teachers provide for other pupils with special needs in the district is highly suggested.

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APPENDIX A

DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF EDUCATION, WINNEBA (UEW)

November 5, 2014

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Dear sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you Mr. Douglas Fofie an M.Ed. student at the Department of Special Education of the University of Education, Winneba.

He is currently working on the topic: "***Supports Teachers Provide for pupils with low vision in the regular classrooms at Kona Circuit in the Sekyere South District, Agona – Ashanti"***, for his dissertation.

I should be grateful if you could give him the needed assistance to enable him carries out his study.

Thank you for your time and cooperation.

Yours faithfully,

SAMUEL HAYFORD (PhD)
Ag. HEAD OF DEPARTMENT

APPENDIX B

UNIVERSITY OF EDUCATION, WINNEBA

DEPARTMENT OF SPECIAL EDUCATION

QUESTIONNAIRE FOR REGULAR SCHOOL TEACHERS/HEADTEACHERS

TOPIC: SUPPORTS TEACHERS PROVIDE FOR PUPILS WITH LOW VISION IN THE REGULAR CLASSROOMS AT KONA CIRCUIT IN THE SEKYERE SOUTH DISTRICT, AGONA-ASHANTI.

Dear Colleague,

I am an M.Ed. student of university of Education, Winneba. I am conducting a research on the topic supports teachers provide for pupils with low vision in the regular classroom at Kona Circuit in the Sekyere South District, Agona-Ashanti. This questionnaire is intended to collect information on supports teachers provide for pupils with low vision in the regular classrooms and is no way meant for individual or personal assessment.

I would be very grateful if you would respond to these questions for me. I assure you of every confidentiality. Thank you very much for accepting to answer the questions.

INSTRUCTIONS

Kindly answer the questions that are in this questionnaire. Using the scale assigned to each statement, indicate by ticking (√) the appropriate box that answers the questions. Please, do not write your name.

1 = STRONGLY DISAGREE 2 = DISAGREE 3 = SOMEWHAT AGREE

4 = AGREE 5 = STRONGLY AGREE

SECTION B

Assistance that teachers provide to pupils with low vision

Statement		SA	A	N	D	SD
1.	I use models of objects in teaching pupils with low vision.					
2.	Tactile materials are accessible for pupils with low vision in my school.					
3.	There are varieties of real materials/objects in my school for teaching pupils.					
4.	I collaborate with specialists when preparing TLMs for pupils with low vision.					
5.	I adapt instructions and materials in order to assist pupils with low vision to learn with ease.					
6.	Collaborative learning is practised in my class.					
7.	Optical and non-optical devices are available in my school for assisting pupils with low vision.					
8.	Instructional conversation is practised in my class.					

Challenges of Regular Teachers

Statement		SA	A	N	D	SD
9.	Adapting instructional materials to meet the needs of pupils with low vision burdens my work as a regular teacher.					
10.	As a regular teacher, I receive assistance from special educators in order to provide effective teaching for pupils with low vision.					
11.	Funds are available to procure teaching and learning materials.					
12.	Instructional materials are readily available in my school.					
13.	Resource teachers do not cooperate with me in delivery of services to pupils with low vision.					
14.	I do receive in-service training in order to manage pupils with low vision.					
15.	In spite of large class size, I involve pupils with low vision in demonstration lessons.					
16.	As a regular teacher, I do not have necessary skills to manage pupils with low vision.					

Competencies of Regular Teachers

Statement		SA	A	N	D	SD
17.	As a teacher, I need skills in collaborative teaching for pupils with low vision.					
18.	Knowledge in the utilization of IEP for pupils with low vision is important as a teacher.					
19.	Knowledge in classroom management for pupils with low vision is very crucial as a teacher.					
20.	Skills and knowledge in software application for pupils with low vision is relevant as a teacher.					
21.	Training of teachers in cooperative learning for pupils with low vision in necessary.					
22.	Competency in the use of low vision devices is necessary.					
23.	It is very relevant to select effective teaching strategies to teach pupils with low vision are necessary.					
24.	As a regular teacher, I do not have necessary skills to manage pupils with low vision.					

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