

UNIVERSITY OF EDUCATION, WINNEBA

**ANALYSIS OF THE ACADEMIC PERFORMANCE OF STUDENTS WITH VISUAL
IMPAIRMENT ON THE INTEGRATED EDUCATION PROGRAMME IN THE
HOHOE MUNICIPALITY IN
THE VOLTA REGION OF GHANA**

EDEM JACQUELINE AKOSUA DORLEKU

2015

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THE VOLTA REGION OF GHANA**

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B.ED (Hons) FOUNDATIONS**

**A Thesis 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 of Degree of Master of Philosophy
(Special Education) degree.**

JULY, 2015

DECLARATION

CANDIDATE’S DECLARATION

I, Dorleku Edem Jacqueline Akosua, declare that this thesis, with the exception of quotations and references contained in the 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.

Edem Jacqueline Akosua Dorleku

Signature.....

Date.....

SUPERVISOR’S DECLARATION

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

Name: Mawutor Avoke (Ph.D.)

(Professor of Education)

Signature.....

Date.....

DEDICATION

This thesis is dedicated to my sons, Herbert Adotey, and Hubert Adotei Allotey-Pappoe.



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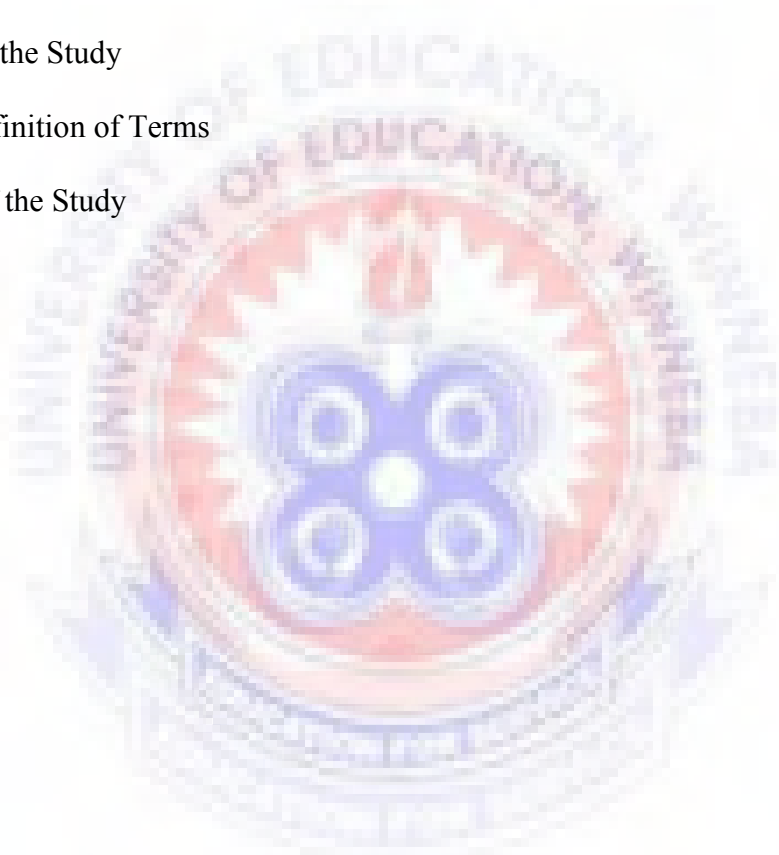
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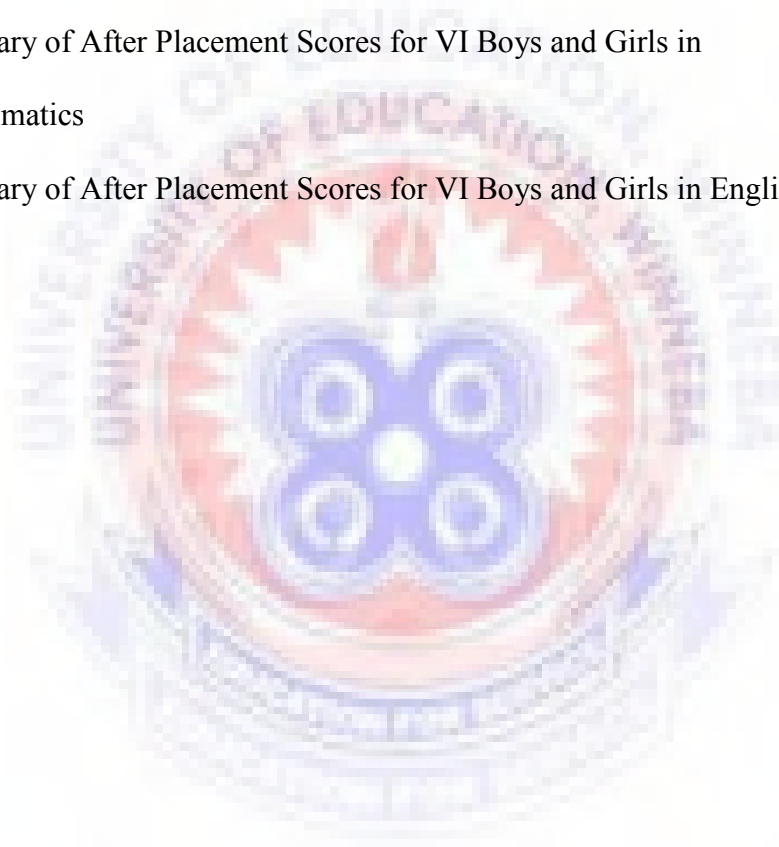
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ABSTRACT

This study analysed the academic performance of pupils with visual impairment placed on the integrated education programme in the Hohoe Municipality. The evaluation research design was employed for the study. Purposive sampling technique was used to select the respondents for the study. A total of 50 respondents, comprising 20 mainstream teachers, 5 itinerant teachers, 25 pupils with visual impairment were drawn for the study. The instruments used in collecting data were semi-structured interview and scores from teacher made tests. The study revealed that the integrated education programme had a positive influence over the academic performance of the visually impaired. The recommendations included among others; the provision of extensive opportunities for both pupils and teachers in assessment, in-service training, monitoring and motivating in the mainstream by stakeholders and also provide the necessary academic and infrastructural facilities needed to support the education of persons with visual impairment in the mainstream schools.

CHAPTER ONE

INTRODUCTION

Background to the Study

In achieving equal access to education for all children, the Government of Ghana has tried in various ways to show her commitment to Universal Primary Education. This commitment has been directed towards achieving the millennium development goal two (MDG 2). Strategies adopted to implement this educational policy include the introduction of the capitation grant, abolition of school fees, expansion of early childhood development services, promotion of measures to improve gender parity in primary schools, and the introduction of nutrition and school feeding programmes (World Food Programme, 2006).

Earlier, the Ghana government's own attempt to address the inequalities in the educational sector through the Ministries of Health and Education, and the Local Rehabilitation Project (LRP), organized district-wide school and community screening exercise in 1995. The outcome of the screening exercise showed high prevalence of visual impairments amongst children in Ghanaian schools. This situation led to the introduction of Integrated Education Programme (IEP) in some selected schools by the Special Education Division (SED) of the Ghana Education Service in the year 1996. The integrated education approach sought to place children who were visually impaired into mainstream schools at the basic level. The approach made use of specialized professionals such as itinerant teachers who had the necessary training to meet the specialized needs of the children with visual impairments placed in this experimental programme. The professionals were to assist mainstream teachers to manage visually impaired children with their sighted peers. Even though the IEP was synonymous with inclusive education, it was called the "Integrated Education Programme" (IEP). This

programme was implemented with financial and technical assistance from Sight Savers International.

The aims of the IEP were to, (a) provide least restrictive environment to disabled children by making available the minimum necessary facilities and resources to enable every child to enter and remain in school until the basic education cycle is complete so that they may grow and develop like other children, (b) integrate children with disabilities into the regular education system by making basic education accessible to the learner and relevant to his/her needs, (c) make education equitable in order to eliminate disparities and inequalities, and (d) support manpower development activities and train required personnel such as regular and itinerant teachers.

In year 1996, the IEP started in the Hohoe municipality with the main objectives of ensuring that all blind and low vision children of school going age have access to the mainstream educational system at the primary level. Additionally, the programme sought to put adequate mechanisms and systems in place in the communities and schools to encourage parents and children to take advantage of the system which required creating preconditions for the optimal performance of such children.

For a child to qualify to be on the programme, whole school screening are done and suspected children was then referred to the hospitals for in-depth assessment. Based on the assessment results, children who had visual impairment were automatically listed onto the programme until their visual problems are solved through surgical operations or provision of contact lenses and other instructional support services. After sometime, the child is taken off the programme to make way for other children.

Children placed on the programme were regularly supported and monitored by the key initiator, Sight Savers International and Ghana Education Service. Children with visual impairment who hitherto were identified but could not be put on the programme due to limited number of beneficiaries to be enrolled at a time were later recruited when those already on the programme exited. However, in 2010 Sight Savers International withdrew their financial and technical support and handed over the running of the programme to the Ghana Education Service.

As indicated earlier, creating preconditions in the mainstreamed schools was one of the keys for making school accessible and also improve academic performance of children with disabilities in general. Like all students, the academic performance of students who are visually impaired in the general education classroom is monitored as required by the No Child Left Behind (NCLB) Act of 2001 and IDEA of 2004. NCLB's purpose is to hold schools accountable for student performance by ensuring that all children have a fair, equal, and significant opportunity to obtain a high quality education (No Child Left Behind Act of 2001: Statement of Purpose, p. 15). IDEA ensures students with disabilities are provided appropriate and individualised instructional programmes and are fully included in standards-based accountability systems. These two pieces of legislation have affected the entire educational system, changing the student body make-up of the general education classroom, restructuring the delivery of special education services, and shaping the core curriculum to meet the general standards for all children.

In other countries such as Pakistan, India, Uganda, Tanzania, Kenya and Malawi where Sight Savers International had already started similar pilot projects, there are evidence of increase in academic performance of children with visual impairments included in the mainstream schools (Altman, Thurlow, & Vang, 2010). However, the evidence of increased academic

performance among children with visual impairment placed on the IEP in the Hohoe Municipality is yet to be observed, hence the need for this study.

Statement of the Problem

The occasioning of the IEP for children with visual impairments in the Hohoe Municipality is to create accessibility to those children due to unavailability of special schools for individuals who are blind as well as to promote the government's policy on inclusive education. To ensure that the performance of those placed on the programme improves, it has become imperative to analyse their academic performance. However, in the placement process, it appears certain specific strategies that are used to determine eligibility are not well defined since visual impairment varies in degrees from mild to profound.

In addition to this, it seems there are limited resources for the effective education of those placed on the programme. Furthermore, it appears no effort is made to find out how the integrated education programme (IEP) influence the specific academic needs towards the performance of those placed on the programme.

Also, it seems the state of the academic performance in English and Mathematics before placement and after placement have not been analysed in order to determine progress or lack of progress.

Finally, it appears there was no record on the gender (i.e. male and female) performance in English language and Mathematics for pupils with visual impairments on the programme.

Aim of the Study

The study aimed at investigating the effect of the Integrated Education Programme (IEP) on the academic performance of pupils with visual impairments in the Hohoe Municipality.

Objectives of the Study

The study specifically sought to:

1. Find out the strategies for placement of pupils with visual impairment on the IEP in the Hohoe Municipality.
2. Ascertain the available resources for pupils with visual impairments on the IEP in the Hohoe Municipality.
3. Find out how the IEP influence the academic performance of pupils with visual impairment (VI) in the Hohoe Municipality.
4. Compare the state of academic performance in English language and Mathematics among students with visual impairments before and after placement on IEP in the Hohoe Municipality.
5. Examine how the male and female students with visual impairments perform in English language and Mathematics on the IEP in the Hohoe Municipality.

Research Questions

The following questions guided the study:

1. What strategies are used in the placement of pupils with visual impairment on the IEP in the Hohoe Municipality?
2. What resources are available for pupils with visual impairment on the IEP in the Hohoe Municipality?
3. How does the IEP influence the academic performance of pupils with visual impairments (VI) on IEP in the Hohoe Municipality?
4. What is the state of academic performance in English language and Mathematics among pupils with visual impairment before and after placement on IEP in the Hohoe Municipality?

5. How do the male and female pupils with visual impairments perform in English language and Mathematics on the IEP in the Hohoe Municipality?

Significance of the Study

It is hoped that the study will also highlight the influence of the IEP on the academic performance of pupils with visual impairment in the Hohoe Municipality. This will provide information for teachers and school administrators on educating children who are blind to study alongside their sighted peers in the same school environment. The findings of the study will inform parents on the outcome of educating children who are visually impaired in an inclusive setting. Finally, it will provide a basis for policy makers in special needs education to plan for the improvement in the provision of education for children who are blind in mainstream schools.

Delimitation of the Study

The study area (Hohoe Municipality) has over 221 basic Primary and Junior High schools. However, the study involved only five (5) out of twenty (20) Junior High Schools which implemented the IEP in the municipality.

Operational Definition of Terms

Inclusive Education (IE): Inclusive education is a process of enabling all children to learn and participate effectively within mainstream school systems. It does not segregate children who have different abilities or needs.

Academic Performance: Academic performance is the ability to study and remember facts and being able to communicate such knowledge verbally or down on paper. It may also refer to how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers yielding to success. .

Visual Impairment (VI): Visual impairment is a concept encompassing all degrees of visual loss. It is used to mean persons whose vision loss constitutes a significant limitation to perform tasks that require sight.

Integrated Education Programme (IEP): it is a programme that provides an opportunity for learners with specific educational needs to be educated in an existing system. Learners integrated are provided with extra support if necessary in order to fit into the system.

Placement: Refers to the type of school, regular or special, that is prescribed for the child to attend.

Organization of the Study

The study is organized into five main chapters. The first chapter deals with the background of the study, statement of the problem, Aim and objectives of the study, research questions, significance of the study, limitations and delimitation of the study, and definition of terms. Chapter two also deals with review of related literature that supports the study. This is grouped under themes generated from the research questions. Chapter three provides the methodological framework, where the researcher presents and discusses the research design and the approach adopted for the study, the study population, sample and sampling technique, data gathering tools, Pilot study, access, ethical consideration, procedures for data collection and data analysis. The fourth chapter presents and analyses data, while the fifth chapter deals with the summary of research findings, conclusion, recommendations and suggestions for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter reviewed related literature of earlier studies conducted on the subject to support the current study. A systematic literature review was done, using published articles pertinent to inclusive education from the 1990s to 2010. The objective was to bring together scientific documentations on the topic, describe the content, summarize it, and identify gaps for further research. Altogether, more than 100 sources, which were relevant to inclusive education, were searched.

Information was sourced from Journals of Psychology, Journal of Special Needs Education, unpublished reports, unpublished master thesis, conference documents, and electronic databases. In the search, no restrictions were applied in terms of country, disability group, gender, economic characteristics and outcome measures; because the main purpose of this review was to focus on established findings on inclusive education, only papers that included the phenomena were selected. Issues discussed have been organized under the following themes:

1. Theoretical framework.
2. Overview of Integrated Education Programmes (IEP) for students who are visually impaired in regular schools.
3. Strategies for the placement of students who are visually impaired in regular education classrooms
4. Resources for pupils with visual impairments on IEP
5. Support services for pupils with visual impairments

6. Integrated education programmes and academic performance among students who are visually impaired.
7. Gender differences and academic achievement in English language and Mathematics
8. The cognitive process Taxonomy of Learning
9. Implication of earlier researches reviewed for the current study
10. Summary of reviewed literature.

Theoretical Framework

The researcher found the Social Model of disability relevant for this study. Its relevance is borne from the fact that the inclusion of students with visual impairment in the regular classroom primarily exposes all categories of students and their teachers to social interactive learning environment.

The social model of disability

The „Social Model of disability“ coined by Mike Oliver in 1983, extended and developed by academics and activists in the UK, US, and other countries to include all disabled people, has undoubtedly been the dominant paradigm in researching and understanding disability in recent years (Wikipedia). The model arose in response to the critique of the medical model of disability. This social model redefines disability in terms of a disabling environment, repositioning disabled individuals as citizens with rights, and reconfiguring the responsibilities for creating, sustaining and overcoming disability.

At first, the interest was primarily in the education of persons with visual impairment, hearing impairment, and intellectually disabled learners. However, the remarkable developments in the fields of medicine and clinical psychology during the twentieth century have led to more and more categories of handicap being identified, and in each case separate or special schools were established for such groups. It was accepted that each group of learners with disabilities

had their own particular characteristics and that their learning difficulties were directly related to their specific disabilities. The aim of inclusive education was, therefore, to remove or lighten the particular deficiencies of such learners (Du Toit, 1999).

Learners who experienced disabilities were referred to multidisciplinary teams that tested the learners and diagnosed or labelled their problems. Education systems used clinically described admission criteria based on categories of disability – for example, schools for learners with cerebral palsy, the deaf and hard-of-hearing, the blind and partially-sighted for placement in special education (Swart, 2004).

The above described state of affairs was an era characterised by a predominantly clinical or medical perspective. Towards the middle of the twentieth century, this medical perspective to specialised education gave way to a social perspective. It was realised that learners with disabilities should be equipped to live within a social context, and also that environments could have an effect on learners with disabilities positively by diminishing their disabilities, or negatively by intensifying their disabilities (Du Toit, 1999). Disability is something imposed on top of the impairments by the way such individuals are unnecessarily isolated and excluded from full participation in society. Individuals with disabilities are therefore an oppressed group in society. To understand this, it is necessary to grasp the distinction between the physical impairment and the social situation, called “disability”, of people with such impairment. The Social Model contains several key elements. It claims that persons with disabilities are an outcast social group. It distinguishes between the impairments that people have, and the oppression which they experience. Most importantly, it defines “disability” as the social oppression, not the form of impairment (Shakespeare & Watson, 2002).

Inclusion is grounded in the “Social Model” of disability which proposes that barriers, prejudice, and exclusion by society, purposely or inadvertently are the ultimate factors defining who is disabled and who is not in a particular society (Oliver, 1996). It recognises that while some people have physical, intellectual, or psychological differences, which may sometimes be impairments, these do not have to lead to disability. Disability is seen as a complex collection of conditions, many of which are created by the social environment. Therefore, the management of the problem requires social action, and it is the collective responsibility of the society to make the environmental modifications necessary for full participation. This requires an attitudinal or ideological social change, which at the political level becomes a question of human rights (Vayrynen, 2008). While disability remains a social problem to be eradicated by societal change, barriers such as prejudices and stereotypes, inflexible organisational procedures and practices, inaccessible information, and inaccessibility to public places including transport, which have nothing to do with individuals’ disabilities, can be changed. These barriers are created by people, which mean that it is possible to remove them (Gibbs, 2004).

Implication of the social model of disability to the current study

The framework of social models of disability is reflected in international agency documents on disability, development and education (Stubbs, 2007). The influence of this model is embedded more in interactionist perspectives on disability. Practicing the social model of disability is in line with the Salamanca framework for action of 1994 on persons with disabilities which advocate for inclusive education for all. Relating the social model of disability to the current study, students with visual impairment in schools in the Hohoe Municipality require equal access to the general curriculum in the regular educational system. In addition, the social model allows the inclusion of the visually impaired to experience diversity in one educational setting, and also reveal their learning potentials. In order to give

students opportunities to develop their competences, more is needed than simply for them to interact with others in their social environment. Learners with disabilities need support services to enhance both their social, psychological, emotional and academic potentials. When these materialized, students with visual impairment can participate in teaching and learning and succeed as their sighted counterparts.

Overview of Integrated Education Programmes (IEP) for pupils with visual impairment in regular schools

In the past, children with disabilities were believed to be inferior to their non-disabled peers that it was deemed essential to teach such individuals in separate special schools where they would not only receive specialized services, but also avoid disturbing the learning of others (Green & Engelbrecht, 2007). These authors also observed that, „special education“ developed as a system parallel to mainstream education conceptualized those with disabilities as „abnormal“ and in need of the attention of specialists.

As the frontiers of ignorance gradually receded, it was realised that it might not be in the best interests of those with disabilities or even society, for such children to be separated from the mainstream educational system. UNESCO (1994) marked this turning point to inclusive education as the celebration of differences and the support for all learners. Earlier in 1990, the Education for All Handicapped Children Act (1975) was reauthorized as the Individuals with Disabilities Education Act (IDEA). This act, according to Masoodi (2004) strengthened the Least Restrictive Environment (LRE) provision. The IDEA explicitly stated that, “students should be educated in the regular classroom to the maximum extent possible. Time away from the regular classroom needed to be justified in the student’s Individualized Education Plan (IEP)” (Masoodi, 2004). Considering UNESCO and IDEA’s provisions among others, focus had then shifted from the individual’s shortcomings and how they could be overcome to focusing on how the shortcomings of ordinary schools could be surmounted

to accommodate all learners (Apling & Jones, 2005). According to Apling and Jones, support was now thought to be possible as there was the perception of children with disabilities as only having special educational needs which needed to be accommodated in least restrictive environments. This, Apling and Jones (2005) indicated has paved the way for the education of children with disabilities together with non-disabled peers in regular or ordinary schools rather than in the specialized institutions.

Mpofu, Kasayira, Mhaka, Chireshe and Maunganidze (2007) in their study observed that, inclusive education was one of several ways in which education authorities sought to enhance citizen rights for persons with disabilities. Mpofu, *et al.* stressed that, emphasis on inclusive education was on universalizing access and promoting equity for disadvantaged groups with special attention on removing educational disparities. As explained by Green and Engelbrecht (2007):

“in inclusive education, the emphasis is on provision, within the mainstream school environment, of the conditions and support that will enable diverse individuals to achieve certain specified educational outcomes which may, or may not be understood to be the same for all learners” (p.79).

Green and Engelbrecht (2007), by this explanation, sought to reinforce the principle of inclusive education which espouses the need to provide an enabling learning environment to accommodate the diverse needs of all learners regardless of their abilities and disabilities. This also supports Chakuchichi, Chimedza, and Chiinze's (2003) view that inclusion is to foster an even learning environment for all children in their beliefs, values and norms. Thus, inclusion may be viewed as a tool for cultivating cultural and social values among all school going children. This statement seems to suggest the meeting of diverse needs and accommodation of all students in the regular school system. Powers (1996) earlier in his study, also points out that, students with disabilities have the right to learn in an inclusive

setting, alongside their non-disabled peers. According to Powers, teaching children with disabilities together with others in ordinary schools was now thought to give learners equal access to opportunities for learning and normal models in society.

According to Brown (2004), integrated education for persons with disabilities in developing countries is not a matter of option but a compulsion. This system, in the view of Brown (2004) is more than an alternative; it is quite literally the only hope, for thousands of children with visual impairment in countries like Ghana, for any education. As indicated in Anderson (2006), most developing countries visualize integrated education as an expedient measure to reinforce efforts to improve access to school as a part of the universalization of basic education.

In Anderson's (2006) view, integrated education enhances the social acceptance of a child due to the advantage of being in an environment which he shares with his sighted peers. Also, integrated education offers the child with visual impairment a platform to operate in a congenial company instead of isolation, thus, a natural social environment in which the child participate in the general community life. Children with visual impairment in an integrated education programme, but not in a segregated environment stays with their families thus ensuring family bonding. Under integrated education, a sighted child obtains a better understanding of the child with visual impairments' needs, aspirations and the true picture of a disability, which helps to reinforce that a disability need not bar a student from attaining academic excellence. It enables sighted students to also appreciate the problems and feelings of the child with visual impairment and to learn proper ways of dealing with them.

In countries, such as Kenya, Nigeria and South Africa, children with disabilities in Ghana began to be educated together with the non-disabled in this new dispensation of inclusive

education. The global egalitarian foundations of education which were laid in such conventions as Education for All (1990) and UNESCO (1994) found expression in Ghanaian legislation/policy such as the Free Compulsory Universal Basic Education (fCUBE) which institutionalized the right of every Ghanaian child to education. Besides the international and local Acts and legislations that bind nations across the world to as much as possible to educate all children regardless their social, cultural, ethnic and disabilities, various institutions such as the Sightsavers International have rolled out programmes aimed at effective inclusion of children with disabilities in regular schools (WHO, 2007).

In countries such as Ghana, Pakistan, and Kenya, Sightsavers is committed to strengthening inclusive systems of education by demonstrating how high quality programmes for children with visual impairment (e.g. the Integrated Education Programme) can be developed in a fair, sustainable and cost-effective way (WHO, 2007). As indicated by Sight Savers (2010), the aim of this inclusive programme is to see increased access to an education system that fully meets the needs of children with visual impairment and enables them to become productive and fulfilled members of society, whilst working to ensure that all disabled children have the opportunity to receive a quality education within a wider education system.

As Fefoame (2009) observed, early attempts at integrated education programmes by governments such as Ghana and Nigeria, coupled with the difficulties experienced by persons with disabilities in the society, make many people apprehensive of what could happen to a lone child who is disabled submerged in a large class of non-disabled children. The attitudes of both special and general education teachers and the lack of adequate skills and confidence in the children with disabilities can generate a lack of confidence in what inclusive education has to offer. In Sightsavers' experience (WHO, 2007), well planned and implemented strategies to support children with disabilities in school can improve the quality of teaching

and learning for all children. While greater focus on quality education and learning outcomes are crucial, one must not forget that many children with disabilities have been, and continue to be denied the opportunity to access basic education in the first place.

Strategies for placement of pupils with visual impairment on the IEP

Children with disabilities generally have a right to educational programmes and services which are suited to their needs. However, their unique learning characteristics frequently necessitate individualized instruction in order to meet their particular needs (Buultjens, Stead, & Dallas, 2002). In order to meet their present and future needs, learners with disabilities have to be properly placed. According to Atique and Mushtaq (2005), placement options for learners with disabilities are limited, because not all schools as yet really accept a learner with a disability. Acceptance of the basic rights of learners with disabilities is at the heart of placement issues and the formation of inclusive school communities, but the mere acceptance of the learner by obligation as required by law does not assure a culture of inclusion.

According to Cuskelly (2000), specific ways by which such adaptation may be realized are the responsibility of the classroom teacher, resource teacher, special education staff in consultation with school authorities and the parent. Depending on the type of disability, other professionals such as psychologist, guidance/counselling officer, itinerant teacher, occupational therapist, social worker, behaviour management specialist and child management Specialist will be needed to support in drawing an individual education plan for a child identified to be having a disability (Llewellyn, 2000). Students who are identified as having disabilities will have individual education plan designed to meet their needs. This plan, according to Llewellyn will be based on an assessment of the student's strengths, interests and needs, and will identify specific goals and expectations for each student, and will also outline necessary modifications to take place.

The decision to place a student on an alternate programme such as the Integrated Education Programme is made by a team of specialists (Ajuwon, & Oyinlade, 2008; Dimigen, Roy, Horn & Swan, 2001). According to Dimigen et al., a student who requires an alternate education programme will also require supports. This support services in the authors' view are pre-programmed by the Individual Support Services Plan (ISSP) team. The ISSP team's approach, according to Dimigen et al., is crucial when planning placement for pupils with visual impairments. If students are placed into an education programme or regular class, integration is initiated, and then appropriate supports are provided to facilitate the integrated placement. The plan for each pupil's integration is reviewed regularly by a School-based team. In order to ensure that programmes and services are meeting the needs of students, reviews are conducted on a regular basis. This ensures that staff, ISSP team members and school authorities are familiar with the programmes and services, and have an opportunity to provide feedback.

In their study, Schmidt and Cagran (2008) observed that students with visual impairment may need various accommodations and adaptations to access the prescribed curriculum. According to these authors, the student's age, visual condition, type of class setting, and academic abilities all play a part in determining general accommodations/adaptations needed. Hence there is a need for satisfying all the above conditions for a successful integration of the visually impaired child.

Resources for pupils with visual impairment on the IEP

The regular classroom teacher is the primary educator of the child with visual impairment who is enrolled in his classroom. It is the teacher's responsibility to teach all the children in the classroom including the visually impaired. The special education teacher provides support service so that the regular teacher can educate the child. According to Swart (2004), it is the

responsibility of the regular classroom teacher to give the child with visual impairment the same attention and help as will be given to the other children in the classroom. The teacher does not need to make special rules or require less work from the child with visual impairment. In Swart's view, children with visual impairment are not different. They have the same needs, wants, and feelings as sighted children, and therefore be treated the same as the sighted child. Nonetheless, children with visual impairment need some other resources to be able to function effectively. Some of these include the following:

Orientation and mobility

Depending on the age of visually impaired children, they walk to school with their friends, brothers and sisters. As these children grow older, they use a long cane to walk to school by themselves. Voltz, Brazil and Ford (2001) in their study indicated that the special education teacher will provide orientation, and familiarize these children to the school and their classrooms. In their view, Peavey and Leff (2002) point out that the teacher will teach the children some special techniques to use so they will not hurt themselves when walking. Additionally, Landsberg (2005) asserts that students who are visually impaired will likely require alternate courses. These students, according to the authors, will have alternate courses taught by an itinerant teacher.

Landsberg (2005), further suggest that, the alternate courses may be required in the areas of braille reading and writing, orientation and mobility, life skills, concept development, functional skills, self-help skills, work experience, specialized technology, internet access, daily living skills, personal management skills, psycho-social aspects of low vision, adjustments to blindness issues, alternate viewing techniques, social skills, communication skills (including technology and low vision training), visual efficiency skills, listening skills and so on.

Braille reading and writing

The provision of appropriate reading materials greatly depends on the degree of impairment. As indicated in Goudiras, Papadopoulos, Koutsoklenis, Papageorgiou and Stergiou (2009: p.127), „some children with low vision will be able to read and write using large print. Others who are totally blind will use braille to read and write“. Braille is a special system of raised dots that blind people feel with their fingers. If a book is not in braille, either the special education teacher or another student can read the book to the child with visual impairment, or perhaps the special education teacher will record the book on a tape recorder so the child can listen to it (Davis & Watson, 2001). These authors also suggest that, reading skills for instance are taught the same way whether a child uses print or braille. The special education teacher, in Goudiras et al.'s view can write in print above the braille letters, so one can follow what the child is reading, write in print what the child has written in braille or can just have the child read aloud what he has written.

Having a child with visual impairment in a classroom according to Dimigen, Roy, Horn and Swan (2001) can be a rewarding experience for all. In the authors' view, the child not only learns from his teacher and sighted friends, but others can also learn from the child with visual impairment. The teacher and sighted friends will learn that there is nothing to fear about blindness and that, visually impaired individual and the sighted can be friends (Terpstra & Tamura, 2008).

Resource room

A resource room is a special class within the regular school (Yun, Shapiro & Kennedy, 2000). In this classroom, Yun et al., opine that there is a full-time special education teacher of the blind, called a resource teacher. According to Yun et al., (2000), this special class is equipped with special equipment and supplies the child needs. The child with visual

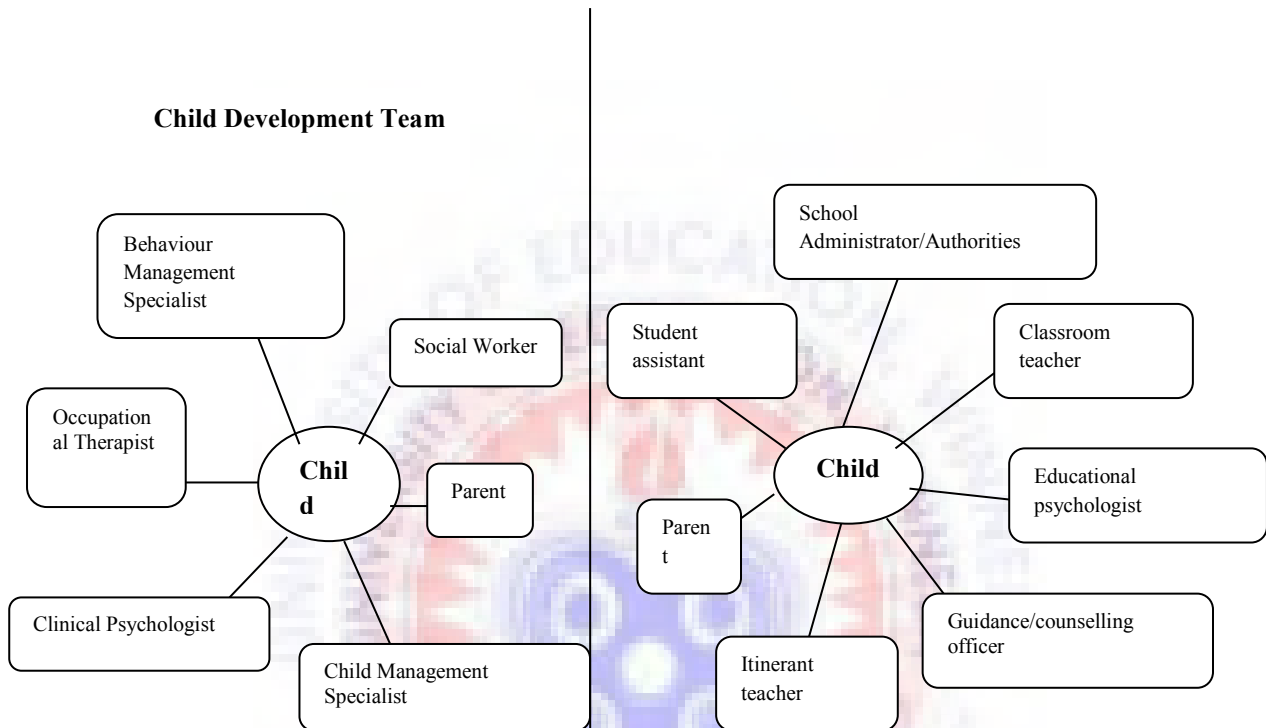
impairment is enrolled into the regular classroom, but can come to the resource room when he or she needs special help from the resource teacher.

In Swart and Pettipher (2005) opinion, a resource room is only feasible if there are four or more children with visual impairment attending the same school. The author further suggest that, if there are less than this number of children, it is neither economically feasible nor a good use of the special teacher's time to set up a resource room. Swart and Pettipher added that, although the term "Resource Room" uses the word "Room", this does not mean that it is always a special room. Depending on the extra space in the school, this "room" might be a corner in the teacher's room, part of the principal's office, or the back of the regular classroom (Snyman & Bloem, 2001).

Support services for children with visual impairment on the IEP

Over the years, a variety of models of integrated education have been successfully developed in various countries (Koenig & Holbrook, 2000). Most of the models are a combination of hostel facilities and complete integration. In Ghana, almost all the models have been tried at various stages in the nation's educational reforms. The model being practiced in Ghana, as a result of the IEP, is the itinerant model of integrated education. Although, all the models have their own merits as well as demerits, the itinerant model of integrated education appears the most suitable for the Sight Savers' IEP Programme. Placing a child with visual impairment in a regular classroom and not providing the necessary support services does not constitute integrated education (McKenzie & Lewis, 2008). There is the need to provide the needed support services so that the child with visual impairment can successfully be educated in a regular classroom.

There can be numerous individuals who play a role in the delivery of support services to children with disabilities, especially those with visual impairments. The diagrams below illustrate the coordination of services outside the education system (Figure 1) and within the education system (Figure 2) (McKenzie & Lewis, 2008).



Source: McKenzie & Lewis (2008)

Figure 1: Services outside the School

Figure 2: Services within the School

As shown in Figure 1, each member of the Child Development Team has a part to play in the delivery of programming for children who are generally disabled. As indicated earlier, children with visual impairments may need services of the occupational therapist prior to and after school entry. According to Cheney (2000), such needs will be discussed during the Individual Support Services Planning (ISSP) team meetings, if necessary, and the professionals indicated in Figure 1 may be drawn into the child's development team. The duties of the occupational therapist for instance may be to provide independent movement and exploration; hand function; awareness of the environment; structure of physical

environment; use of adaptive equipment and; promoting sensory exploration of the environment.

On the other hand, support services provided within the school system (as shown in Figure 2) are geared towards creating an enabling learning environment for the child with visual impairment. The responsibilities of the school administrator, according to Cheney (2000) is to provide support to children, classroom teachers, parents and student assistants and help to ensure that team members are working collaboratively and efficiently within a mutually agreeable schedule. As indicated by Cheney (2000), the School Administrator is a key player in monitoring the roles of team members who are working with individual children. Some aspects of the role of the School Administrator, as it pertains to visually impaired children are to ensure that learning takes place in a safe, caring, committed and respectful environment; ensure that the visually impaired have their programmes designed and implemented by the appropriate personnel; create schedules which optimizes availability of special education personnel; ensure that children with visual needs have access to the ISSP process; provide administrative support to teachers and other educators in their efforts to meet the needs of children; facilitate the use of in-school facilities to conduct support services planning team meetings; collaborate with the individual support services manager to ensure that the equipment, materials and human/material resources committed by education are accessed, and to also ensure that appropriate forms are signed before comprehensive assessments are completed. The role of each professional in Figure 2 in the IEP concept is outlined below.

Role of the classroom teachers

According to McKenzie and Lewis (2008), the classroom teacher facilitates the development of the physical, social and intellectual potential of children who are normally sighted as well those who are visually impaired. McKenzie and Lewis further opined that, it is the classroom

teacher who gives the child with visual impairment the maximum opportunity to develop and learn within as normal an environment as possible. In their opinion, McKenzie and Lewis (2008) identified that the role of Classroom Teachers, as it pertains to children who are visually impaired may include to participate as a member of the ISSP team; contribute to the identification of strengths and needs of the child; contribute pre-referral strategies already tried, and other aspects of programming in the school environment, which would address the child's strengths and needs; ensure that the goals of instruction are attainable; monitor and record the child's progress in designated areas of responsibility; and to use a variety of stimulating instructional methods.

Cheney (2000) indicates that, it is also the classroom teachers' role to provide for the child's participation in classroom activities; adapt instructional strategies to meet the needs of the child as decided by the team; consult with appropriate team members concerning specific adaptive techniques to be used with the child who is blind or visually impaired; facilitate academic and social development similar to the child's peers; initiate a close working relationship with the home and other ISSP team members in order to maximize the effectiveness of all available services; and to consult with the itinerant teacher to ensure that the child has access to necessary materials and equipment.

Role of the educational psychologist

On the part of the educational psychologist, McKenzie and Lewis (2008) assert that their role is to provide a range of services in the education system from consultation and collaboration, planning and evaluation, to psychological and psycho-educational assessments. In Cheney (2000) view, there are many issues that the educational psychologist must consider before assessing children who are visually impaired. As indicated by Cheney (2000) cited in Westling and Fox (2005), some of the aspects of the role of the educational psychologist, as it

pertains to the visually impaired may include the provision of informal consultation/support to teachers and parents/guardians during the pre-referral stage and more formal consultation throughout the ISSP process.

As part of the ISSP process, the educational psychologist carries out individualized psychological/Psycho-educational assessments, and also ensures that assessment information is current. Other duties of the educational psychologist according to Cheney (2000), includes presentation of data and interpretation of results of his or her assessments at the ISSP team meetings, or provide a written or oral report to another member of the team; participate in ISSP team meeting discussions of strategies, curriculum, approaches, services and supports required by the child; assist in writing any component of the ISSP for which he or she has been assigned responsibility for implementation; provide suggestions, resources and/or support to others involved in developing the ISSP; implement those portions of the ISSP for which he or she has been designated responsible; monitor and record the progress of the child as designated to be aware of the unique needs of the child with a visual impairment and the needs of the child's family; to work closely with the teachers of children with visual impairments to coordinate services; and to remain knowledgeable about special considerations for children with visual impairments when conducting assessments (McKenzie & Lewis, 2008).

Role of the guidance and counsellors

According to McKenzie and Lewis (2008), guidance and counsellors, are important members of the ISSP team for children who are visually impaired. They often have cumulative information about children from having been involved in their cases for several years. These professionals may be involved in the comprehensive assessment of a child with a visual impairment.

There are many issues that must be considered before assessing children with visual impairment. Some aspects of the role of the guidance and counsellor, as it relates to children with visual impairment, are to provide the full range of counselling services to children with identified exceptionalities and also provide informal consultation/support to teachers and parents/ guardians during the pre-referral stage and more formal consultation throughout the ISSP process (McKenzie & Lewis, 2008). In their opinion, Porter and Lacey (2008), assert that, one important role of the guidance and counsellor is to conduct individualized assessments including career/vocational assessment as part of the support services planning process, and to advise the ISSP team on behavioural approaches (depending on training), social/emotional/personal or behavioural programming, transitional strategies and supports, and community services which may be accessed by the child. In Cheney's (2000) view, guidance and counsellors are to make referrals as required to the appropriate educational and/or psychological services and/or community agencies, and be aware of the unique needs of the child with a visual impairment and the needs of the child's family.

In as much as the work of the guidance and counsellor is important, they are to work closely with the teachers of children with visual impairments; remain knowledgeable about special considerations for children with visual impairments when conducting assessments and to give suggestions to the ISSP team on strategies, curriculum, approaches, services and supports required by the child; assist in writing any component of the ISSP for which he or she has been assigned responsibility for implementation; provide suggestions, resources and/or support to others involved in developing the ISSP, and to implement those portions of the ISSP for which he or she has been designated responsible (Cheney, 2000).

Role of an itinerant teacher

One important professional in the implementation of an IEP programme is the Itinerant Teacher whose duty primarily is to provide support to children, teachers and parents (Cheney, 2000). According to Cheney (2000), the Itinerant Teacher encourages realistic understanding of the individual child's needs and abilities, thus helping the child realize his or her highest potential. Some other aspects of the role of the itinerant teacher in McKenzie and Lewis (2008) view are to recommend any child suspected of having a vision problem to be checked by an ophthalmologist or optometrist and recommend that any child with a known visual impairment is seen regularly by an ophthalmologist or optometrist.

Among other roles of the itinerant teacher is to assess visual functioning in students with diagnosed visual impairments and to assist in programming and transition for all preschool children who are blind or visually impaired prior to their entering school. McKenzie and Lewis (2008) further suggest that, the Itinerant Teacher facilitates transitional planning for children moving between schools and those leaving school. They are to recommend access to specialized equipment and materials to support children who are visually impaired, monitor the functioning of such equipment and arrange for the provision of appropriate vision-specific teaching aids; carry out direct teaching duties in the areas of appropriate use and maintenance of personalized specialized equipment; and to facilitate the child's, parents' and team members' understanding of the educational implications of that child's/youth's specific eye condition and acuity.

Cheney (2000) also identifies that the itinerant teacher serves as a member of the ISSP team, to provide assessment of progress of visually impaired children through a formal and consistent assessment programme, supplemented by informal observation. The author also suggests that the itinerant teacher carries 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. As espoused by Cheney (2000), part of the Itinerant Teacher's role in the ISSP team may also include the following:

- i. to transcribe braille when necessary,
- ii. to prepare materials in alternate format or adapt environment to ensure access to information for the student with a visual impairment,
- iii. to lend curricular support in all Pathways to Programming and Graduation
- iv. to consult with school personnel, providing suggestions to teachers who have visually impaired children in their classes regarding instructional strategies, appropriate teaching techniques and environmental adaptations,
- v. to participate in programming and placement decisions in consultation with the ISSP team,
- vi. to consult with parents, providing information, advice and guidance where required,
- vii. to counsel the family in issues related to adjustment to vision loss,
- viii. in conjunction with ISSP teams, to develop the schedule of delivery of support services to eligible children who are visually impaired,
- ix. as part of the ISSP team, to identify the services required by children who are visually impaired and to facilitate delivery with appropriate support agencies by liaising with them as required (e.g., Ophthalmology, Optometry, Speech-Language Pathology, Occupational Therapy, Physiotherapy etc.),
- x. to remain knowledgeable of new trends, programmes and materials in the field of visual impairment, and to participate in on-going professional development relevant to the field,

- xi. to conduct workshops and in-service training with teachers, parents and administrators relating to the education of children with visual impairment, and
- xii. to encourage children/youth who are visually impaired to explore the extent of their potentials.

As indicated earlier, the role of all professionals of the ISSP team are crucial in the conduct of comprehensive assessment of a child's functioning and progress.

According to Thomas 2007, one fast expanding form of outreach services is the use of itinerant or peripatetic programmes for assessment, consultancy and teaching services for homes, schools and employment centres. Itinerant teachers based at schools support children with visual impairments in ordinary schools.

The role of itinerant teachers in assisting students with visual impairments in an inclusive education programme Ghana was initiated in 1994 in the Akuapem North district of the eastern region of Ghana. There has been considerable success in addressing the needs of pupils with visual impairments through the use of itinerant teachers. These teachers gain access to pupils with visual impairment children through initial eye screenings, followed by medical intervention. Students with visual impairments on the integrated programme were sponsored by Sightsavers international through medical interventions including eye surgery, spectacles, and hand and table magnifiers. Sightsavers, also supplies the pupils with educational materials such as reading stands, exercise books, large print textbooks, and closed circuit television. The itinerant teachers go from school to school, assisting the classroom teachers and equipping them with skills on how to handle children with visual impairments in class. After school, itinerant teachers supervise Volunteer Support Teachers while they give pupils with visual impairment extra tuition to enable them to catch up with their peers.

Integrated education programmes and academic performance among children with visual impairment

All schools care about academic performance, but schools that are more caring go beyond core content to the psychological and social well-being of their learners (Doyle & Doyle, 2003). According to these authors, the psychosocial atmosphere of schools and classrooms may either impede or promote successful learning. An integrated education classroom fosters acceptance, tolerance and caring in all learners (Lomofsky, 2001). Sarwar and Asgher (2005) stressed that, school cultures are shared images of what their members believe themselves to be, of the school's self-concept, and are therefore complex networks of behaviours and traditions that have developed over time. These networks, in Sarwar and Ashger's view, are deep-seated and dynamic, and have powerful effects on people's thinking, feelings and acting in everyday life. This, according to Swart and Pettipher (2006), makes culture unique to every school. It is the opinion of Swart and Pettipher that inclusive school cultures value diversity. For this reason the values and beliefs inherent in inclusion need to become the shared values and meanings of the whole school as well as those of each individual.

According to Doyle and Doyle (2003), strong leadership is needed to successfully facilitate inclusive education in schools and the whole culture of the school should reflect values enhancing inclusive education. These authors further said that, "it was more than merely accepting learners with disabilities; it had to do with the whole culture of the school" (p.110).

The accommodating attitudes of school authorities seem to be important for the process of inclusion in schools. School authorities' willingness to discuss the learner's situation with the parents regardless of the time it takes, and to follow up on the conversation with interest in the learner's progress, create a sense of care and trust necessary for effective collaboration (Doyle & Doyle, 2003). Doyle and Doyle further identify the culture of the school towards

inclusive education and learners with disabilities as a critical factor in successfully including learners in mainstream classrooms.

According to Simeonsson, Carlson, Huntington, McMillen and Brent (2001), learners' participating in school activities leads to a greater likelihood of success experiences, which in turn lead to a greater sense of identification and belonging in school. In their opinion, participation in school activities can be viewed as the essential condition for learning to occur. Simeonsson et al., (2001) believes that, if learners are not actively involved in school activities, they are not in a position to take advantage of the educational and social benefits those activities have to offer. Developmental theories, such as those of Piaget and Vygotsky, emphasize to active participation as a vital condition for learning and development. Learners who actively participate in educational environments are more likely to experience positive, successful social interactions with learners, teachers and others. These experiences, according to Simeonsson et al. serve as the basis for cognitive and social growth.

Simeonsson et al. adds that, the level of a learner's participation in a given environment is likely to vary as a function of features of the environment and personal factors, including the nature and severity of the disability, and accessibility to these learning environments may be defined by the physical, social and/or psychological elements of that environment.

Benefits of integrated education programmes for children with visual impairments

In integrated education programme, it is about breaking barriers, an on-going search to respond to diversity and about the presence and equal participation of all students within the mainstream education system (Tomlinson, 1999). As a process, it requires that education systems become more and more flexible and accommodating without losing out on quality. This means that the supports that the child needs for education should be there in schools (Davis & Watson, 2001). In Davis and Watson's view, it also implies capacity building of

teachers, parents and communities to negotiate with the education system and for governments to develop policies wherein such inclusion is perceived as a vital element of the education system. In most countries, especially in Africa, children with special needs in general have often been marginalized on account of their disability, lack of awareness on the part of the community about their potential, apprehensions on the part of the teachers to teach such children and a general societal attitude of sympathy towards such children focusing more on what they cannot do rather than on what they can do (Dyson, Howes, & Roberts, 2003). Realizing the importance of integrating children with special needs in regular schools, Integrated Education Programmes (IEPs) has made adequate provisions for educating children with special needs (Engelbrecht, Green, Naicker, & Engelbrecht, 1999). Integrated Education Programmes generally ensure that every child with special needs, irrespective of the kind, category and degree of disability, is provided meaningful and quality education.

Factors affecting the effective implementation of integrated education programmes

According to Antonak and Livneh (2000) full acceptance of learners with disabilities by learners without disabilities will not occur until subtle barriers can be eliminated. Antonak and Livneh agreed that one of the factors inherent in the subtle barrier is the attitudes of teachers, parents, peers and persons with disabilities themselves. Negative attitudes towards learners with disabilities create real obstacles to the fulfilment of their roles and the attainment of their life goals. Knowledge of the attitudes of persons and learners without disabilities towards learners with disabilities in Antonak and Livneh's view helps to understand the nature of the interaction between the two groups. The past decade has seen significant changes in attitudes towards learners with disabilities. The quality of education, health and social care has generally improved. There is general recognition that disabled learners are entitled to be valued and have the same chances to succeed and participate in society as their non-disabled peers. However, there is a compelling body of evidence from

research and reports that many disabled learners and their families continue to face multiple discrimination, low expectations and many physical and social barriers to full participation in society (Russell, 2003).

Pivik, McComas and La Flamme (2002) identified two types of attitudinal barriers, named intentional barriers and unintentional barriers. Intentional barriers according to Pivik et al. include instances of isolation, physical bullying, emotional bullying (like name-calling) and condescending attitudes of teachers. Unintentional barriers according to Pivik and his colleagues relate to a lack of knowledge and understanding of teachers and learners. In their opinion, it relates to a poor effort on the part of the teacher, a failed curriculum, or a lack of appreciation for either the limitations or the capabilities of the learners. Inclusionists believe that words simultaneously reflect and reinforce attitudes and perceptions. Many “disability labels” bring to mind images and feelings that maintain negative stereotypical perceptions. These perceptions, in turn, create powerful attitudinal barriers to inclusion or integrated education (Swart, 2004).

Before integrated education can be successful, there should first be a radical change in attitudes regarding people with disabilities. An attitude can be defined as a favourable or unfavourable evaluative reaction toward something or someone, exhibited in one’s beliefs, feelings or intended behaviour (Shapiro, 2000). If the attitudes of people towards people with disabilities are positive, their behaviour towards these people will also be positive, and if their attitudes are negative, their behaviours will also be negative (Shapiro). Learners with disabilities come to see themselves as the people around them see them. The attitudes of the general public, rehabilitation professionals, and especially, the “significant others” (parents, teachers, family and peers) toward an individual with a disability, become internalised within that individual (Shapiro). Schools are often responsible for the negative attitudes. They

separate and label learners with disabilities, causing them to feel insignificant, worthless, and full of shame. As Shapiro stated, one's self-concept is both learned and changeable with each new experience.

Inclusive or integrated education speaks of equal rights and acceptance for all. Therefore, in order for its implementation to be successful, attitudes must change from resentment to acceptance, from discriminatory attitudes to respect and recognition. Schools have the responsibility to teach these positive attitudes, while teachers are often role models to learners. By changing their attitudes towards people with disabilities, the learners' attitudes are bound to change as well (Shapiro, 2000).

Teachers' attitudes towards integrated education programmes

Many teachers have an understanding of equality based on the notion that "everyone gets the same thing", which can result in denial or disregard of diversity in order to promote uniformity, but a more mature understanding of fairness would be the idea that everyone gets what he or she needs (Anderson, 2006). The attitudes, negative as well as positive, of teachers have a profound influence on the learner's performance. One element necessary for the development of successful integrated educational programme is the commitment of teachers to the goal of integration (Dupoux, Hammond, & Ingalls, 2006), since teachers are the people who make learning possible. Their own attitudes, beliefs and feelings with regard to what is happening in the school and in the classroom are of fundamental importance. It is accepted that change is challenging and may be perceived as either a threat or an opportunity (Cuskelly, 2000). However, if there are strong attitudes within a school regarding integration, teachers are more likely to rearrange their beliefs to fall in line with the prevailing attitudes of others (Dupoux, Wolman, & Estrada, 2005).

Dupoux et al., (2005) said that, teachers play one of the most important roles in implementing and successfully maintaining integrated education in schools. The reason for this is that they are in direct contact with the learners and interact closely with them on a daily basis. This supported Lomofsky (2001) assertion that, teachers of learners with special educational needs have to be sensitive, not only to the particular needs of individual learners, but also to their own attitudes and feelings. According to Lomofsky, teachers need to develop a critical understanding of stereotypes and prejudices related to disability and reflect on how these have influenced their own attitudes. Integration requires that these learners are not simply thought of with pity, but are viewed more positively, in terms of their abilities rather than their disabilities. All of the above-mentioned expectations from teachers resulted in frustration and discouragement among teachers of learners with visual impairments who already had more work than they could cope with. According to Hatlen (2004), if the teacher of learners with visual impairments does not have the time to either teach or coordinate the teaching of social skills, how will learners who are blind learn them.

In developing countries such as Kenya, Nigeria and Ghana, teachers have not received sufficient training on accommodation and adaptation of methodology in teaching children with disabilities together with their non-disabled counterparts in the same classroom (Hemmingson & Borell, 2001).

Before independence, teacher education in Ghana for instance was characterised by fragmentation and deep disparities (Yekple & Avoke, 2006). The result is that the majority of Ghanaian teachers have been disadvantaged by the poor quality of training they received (Yekple & Avoke, 2006). Furthermore, current approaches in training have been separated into general and specialised education, with the system for learners with special needs focusing on learners with disabilities. According to Yekple and Avoke, teachers working at

all levels within the general system were not required, and therefore not trained, to respond to learners with disabilities. In their view, there appears to be a lack of awareness and skills among existing teachers to deal with diversity among learners and to identify needs in learners and within the system. The need for changes in teacher training should, therefore, be organised around a curriculum that confronts issues of inclusive education and accommodation of diversity in the classroom (Mowes, 2007).

According to Shapiro (2000), teachers need to focus on the following when trying to change their attitudes towards disabilities:

1. Being different is not abnormal
2. Self-esteem of learners is important and should be boosted
3. A relaxed, natural, positive class atmosphere is important
4. It is always fitting to offer your help
5. Students are individuals, not labels.

Three to four decades ago, the stigma of disability was so manifested that relatives were positively encouraged to abandon their children in hospitals for the experts to look after them (Thomas, 2005). It is perhaps too easily assumed that parents leaving their children in such institutions were heartless and unloving. Custodial care offered parents the relief of day-to-day care and removed the stigma of having a disabled family member. Parents taking this choice had to leave their child in the hands of the experts, trusting that they were doing the best thing for them, as there was little contact between the home and the hospital (Murray, 2000). Nonetheless, parents are one of the key elements in inclusive or integrated education (Ainscow, 2005). The contribution they can make to successfully implement and maintain inclusive or integrated education programmes, is precious. Unfortunately, Miles (2000) explained that in spite of the valuable input parents can give to this type of education, many

of them still feel disempowered and insignificant. Parents are unacquainted with their rights in the education of their child and feel that the experts know best. They have been trained and encouraged to hand over complete responsibility of their children's education to the schools. Teachers often judge parents as dysfunctional and the origin of their children's problems (Ainscow, 2008). This creates hostile attitudes in the parents towards the educators. They then avoid the school and teachers as best they can. Engelbrecht, et al., (2005) identified three types of parent behaviours. These include the following:

1. The parents who see it as their right to be involved in their child's education and see themselves in a collaborative partnership with teachers and professionals: they take an active role in the schooling process of their children. They also participate as far as possible in the adaptation of the curriculum, and give clear guidelines on how to deal with their children in the classroom situation. They also set clear expectations for the role of the educator, and insist that teachers inform and guide other learners to deal with their children with a disability. Furthermore, they expect teachers to take responsibility for teaching their children and identifying problems in time.
2. Parents who view the inclusion or integration of their children into mainstream education as a privilege rather than a right. They tend to compromise and take sole responsibility for doing their duty to support teachers and other professionals, and
3. Parents who keep their distance, as they do not want to be labelled as interfering parents. They accept that the school will let them know if there is a problem with the child. Some parents withdraw, because they doubt whether their children will do well. These parents feel that the school has already accommodated their children by reducing class sizes, and they do not want to interfere.

Peer groups' and friends' attitudes towards integrated education programmes

Wager and Bailey (2005) described a friend as someone you have a significant mutual relationship with, someone you want to spend time and share experiences with. The majority of young people, together with those with disabilities, reported that friendships were a key aspect of school life and that negative peer attitudes were generally recognised as being a major barrier to full social inclusion at school for learners with disabilities (Cook, Swain & French, 2000). On this point of social inclusion, Llewellyn (2000) argue that mainstream schools are not always the best option because, in their current state, they are discriminatory and do not allow full access to the curriculum, resources and, perhaps most importantly, friendship networks.

Certain environmental factors have been identified as well: family environmental factors, including parental attitudes toward persons with disabilities, socio-economic status, and ethnicity have been indicated to play a major role influencing learners' attitudes toward their peers with disabilities (McDougall, De Wit, King, Miller, & Killip, 2004).

Gender Differences in Learning and Reading Disabilities

One of the most widely reported differences between males' and females' reading performance is with respect to referral due to reading disabilities. Gender differences in the frequency and severity of reading disabilities is an important, real issue in education (Halpern, 2006). For example, boys are twice as likely as girls to be identified with dyslexia, but boys are much more likely than girls to have milder forms of reading disabilities (Rutter, Caspi, Fergusson, Horwood, Goodman, Maughan, et al., 2004).

Similarly, twice as many boys than girls are identified for referral to educational psychologists (Vardill, 1996), and significantly more boys than girls are found in remedial reading classes (Alloway & Gilbert, 1997). Ratios of boys to girls referred for additional

assistance have been shown to differ depending on the identification method used. Consequently, the ratio of males to females identified with a reading difficulty can vary widely. Using clinical/referral methods, ratios range from 2:1 to 15:1 (boys: girls) (e.g., Vogel, 1990); however, other studies have identified samples that show a ratio as close as 1:1 (e.g., Harlaar, Spinath, Dale, & Plomin, 2005; Hawke, Wadsworth, & DeFries, 2006). Despite these differences due to method of identification, it remains typical to have more boys than girls identified with reading disabilities in the school system.

Shaywitz, Shaywitz, Fletcher, and Escobar (1990) suggested that teachers tended to disproportionately diagnose boys with learning problems, while research-identified criteria identified a more even ratio of boys to girls. School personnel in their study had identified a higher percentage of males in both second (13.6% of boys, 3.0% of girls) and third (10.0% of boys; 4.2% of girls) grades. In contrast, when research-identified methods were used, Shaywitz et al. found no significant differences in the prevalence of reading disability for boys compared with girls in the second (8.7% of boys; 6.9% of girls) and third (9.0% of boys, 6.0% of girls) grades. One of the strengths of this research project was that the research team was able to use a stratified random sampling procedure, ensuring statistically equivalent samples. Based on their research design and the findings, the authors concluded that school-identified samples may be subject to a selection bias based on patterns of behaviour as opposed to strictly academic difficulties (Shaywitz et al.).

In her review of the research on gender differences in typically achieving students and children with a learning disability (LD), Vogel (1990) found a general female advantage for verbal and reading ability in typically achieving children, with gender differences varying according to age, measures used, magnitude of achievement between groups, and variability within groups. Students with learning disabilities had a more varied pattern depending on the

method used to identify LD status (that is, system identified or research-identified). Vogel reported a 4:1 selection ratio (boys to girls) in learning disability programs, and between a 6:1 and 3:1 selection ratio for reading 12 disability diagnoses. Girls with inattention problems were less likely to be identified because their behaviour was not always differentiated from good behaviour, although achievement was low. Vogel suggested that girls would likely have to be more severely impaired or have a larger discrepancy between aptitude and achievement in order to be identified.

A subsequent study of 708 American children investigated the validity of referral programs examining those students who were either test-identified or school-identified for reading failure to (Flynn & Rahbar, 1994). “Teacher-identified” was defined by enrolment in learning disability (LD) and Chapter One (a government-legislated program that provides financial assistance to support students from low-income families) programs, as identification for student placement in these programs relied largely on teacher referral. Teacher-identified students for special assistance exhibited a large gender difference, 2.5 boys identified for every girl for LD programs, while similar percentages of boys and girls were identified for Chapter One programs “(for which qualification depended much more on a selection protocol and standardized measures).

“Test-identified” was defined as referral based on performance on nationally standardized tests. Using the scores from these group-administered standardized tests, between 1.1 and 1.4 boys failed in reading for every girl. This ratio applied both to groups below the 10th percentile and those between the 11th and 30th percentile – that is, the bottom 30% of students (Flynn & Rahbar, 1994). Such results suggest a potential gender selection bias for reading disabilities.

Nonetheless, contrary evidence exists. In a review of four epidemiological studies carried out in Britain and New Zealand, Rutter and his colleagues sought to provide evidence regarding the “nature, extent, and significance of sex differences in reading disability” (Rutter, Caspi, Fergusson, Horwood, Goodman, Maughan, Moffitt, Meltzer, & Carroll, 2004; p. 2007). Each of the studies carried out word reading and IQ tests on the students in their samples, all of whom were between 7 and 15 years of age. Rutter et al. used two methods to calculate reading disability: non-IQ-referenced (lowest 15% of the distribution in reading) and IQ-referenced (participant’s reading ability more than 1 SD below what was predicted by IQ test performance). Contrary to the findings above, in all four epidemiological studies boys had substantially more referrals for reading disabilities than did girls regardless of the method of identification for referral (that is, IQ-referenced or not). It has been suggested that behaviour problems might be interfering with the identification of reading problems and the provision of support. As early as preschool, children exhibit differential social behaviours associated with emergent literacy skills; problems with emergent literacy are associated with aggressive misbehaviour and fewer pro-social behaviours are noted for boys, but not for girls (Doctoroff, Greer, & Arnold, 2006). That is, boys who are experiencing difficulty with early reading act out, while girls experiencing the same difficulty do not. This pattern may contribute to the over identification of boys as learning disabled because of increased negative attention from teachers (Keenan & Shaw, 1997), contributing to cycles of misbehaviour and learning problems that are more visible in boys than in girls (Stowe, Arnold, & Ortiz, 2000).

In an effort to determine whether the origins of reading difficulties were different for boys and girls with severe reading impairments, Hawke, Wadsworth, Olson, and Defries (2007) tested sets of twins (monozygotic/identical, same-sex dizygotic/fraternal, and opposite-sex

dizygotic/fraternal twins). No evidence was found for a different etiology of reading difficulties as a function of gender, suggesting that the same genetic and environmental factors contribute to reading difficulties in both boys and girls.

Addressing the issue of gender differences in literacy

There has been surprisingly little empirical research into the effectiveness of particular interventions to address the gap between girls' and boys' academic performance, or whether some strategies are more appropriate for certain school contexts than others (Gray, Peng, Steward & Thomas, 2004). In order to evaluate strategies that aim to reduce the gap between male and female performance, Younger, Warrington, and McLellan (2002) examined different approaches in place in the British school system at the secondary level. They grouped these approaches into four categories: (i) organizational, (ii) individual, (iii) pedagogical, and (iv) socio-cultural. Organizational strategies were defined as whole-school approaches that attempted to change the culture of the school to one where achievement was the norm, and was celebrated. Individual approaches were those that focused on certain children and involved some type of individual target-setting. Pedagogical strategies involved work at the classroom level and included interactions and dynamics within the classroom as well as teaching and learning styles. Socio-cultural approaches attempted to influence or change "images of laddish masculinity" (Younger et al., p. 393) held by peers, the family, and the community—making it cool and desirable for boys to learn and be intelligent.

The authors found that the four types of strategies were effective in generally improving achievement, but that the gender gap did not consistently narrow at any of the schools examined. Organizational strategies that established a culture of achievement were widely accepted by staff and policy makers. The most effective individual-based approaches gathered performance data to assist in target-setting (e.g., use of data, regular monitoring and

feedback, mentoring). Schools that adopted a socio-cultural approach focused on students who were role models and social leaders, thereby influencing the majority of students indirectly. Unfortunately, the pedagogic approaches were not as well developed as other strategies in this study and it was unclear how these would be operationalized.

Challenges included building capacity in order to fully deliver and sustain these strategies so that they were delivered consistently by all staff and over a long period of time – “most successful innovations only succeed when they are given time to mature, to become established” (Younger et al., 2002; p. 401). Although the initiatives examined were aimed at secondary school students, their common characteristics, as highlighted by Younger and colleagues, can be argued to hold true for elementary education as well: a sense of belonging to the school community; agency for students through responsibility and choice; safety and security within the school; and self-worth as learners.

The Organisation for Economic Cooperation and Development (OECD, 2002) noted that, reading engagement was a stronger predictor of literacy achievement than socioeconomic status (OECD, 2002). Further, there may be important gender differences in terms of reading engagement (Topping, Samuels, & Paul, 2008). Topping et al. conducted a secondary analyses of over three million books read by over 45 000 students. The grade range of the students was between Grades 1 through 12, although the majority of the students were in Grades 1 through 6. At the same time as accessing students’ quantity of reading, the researchers also had access to measures (book quizzes) of students’ quality of reading comprehension. Girls exhibited higher scores in both quantity and quality of their reading as compared to boys, and this difference increased in subsequent grades. More importantly, when boys and girls having similar levels of reading quantity and quality were compared,

“boys and girls achieved similar gains, suggesting gender-specific patterns were not immutable” (p. 514). Closely related to the topic of engagement is that of motivation. In their study of student motivation for reading and writing in Grades 3 to 5 students, Meece and Miller (1999) found few gender differences in students’ goal orientation for reading and writing.

One participant group displayed a difference in work-avoidance scores, with boys scoring higher than girls, but overwhelmingly, motivation was not mediated by a student’s gender. Interestingly, Grades 4 and 5 students displayed decreased levels of task-mastery and performance goals, while work-avoidance scores increased on average over the school year; Grade 3 students displayed a similar pattern of task-mastery and performance goals, although their work-avoidance patterns also decreased (Meece & Miller, 1999).

Oakhill and Petrides (2007) compared the reading comprehension of 10 and 11 year-old boys and girls. They reported that comprehension was significantly affected by the content of reading passages for boys and they performed significantly better on texts they were interested in reading. In contrast, girls’ performance was the same regardless of their interest in the text. The authors also investigated poor comprehenders’ performance, and determined that the relationship between text interest and reading performance remained significant for boys but not for girls, regardless of comprehension level. The finding that boys are often more influenced by the level of their interest in the text has also been previously shown (e.g., Ainley, Hidi, & Berndorff, 2002), implying that “girls are more likely to persist with reading than boys, and do well, even on low-interest texts” (Oakhill & Petrides, 2007; p 231). Oakhill and Petrides suggest that reading tests be made less homogeneous by offering choices of topics and genres, and that they contain both fiction and non-fiction sections, as boys may be encouraged to persist when reading with content they find interesting and motivating. In

addition, they argued that students should be taught the necessary strategies for reading comprehension regardless of personal level of interest.

Gender differences in academic achievement in mathematics

Literature concerning differences in males' and females' academic achievement in mathematics has risen over the past years in the academic field. While some people believe that boys are better academic achievers; others think that girls are equally good achievers. In broad terms, some basic facts have been more or less established in research on gender differences in academic achievement in mathematics.

According to Han and Hoover (1994); and Ma (1999) gender differences in favour of boys in mathematics tend not to appear until high school. They stressed that in early grades differences are either non-existent or favour girls. Lauzon (1999) and Lawson, Penfield and Naggy (1999), share the same opinion with Han and Hoover (1994) and Ma (1999) as they observed that differences tend to appear in standardised tests rather than school grades and tend to be highest among the best performing students. Lawson et al., stressed that the gap in gender difference in mathematics tends to decline with time.

In Canada, a number of national assessments in mathematics, science, reading and writing were administered through the School Achievement Indicators Programme (SAIP) in 1997. The results revealed that there was a significant difference in performance between 13-16 year old boys and girls with boys performing better than girls. The mathematics assessment showed that 13 and 16-year old boys significantly performed better at higher levels in mathematics problem solving than girls. Also, between 1999 and 2000, the Education Quality and Accountability Office in Ontario administered assessment as part of the province's work towards greater accountability in educational outcomes. The assessment showed that more

girls performed better at the upper levels in grade 3 and grade 6, the gap being lower among grade 6 students. In British Columbia, the Foundation Skills Assessment (FSA, 1999) examined whether students met or exceeded expectations or are not yet within expected standards in reading, numeracy, and writing. The results showed that, there was no gap between grade 4, 7, and 10 boys and girls in meeting expectation in numeracy, though the public reports showed that slightly higher proportion of boys exceeded expectations in all grades.

According to Lauzon (2001), the Organisation for Economic Cooperation and Development (OECD) through the Programme for International Student Assessment (PISA) released mathematics, science and reading test results for 15-year olds. The findings indicated that no gender differences in average mathematics and science performance were observed in any Canadian Provinces. Similarly, Zhang and Manon (2000) looked at two standardised tests over two years for grades 3, 5, 8, and 10. They did not observe differences in mean performance on the whole, but did observe gaps among the highest and lowest 10 percent of students. In a similar vein, Han and Hoover (1994), noted that male performance on standardised tests in the United States of America between 1962 and 1992 tended to be more variable and that differences favoured females at the lower end of test results and favoured males at the high end. Lauzon (1999) found similar patterns in the 1995 Canadian Third International Mathematics and Science Study (TIMSS).

Zhang and Manon (2000) found some evidence that “easy” test items are easier for females and “harder” tests items are harder for females. They found that boys did better in structural responses. However other researchers like O’Neil and Brown (1998) and Demars (1998) have not found this evidence. Hyde (2005) examined the effect size of 46 meta-analyses of gender differences in longitude abilities, verbal or non-verbal communication, social or personality

characteristics, psychological personality characteristics, psychological well-being, motor behaviour and other constructs, such as moral reasoning. Seventy-eight percent (78%) of the effect size were in the close-to-zero range or small range. Results for cognitive abilities were mixed, with strong evidence for differences only in the area of spatial abilities. With regard to language and literacy, Feingold (1992) found moderate differences favouring girls in spelling and language while Hyde and Linn (1988) and Hedges and Nowell (1995) reported effect size close to zero in studies in reading comprehension and vocabulary.

In effect size studies of mathematical abilities, Hyde (2005) and Hedges and Nowell (1995) found no or small effect sizes for gender differences in overall mathematics achievement, numerical ability, mathematics computation concepts, and problem solving. In contrast, Linn and Paterson (1985) and Voyer et al. (1995) found moderate to large differences in spatial abilities that favoured males. Coley (2001) reported that the results published by National Assessment of Educational Progress (NAEP) on gender differences in achievement showed that females "out-performed males in reading and writing at all grade levels. On the part of mathematics the results indicated that fourth-grade males scored higher than females on the 1992 and 1996 NAEP mathematics tests across in all ethnic groups, however, gender differences were none existent in grades 8 and 12. Coley further noted that female College-bound students were more likely than males to complete college preparatory courses than males. He states that while females used to lag behind males in number of mathematics and science courses taken, in 2000, they participated in the same or nearly the same number. He observed that across all racial / ethnic groups, except Asians/American students, females were more apt to attend and complete college than males. Forgasz, Leder, and Garner (1999) conducted a study which showed that girls produced better results in some context and are seen to work harder in mathematics than boys. Similarly, they found in another study that

girls were observed as superior to boys in mathematics.

In Ghana, Anongdaare (1983) conducted a study in Bolgatanga District to determine the academic achievement of students in the secondary schools in the Upper East Region. He used the General Certificate Ordinary Level Examination (G.C.E. O^o Level) results conducted by the West African Examination Council and scores from the candidates' end of year promotion examinations. His findings showed that girls performed better than boys at both the G.C.E. „O^o level and the end of year promotion examinations. For instance, the girls obtained a mean score of 250.78 out of the maximum score of 400 as compared to a mean score of 239.4 of the boys. The boys had a standard deviation of 20.01 as compared to 13.95 for the girls. On the part of the end of year promotion examinations, the girls obtained a mean score of 59 while the boys obtained a mean score of 56.30. The standard deviations were 8.6 and 7.9 respectively for boys and girls. He reported that, in both the West African Examination and the Schools Promotions Examination, girls performed better than boys.

Eshun (1999) conducted a study in Ghana on the pattern of mathematical achievement in secondary school in 1993. He observed that boys achieved higher than their female counterparts. However, he noted that the achievement of females in single sex schools were slightly higher than their male counterparts in single-sex schools and much higher than their female counterparts in mixed schools. Again, Eshun, (1999) citing Carpenter, Corbitt, Kepner, Lindsquist and Reyes compared the results of the 1973 and 1978 National Assessment of Educational Progress conducted to assess students' performance in mathematics. The results showed that there was a general decline in performance for the 17-year olds and that the pattern of decline was across almost all categories of problems. Eshun further quoted from a study that was conducted by Randhawa (1991) in Saskatchewan High School for sophomores. The results indicated that males consistently performed better than

girls in mathematics concepts, computation and problem solving.

Leder (1989) conducted a study and the results showed that some girls who are mathematically inclined choose to study something else than mathematics intensive programmes at the upper secondary level. This is however not the case for boys, who to a larger extent irrespective of talent choose the science programme. Emmanuel, Reuterberg and Svensson (2000) made a longitudinal study to establish whether achievement in mathematics differed depending on gender among students at grade six and nine. The study found out that the grades in mathematics from grade nine plays an important role in what programme to study at high school. They stated that there existed hidden systematic gender and social class differences in the choice of programmes. They observed that if there was no difference in grade it was more likely that boys from higher social classes chose to study science than others. They further discovered that girls estimated themselves significantly less successful as learners of mathematics than boys do, in spite of the fact that there was no significant difference in achievement between boys and girls. They opined that low self-esteem could be one of the reasons why girls did not continue to study higher intensive mathematics.

Again, there have been some interesting reported gender differences in students' attributions of mathematics success or failure. Leder (1989) found out that males attribute their success to ability more than females while in contrast females attribute failure to lack of ability more than males. It is reported that success or failure attribution differences appear most relevant when considering the lower proportion of females attempting advanced mathematics and the reported greater incidence of mathematics anxiety in college females compared to males (Meece & Miller, 1999).

Contrary to reports in some studies that males dominate mathematics in terms of ability and performance, Benbow and Stanley (1980) and Rudisill and Morrison (1989) conducted studies which indicated that gender differences are very small and decreasing, with the favour of males, being apparently only in more senior mathematics. The decreasing gender difference is further supported by Victoria Certificate of Education (VCE) results (Bruce, Harrow, & Obolenskaya, 2007).

The findings of Female Education in Mathematics and Science in Africa (FEMSA, 1997) indicate that, there is a widely held perception that boys are higher academic achievers than girls, and that girls cannot cope with science and mathematics subjects or scientific careers. It further remarks that many parents, whether literate or illiterate believe that science and mathematics are difficult and cannot be studied by girls. The report again noted that both educated and illiterate parents often reinforce these views, and male teachers and some parents encourage girls to study arts or business and not science. They even encourage the education of their sons at the expense of their daughters. This clearly violates the principles of the Millennium Development Goals which state in clear terms that any proper educational system should include science and technology and that all students, both male and female, should have equal access to all subjects, have equal opportunities to perform well and should be equally excited by the learning opportunities given them.

In an increasingly technologically and scientifically advanced world, education is the key to progress and is crucial to involve in scientific and mathematical careers. Whether in research, practical technology or industry, it requires a certain level of education. Young people cannot study at higher education level in science, engineering or technology without the requisite basic school-level preparation. It is not possible, for example, to study for a science or

mathematics degree at the university without a background in mathematics. Sukthankar (1999) observed that mathematics competency is essential for advancements into the breadth of post-secondary programmes and careers and that the persons employed in mathematics or science related careers tend to gain more autonomy, higher prestige, and higher pay than do persons in other career domains. Klinger and Ma (2000) agree with Sukthankar (1999) as they indicated that students' mathematical achievements in Secondary School have an influential effect on their performance in college and their future careers. To them, having a solid background in Mathematics helps students develop a sophisticated perspective and offers more career options. They further observed that, the importance of mathematical learning has repeatedly been emphasised by educators and politicians. To them both teachers and parents have paid attention to students' performance in mathematics and their progress every year; and that politicians have also called for improving student overall performances and closing students achievement gaps. They concluded that until teachers and parents recognise what factors influence their students' mathematics achievement and improvement, they would be unable to help make substantial academic progress.

Young and Brozo (2001) observe that educators have relied on many sources of information and focused on various factors that might affect student's mathematical achievements. They identified students' own backgrounds, peer environment, and parental involvement as factors that influence students' achievement in mathematics. Similarly, Ma and Klinger (2000) observed that student's individual characteristic, marital status, and socio-economic status influence students' mathematics progress.

Salvin (2005) is of the view that there is no significant difference in the intellectual ability between boys and girls. Salvin remarked that the gender disparities that are visible are caused by cultural expectations and norms. He concluded that females are traditionally been

discouraged from studying science and mathematics. Zhang and Manon (2000) share the same opinion with Salvin (2005) as they stated that parents' beliefs about their children's abilities can have great effect on the future choice and self-perception of their children. They further observed that female adolescents whose parents reported low perception on their children to succeed in science and mathematics careers were 66% less likely to choose areas in physical science and computing than in non-science. They emphasised that gender differences in mathematics and science careers are as a result of stereotypes which shape parents' beliefs about their children and academic abilities. They concluded that gender bias should be avoided at home and in school and that parents must make effort to change the way they think about gender in order to help their children establish better ideas about gender.

The role of science and mathematics as a crucial factor for the development of a nation cannot be overemphasised. Ghana has therefore placed on its priority agenda, a national drive to develop a scientific culture. Hence, science and mathematics are among other subjects studied at all levels of education; that is Primary, Junior Secondary, Senior Secondary and Tertiary institutions. This is because we live in a scientific and technological era and knowledge in science and mathematics is imperative for every individual. It is even more important to the woman who is a beneficiary of most scientific and technological discoveries in the home and the propagator of scientific culture and literacy.

However, there are misconceptions about girls with regard to the study of science and mathematics. There are beliefs in Ghana that, girls who take science and mathematics have very slim chance of progress. The myth continues that if a woman becomes a scientist, mathematician or engineer, marriage becomes a problem for her; if a woman studies science and mathematics, she ends up in the kitchen; only gifted females can do science and mathematics; science and mathematics are difficult subjects for females; and that engineering

is not a profession for women (Science, Technology and Mathematics Education Report, 1997). The report further noted that, some women in Ghana still feel because they are women they should choose home extension professions, which will make them better mothers and homemakers. For example, such women will prefer catering, hairdressing, teaching, secretary ship and nursing to science and mathematics related careers.

In a similar vein, Anamuah-Mensah (1995) observed that in Ghana, there have been many instances where peers and even teachers brand girls who excel in mathematics, science and technology as witches. He further noted that the low career aspiration for girls in science and technology, as well as the stereotypical views held by employers and the rest of society exacerbate the exclusion of women in science and mathematics related occupations. He observed that there is a general traditional view that women are fragile therefore; they should not be made to perform strenuous activities. He concluded that this notion affects the level of girls' achievement in school.

The 1997 report of the Science, Technology and Mathematics Education (STME) Clinic has revealed that, the national statistics in Ghana indicated that girls' enrolment in the primary school was estimated at 45%. At the junior secondary school level, it is estimated at 41% and 34% at the Senior Secondary School level. This clearly indicates that the proportion of girls reduces, as the level of education gets higher. The statistics indicated that the situation is compounded when subject selection begins at the higher level of education. Girls constitute about 24% of the Senior Secondary School science programme. The report further noted that the situation is even worse in the Northern Region of Ghana where female enrolment in schools is relatively low with high dropout rate. Those who stay in school have phobic reaction to science and mathematics. The report further indicated that students think that science and mathematics are impossible subjects and too difficult to comprehend; thus the

few girls found in second cycle institutions content themselves with arts and business subjects.

Within the past few years English Language has joined mathematics as core subjects in most nations in the world. In Ghana, there appear to be consensus that all children should study English Language throughout the period of compulsory education. There has been little opposition within schools or beyond to this increased prominence of English Language in the educational curricula.

Again, Anamuah-Mensah (1995) observed that in Ghana, there have been many instances where peers and even teachers brand girls who excel in English Language as witches. He further noted that, the low career aspiration for girls in English Language and technology as well as the stereotypical views held by employers and the rest of society exacerbates the exclusion of women in English Language and mathematics related occupations. He stated that there is a general traditional view that women are fragile, therefore should not be made to perform strenuous activities. He concluded that, this notion affects the level of girls' achievement in school.

Also, Danquah (2000) conducted a study to determine gender difference in academic achievement of senior secondary school students in Mathematics and English Language in Cape Coast. In all six schools were purposively selected in which a population of 6,614 students were used for the study. She used the final results of students conducted by WAEC between the periods of 1994-1997. The findings revealed that boys performed better than girls within the period in English Language and mathematics but girls out-performed boys in English Language within the same period. Feingold (1992) argues that differences in means are not enough to give the complete picture of differences in distributions. He remarks that

the differences in the proportion of boys and girls achieving at certain levels may be misleading. He observed that while a slightly greater percentage of girls might perform at or above a given level than boys, considering all students who perform at or above a given level, the average performance might favour either gender. This is particularly so when the levels encompass a wide range of performance such as meeting expectations. He further noted that given the myriad of factors that can affect observed differences between the genders in standardised tests, it is not possible to get a general picture of relative performance of boys and girls from just one assessment. Instead, a large number of assessments in similar content areas and similar designs are needed for a detailed picture to emerge.

Zhang and Manon (2000) remarked that, there has been relatively less attention paid to gender differences in English Language achievement than in mathematics. They suggest that observed gaps are more consistent over time; tend to be strongest in English Language and that the gender gap in English Language has been more persistent than in mathematics. Bruschi and Anderson (1994) found that girls have the early advantage in English Languages and become more substantial with age. They reported that females were favoured in the English Language of nature in all age groups. The Third International Mathematics and English Language Study held in 1995 reported no difference between boys and girls in grades 3 and 4, only a slight difference in grades 7 and 8 in English Language. However it indicated that more substantial differences occurred in the final year of secondary school, particularly in advanced physics.

The 1999 English Language Assessment showed significantly that more 13 and 16-year-old girls performed at higher levels in practical tasks while there were no differences in the written assessment. Lauzon (2001) reported that the Organisation for Economic Co-operation and Development (OECD) through its programme for International Student Assessment

(PISA) released mathematics, English Language and reading tests for 15 years olds. It was found that no gender differences in average English Language performance were observed in any province in Canada.

A UNESCO (2006), report in English Language and technology education indicated that in 2002, there were slightly more female students (51.1%) than male in the public school system in South Africa. However in the national school leaving examination (Senior Certificates) in 2002, boys performed better than girls in English Language and mathematics. It further indicated that the performance of the Vocational Field of Study (FET College) women appeared in greater numbers in all areas of study except for engineering, where there were very few women. The UNESCO report further noted that, a national survey carried out in South Africa of learners' intentions for higher education published in 2002 indicated that only 18% of females surveyed wanted to study broad English Language and technology fields.

Coley (2001) reported that the results of the NAEP and English Language course taken between boys and girls were minimal. He observed that some interventions to improve girls' attitudes towards performance in English Language were effective while others were not. For example, teachers' use of inquiry approach that combined efforts to raise interest and engagement, including appropriate laboratory techniques, problem solving, scientific writing and further study reduced the gap between boys and girls. A physics intervention using an adapted physics curriculum led to the increased achievement among boys and girls but only under a condition involving part-time, single sex-instruction. A chemistry approach that included visual representation of a matter led to better performance by girls.

According to Breakwell and Robertson (2001), a study was conducted in the United Kingdom

to examine whether difference in attitudes towards English Language between males and females aged 11-14 years had changed over a 10-year period. The study was replicated in 1997 - 98. A questionnaire survey was first conducted in 1987 - 88 drawing samples from the same schools used in the initial research. Data from the two surveys were compared. Both surveys found that in comparison, females liked English Language less. It further reported that females performed worse in English Language, participated in fewer extracurricular, scientific activities and had more negative attitudes to English Language in general. Furthermore, the findings showed that there were no significant interactions effects between the gender periods.

Some research on the biological explanation of gaps in performance suggested that differences in brain structure, hormone production, and or maturation rates might account for girls' greater advantage in school - related task. Such research showed that the parts of the brain responsible for processing verbal information and permitting the exchange of information between hemispheres are more highly developed in girls (Kimura, 2005). Viadero (2006) agrees with Kimura when he states that girls demonstrated earlier development in the brain regions responsible for impulse control, and in general, matured earlier than boys. However, the extent to which these biological differences manifested themselves in behavioural differences and had implications for teaching practices was unknown.

An alternative group of explanations emphasised the role of social environmental variables such as home and classroom factors in academic development. Newkirk (2002) is one of those who argued that boys fall behind girls academically in school because classrooms were "feminised" environments in which teacher attitudes, classroom rules and learning tasks favoured girls. He stressed that boys failed to invest in reading and writing because they

perceived these as feminine activities. He stated that factors that may lead boys to view literacy as feminine activity included the prevalence of women in elementary teaching as primary preference in reading materials were not reflected in the type of reading materials available in classroom and libraries.

The cognitive process taxonomy

Another method of addressing the gender gap in literacy and numeracy performance is to step back from an examination of student ability as a function of academic performance and examine differences between males and females with respect to the cognitive, or thought, processes involved when answering questions. The cognitive process taxonomy, developed by Halpern (2004), attempts to formulate an understanding of student performance via cognitive gender differences. Halpern argues that both boys and girls have differential strengths and weaknesses in problem solving. With respect to reading and writing, Halpern categorizes underlying cognitive skills as follows.

- a. Boys perform better on tests of verbal analogies, which involve mapping verbal relationships in working memory, as well as tasks involving transformations in visio-spatial working memory.
- b. Girls are able to more rapidly access phonological, semantic, and episodic information from long-term memory; they show the largest advantages in other memory tasks, as well as a strong advantage in writing.

Halpern's approach also addresses the differing levels of performance of boys and girls due to type of test: girls tend to receive higher grades in school, especially when the teacher's test material closely resembles what was taught, while males obtain higher marks on standardized tests, where test material tends not to be as similar to what was taught in class (Halpern, 2006). Halpern dismisses the suggestion that this difference is simply due to girls' learning being more rote than boys, noting that girls' superior performance in writing constitutes a

“highly creative act” that is above and beyond rote learning (Halpern, 2006; p. 645). Halpern (2006) argues that biological and environmental influences may be too closely intertwined to be isolated, making the gender gap a difficult one to address.

Nature and nurture do not simply interact; they mutually influence each other in cyclical ways. She cites the psycho-biosocial model as a theory that best accounts for differences between boys and girls (Halpern, 1997). This model is based on the notion that, as above, it is impossible to separate biological and psychosocial (i.e. environmental) influences, and that that all children can improve in every ability area with appropriate instruction (Halpern, 2006).

Implication of earlier researches reviewed on integrated education programme for the current study

The earlier research studies by Buell, Hallam and Gamel-McCormick (1999), Davis and Watson (2001), Nowicki and Sandieson (2002), and Bruce, Harrow and Obolenskaya (2007), exposed some gaps. Firstly, the inadequate training of teachers for the introduction of the integrated programme as indicated in Davis and Watson (2001) contributed to teachers’ lack of skill in the adaptation of instruction, methods, equipment, and materials as evident during the study. Also lack of an effective on going in-service training for teachers have made them incompetent in handling the students with visual impairment. Success of the mainstreaming programme depends to a large extent on adequate preparation and on-going education for the teachers. Secondly, it was clear that the inadequate provision of support services for teachers and students impact negatively on the academic performance of the visually impaired students. This was a source of worry to the teachers and visually impaired students. Another source of concern was the lack of basic materials such as large print books for use by the students with visual impairment. All these problems did not bring about effective teaching and learning in the mainstreamed classes. Finally, the inadequate provision of equipment and

materials affected teaching and learning in the schools especially the visually impaired students. Further, Buell, et al., (1999) and Bruce, et al., (2007) also identified the negative attitude of teachers and non-disabled students towards students with visual impairment in the regular classrooms as a barrier to social inclusion of such students. In as much as this present study cannot address all these pertinent issues, it sought to narrow the gap by providing concrete information on the extent to which Integrated Education Programmes influence the academic performance of students with visual impairment. The current study have also suggested valuable ideas that will help bridge the gap with regard to adaptations, accommodations, modifications and implementation of integrated educational programmes.

Summary of Reviewed Literature

The present study reviewed literature on the theoretical framework that explains the concept of inclusive education of children with disabilities. Also reviewed were: (a) Historical factors influencing Integrated Education Programme (IEP) for visually impaired students in regular schools, (b) strategies for the placement of the visually impaired in regular education classrooms, (c) resources for students with visual impairment, (d) support services for children with visual impairment, (e) challenges confronting the integrated education programme, and (f) influence of integrated education programmes on the academic performance of the visually impaired and (g) gender disparities in mathematics and English language learning.

From the review, achievement in the technological advancement and the improved legislation in some countries opened the way for better provision of education to children with disabilities. As a result provisions were made available for a successful implementation of inclusive education by stakeholders. However, there are few challenges with integration/inclusion. Integration has not been accompanied by changes in the organization of the ordinary school, its curriculum, teaching and learning strategies.

It emerged from reviewed literature for instance that, regular schools and regular classroom environment have failed to accommodate the educational needs of many students, especially individuals with disability. Reviewed literature further show that, regular class teachers were not trained in techniques for including children with disability and do not share responsibilities with others, therefore have no change of attitude.

With so many citing and attempting to illuminate the gender gap in education, it is certainly likely that a difference between girls' and boys' performance in mathematics and English language exists. Girls have been shown to have a significant and consistent advantage in literacy rather than numeracy from an early age over boys, and this advantage is found not only in North America and English-speaking countries, but internationally across cultures and languages. However, these gender differences may not be consistent across the range of abilities. Of potential importance, boys are generally more variable in their literacy and numeracy performance, and constitute a greater proportion than girls in the lower ends of the distribution in literacy and numeracy achievement.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter focuses on the methods that were used in collecting data for the study. It consists of the research design, the population, sample and sampling technique, research instruments, access, ethical consideration, pilot study, procedures for data collection and data analysis.

Research Design

This study used the evaluation research design.

Methodology

This study used both qualitative and quantitative methods of data collection and content analysis. Evaluation research with qualitative methods of data collection lays emphasis on holistic description, that is, description in detail of what goes on in a particular activity or situation rather than comparing the effects of a particular treatment as it prevails in experimental research while the quantitative methods of data collection entails the use of post positivist claims for developing knowledge (i.e. Cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and test theories), employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data (Creswell, 2003). Taking the aim of the study into consideration, thus investigating the effect of the Integrated Education Programme (IEP) on the academic performance of pupils with visual impairment in the Hohoe Municipality, it is the most appropriate design that could lead to the drawing of meaningful conclusion.

Population

The population comprises all children including visually impaired students with varying degrees of impairment and their teachers in the integrated basic schools in the Hohoe Municipality. In all, a total of 960 students and teachers of 10 Basic Junior High Schools in the Hohoe Municipality were considered for the study. The 10 schools were chosen for the study because they constitute the basic schools implementing the integrated programme for visually impairment students in the Hohoe Municipality.

Sample and Sampling Technique

The sample for the study comprised 50 respondents drawn from 5 integrated schools in the Hohoe Municipality. This consisted of 20 teachers including 5 head teachers, 5 itinerant teachers, and 25 pupils with visual impairment (13 boys and 12 girls). Purposive sampling technique was used to pick all 25 pupils with visual impairment and the 20 teachers including head teachers, and all the five itinerant teachers. This sampling method was used because the researcher intended to collect data from people who were directly included in the integrated education programme. Table 1 presents distribution of sample by school and category of respondents.

Table 1: Distribution of Sample by School and Category of Respondents

Category of Respondents by Gender					
School	Teachers	Itinerant Teachers	VI Boys	VI Girls	Total
District Council JHS.	6	1	3	3	13
Zion JHS.	4	1	2	3	10
New Town L.A JHS.	3	1	1	1	6
Lolobi RC JHS	4	1	5	4	14
Ve- koloenu EP JHS	3	1	1	2	7
Total	20	5	13	12	50

Research Instrument

Instruments used for data collection were interviews (focus-group) and teacher made test. The researcher's rationale for using these instruments was to conduct an in-depth investigation and understanding of the problem.

Focus-group Interviews

The interview schedules for teachers and pupils were designed by the researcher and approved by the supervisor. The interview schedules consisted of eight (8) questions, two questions each under four main themes developed from the research questions. The main difference between the interview schedules for teachers and that for the pupils is in the type and nature of questions asked. For instance, certain items on the professional competence of teachers were limited to them. Generally, however, the interview schedules for teachers and pupils revolved around the same themes. Common items on the interview schedules for teachers and pupils included strategies for placement of pupils with visual impairment, available resources, influence of the IEP on academic performance of the VI, and academic performance for before placement and after placement.

On the part of pupils with visual impairment, they were put into five focus groups with respect to their schools. These pupils from each school were interviewed separately on the same day, but at different times. Teachers were also put into two groups, while the head teachers were separately interviewed the same day it was conducted on their students. Since the interview reported directly or paraphrased in some cases what has been said by the respondents, it was deemed appropriate.

Test Scores

In order to establish the academic performance disparities that existed between pupils with visual impairment on the IEP before placement and after placement, term 3 examination

results of two subjects (Continuous Assessment records for English Language and Mathematics) of the 2011/2012 (before placement scores) and 2013/2014 (after placement scores) academic years were compared. The researcher analysed the examination scores of the pupils (i.e. pupils with VI before and after placement) by ranking the scores and finding the average scores using Microsoft excel.

Pilot Study

A pilot study was carried out in one integrated school (Hohoe-Adabraka Junior High School) which was not part of the original study. A total of three (3) teachers including the head teacher and two (2) pupils with visual impairment were picked for the study using purposive sampling. Results of the pilot study showed that, the questions were easily understood by the respondents, except phrases or vocabularies such as “learning needs” and “placement”, which were clarified.

The researcher found the pilot study to be very useful because it helped especially in the modification of some items and the restructuring of the instruments. For instance, some items were also rewritten to give the respondents clearer meaning. All these modifications helped the researcher a great deal in conducting the main research.

Access

Before data collection, the researcher visited the participating schools to schedule meetings with the respondents. During the visit, the plan for data collection was discussed with the respondents. The instruments were sent on the scheduled date and administered to the participants personally by the researcher.

Ethical Considerations

There were some basic ethical considerations that were made to protect the rights of respondents. Firstly, a letter of introduction from the Department of Special Education of the

University of Education, Winneba indicating the researcher's intention to conduct a study was sent to the selected schools (see appendix A). This was sent to the head teachers of the selected schools to subsequently inform the teachers. The intention of this letter, in addition to a covering letter from the Municipal Education Directorate was to seek the cooperation of the teachers during the study. During the first visit, the respondents were briefed about the study and their consent sought prior to their participation, and assured them of the necessary confidentiality on the information to be gathered. After the study, an appreciation letter was sent to the participating schools to thank them for their co-operation and full participation.

Procedures for Data Collection

Preliminary contact with the selected schools was made and permission sought from the District Education Directorate at Hohoe for the researcher to conduct her study in the integrated schools.

Interview data

The researcher visited the schools while they were in session and conducted the interviews personally. Semi-structured open-ended interview schedules were used for the respondents in their categories separately (see Appendix B). Concerning the student respondents, their break period was spent to conduct interviews for the group. On the part of the teachers and head teachers, the researcher met them at different times to administer the interviews. In all, 10-15 minutes was spent on each of the interviews. During the interviews, the researcher kept his language at the level of the interviewees especially for the pupils. The responses were recorded with prior approval of the respondents. The perceptions of interviewees and their non-verbal communication were noted for analysis and interpretation.

Data Analysis Procedure

Data gathered from the two instruments were analysed accordingly.

Analysing interview data

This process involved the recording, transcription and analysis. Data collected during the interviews were put under themes to reflect the research questions. The analysis for this study was done in a descriptive and narrative manner rather than quantitatively. Content analysis involving identifying coherent and important themes and patterns in the data was employed. Sometimes, this involved pulling together all the data that addressed a particular question. For instance a question on the positive impact of IEP on the schools were pulled together to determine the trend of responses. Some verbatim responses were also presented as the respondents have expressed them. In the final stages of the analysis interpretations were given on what was discovered explaining the events and attaching significance to what was found.

Analysing student test scores

In this analyses, the examination scores of the students in both English Language and Mathematics (continuous assessment records) were recorded and ranked by performance (see Appendix C) : scores for before and after placement were recorded alongside in percentages, after ranking the scores they were categorized into two (male and female pupils) , the average scores were calculated using Microsoft excel.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Introduction

This chapter provides the analysis and discussion of findings of the study. It has two main sections; the first section provides the analysis of the data while the second section presents the discussion of the findings according to the research questions. The study aimed at investigating the effect of the Integrated Education Programme (IEP) on the academic performance of visually impaired students in the Hohoe Municipality. The study sought to answer the following research questions:

Research Question 1

What strategies are used in the placement of the visually impaired on the IEP in the Hohoe Municipality?

The main focus of this research question was to know the specific strategies that are used in the placement of the visually impaired on the IEP in the Hohoe Municipality. Research question one was analysed based the themes that emerged from the responses from participants and these are discussed below:

Designed activity for IEP

One pertinent issue that emerged from the interview had to do with designed activities for IEP. The responses from a resource teacher for the IEP revealed that all pupils placed on the programme go through the process of assessment: One IEP teacher remarked:

“Before a pupil is enrolled on the programme we take the child through a lot of examination both educationally and medically. We call it assessment. What we do is, we first screen the child using our techniques’ to detect blindness, and then when we suspect the child has a problem with the eyes, we give a referral to the eye hospital. The child under goes the medical assessment at the hospital and if he/she is certified blind legally, then we can now draw an IEP and place that child on the programme” (IT- 1 from focus group B)

It is evident from the comment above that; assessment plays an important role in the placement of children with visual impairment on the integrated education programme (IEP). In as much as children with disabilities have a right to educational programmes and services, the IEP in the Hohoe municipality also adheres to the basic rights of their learners with visual impairment by offering them the necessary services that will help identify and remove societal barriers such as prejudices and stereotypes, inflexible organizational procedures and practices etc. before placement as embedded in the social model of disability. According to Dimigen et al. (2001) the decision to place a student on an alternate programme such as Integrated Education Programme is made by a team of specialists. The IEP in the Hohoe Municipality equally makes use of a team of specialists in the assessment process as indicted in the statement above.

Furthermore, one head teacher for example noted as follows:

“We the teachers have undergone in-service training as to how to handle the Visually Impaired pupils whiles teaching. One of the things we do is to read out aloud whatever we write on the chalkboard for the pupil to know what exactly is going on in the classroom. We even spell out the words at times” (HT- 1).

Apart from assessment, reading and spelling out aloud, some class teachers also talked about how they give out tape recorders to the pupils during the learning period for recoding and transcribing later. Indeed one remarked as follows:

We have been provided with tape recorders based on the number of pupils integrated in our school. This means that each low vision or blind child has access to a recorder. We give them out to our pupils whenever we are teaching them, to tape record so that they can write their notes later in braille and also revise (CT- 2 from Focus group B).

Further on issues pertaining to peer learning as one of the strategies of the IEP, a pupil with visual impairment exclaimed:

“We actually enjoy learning with our sighted peers. Some of them take their time to explain to us what the teacher had taught and even read the textbooks for us to tape record and listen to whenever we need it” (VI-C from Focus Group 1).

It was apparent from the responses of both the teachers and the pupils that, varying designed activities have been put in place to accommodate the pupil with visual impairment into the mainstream schools. This is in line with the social model of disability which talks about limitations for persons with disabilities due to the way society is organized, once classroom activities are designed to suit the needs of children with visual impairment in the Hohoe Municipality, these children will function efficiently alongside their sighted peers. Schmidt and Cagran (2008), in their study, also observed that students who are visually impaired may need various accommodations and adaptations to access the prescribed curriculum. According to these authors, the student's age, visual condition, type of class setting, and academic abilities all play a part in determining general accommodations/adaptations needed. Hence there is a need for satisfying all the above conditions for a successful integration of the child with visual impairment.

The teaching and learning process

Another area of concern under the strategies for placement was on the teaching and learning process. Although most classroom teachers affirmed the issue of reading and spelling out aloud to benefit pupils with visual impairments, a few had a different view about it.

The following responses pointed at some prevalent difficulties.

Yea you see, it not always you will remember to read or spell out every word you are writing on the board. You just can't help it that is why they have sighted peers sitting by them to help them" (CT -5 focus group A).

Another teacher stated:

"Actually it becomes very difficult some times when you are teaching geometrical figures in mathematics to describe most of these shapes to the understanding of these children. In my view I don't think they should study mathematics" (CT -3 from Focus group B).

A pupil with visual impairment in Focus Group 4 noted:

"Madam some of the classroom teacher but not the resource teachers they always tell us to copy from our sighted friends after the lesson, whenever we asks them to read out or spell a word for us. When we ask our friends sometimes they don't do it for us. They say their busy, so we don't get the full notes" (VI A from Focus group 4).

It was evident from the focus group discussion that even though the project had made efforts to put in place some strategies to promote inclusive education, some particular class teachers had certain inherent prejudices against the pupils with visual impairment on the IEP in their various schools. However, some pupils with visual impairment were of the view that, their sighted peers need to be educated on their abilities and disabilities.

One pupil with visual impairment commented:

“If our resource teachers can come and talk with our sighted classmates and teachers about our problems, I know a lot of them will help us more if our teacher asks us again to go to them” (VI- C form Focus group 5)

Although majority of the interviewees were following and practicing the laid down strategies a few were not. The use of the words “**them**” “**these**” “**they**” included in the statement of two class teachers above, demonstrated how uncooperative and unwilling some teachers are to adapt towards the inclusion of visually impaired pupils in the regular schools in the Hohoe Municipality. From the analysis above one can clearly state that, instead of removing barriers in the classroom for the efficient functioning of the visually impaired child on the IEP, some teachers are deliberately creating barriers not just physical but attitudinal barriers found in society based on prejudiced or stereotype which is in line with the social model of disability which also identifies systemic barriers, negative attitudes and exclusion by society (purposely or inadvertently) that mean society is the main factor in disabling people. While physical, sensory, intellectual, or psychological variations may cause individual functional limitation or impairment, these do not have to lead to disability unless society fails to account of and include people regardless of their individual differences.

Inclusionists believe that words simultaneously reflect and reinforce attitudes and perceptions. Many “disability labels” bring to mind images and feelings that maintain negative stereotypical perceptions. These perceptions, in turn, create powerful attitudinal barriers to inclusion or integrated education (Swart, 2004). Swart further outlined, it is the responsibility of the regular classroom teacher to give the child with visual impairment the same attention and help as will be given to the other children in the classroom. The teacher does not need to make special rules or require less work from the child with visual impairment. In his view, children with visual impairment are not different. They have the

same needs, wants, and feelings as sighted children, and therefore be treated the same as the sighted child. Nonetheless, children with visual impairment need some other resources to be able to function effectively.

From the foregoing discussions, it could be observed that only the initial educational and clinical screening strategies that are used to determine the eligibility of a child to be placed on the integrated education programme in the Hohoe municipality are being adhered to by mostly itinerant/resource teachers, a few classroom teachers and Head teachers in the inclusion of the pupil with visual impaired on the IEP. The specific strategies that are laid down for co-existence of the pupil with visual impairment with his sighted peers in the regular classroom have been overlooked by especially regular class teachers, and hence inhibiting the learning progress of the Visually Impaired students in the regular schools.

Research Question 2

What resources are available for the visually impaired pupils on the IEP?

This sought to examine resources made available for the visually impaired pupils that enhanced their learning process. From the statements of respondents there were two main resources human and material resources.

Human resources and their mode of operation

The following comments encapsulate the view point of one respondent with regards to adequate human resource, which was an emerging theme.

“We are specially trained by the initiators of these projects (sight savers international) to help the classroom teachers through in-service training to adopt appropriate teaching methods in teaching our children” (IT- 4 from Focus group A).

Another class teacher noted:

“The pupils with visual impairment do have remedial lessons with the itinerant resource teachers even after we have taught them with the whole class. This shows that they have greater opportunity to re-learn what have already been taught to the whole class with specialist” (CT-4 from Focus group B).

Similarly, a pupil with visual impairment in Focus Group 3 remarked:

“Yes we sometimes understand better than our sighted friends because after our general class we come back to the resource centre to discuss with our resource teacher” “Sometimes the ophthalmic nurse comes to check our sight and also provide us with corrective lenses and eye drops” (VI- B from Focus group 3).

From the comments of the respondent, a lot is being done to see to the provision of human based resources to successfully run the IEP in the municipality. One important professional in the implementation of an IEP programme is the Itinerant Teacher whose duty primarily is to provide support to children, teachers and parents. Clearly, one can say that the itinerant teachers on the IEP in the Hohoe municipality are satisfying the needs of pupils with visual impairment by removing barriers and making learning alongside sighted peers meaningful. According to Cheney (2000), the Itinerant Teacher encourages realistic understanding of the individual child’s needs and abilities, thus helping the child realize his or her highest potential. Some other aspects of the role of the Itinerant Teacher in McKenzie and Lewis (2008) view are to recommend any child suspected of having a vision problem to be checked by an ophthalmologist or optometrist and recommend that any child with a known visual impairment is seen regularly by an ophthalmologist or optometrist. Another, emerging issue on the resources available was on the material resources that go hand in hand to complement the human resource provided on the programme.

Material resources and their mode of operation

All pupils with visual impairment on the programme commented positively on how material resources like the CCTV (Close Circuit Television) which is mainly used by low vision children help the low vision to be able to read text/ prints exactly as it looks by adjusting the font size to suit their needs. The frame and the stylus were not left out, since it is the basic writing tool for both the blind and the low vision child. The Perkins braille which is also used to type and embossed braille text was also mentioned. Finally the tape recorders which they use to tape record and replay to revise as well as contact lenses/magnifying glasses were also commented on.

One Pupil in Focus Group 5 noted:

“The CCTV enhances my learning, because I have low vision; I use it to read the print text to my colleagues who are blind whenever we come to the resource room” (VI- B from Focus group 5).

Another pupil remarked in Focus Group 2 stated:

“I also have low vision but we have only one CCTV, so whenever my friend is using the device I just have to listen to what he is reading or wait for him to finish so I can also learn mine” (VI- E from Focus Group 2).

Also, another pupil commented from Focus Group 1:

“Although we all use the frame and stylus because it is our basic tool for writing, we will also prefer to use the Perkins brailleur instead since it promotes faster typing and embossing than the frame” (VI- D from Focus Group 1).

The responses of the respondents pertaining to the available resources show that, there are inadequate material resources to meet the unique need of each child. The provision of appropriate reading materials greatly depends on the degree of impairment, and that is exactly what is lacking in the Hohoe Municipality. Children lack material resources based on the degree of their impairment and technological advancement, hence making access to writing

and reading as normal as their sighted peers a bit difficult. This means that, the barriers that will inhibit the pupils with visual impairment from reading and writing is still being caused by society. If pupils with visual impairment have been provided with adequate and unique teaching and learning aids by the stakeholders as being argued by the social model, these would not have led to disability (inability to read and write) equally alongside sighted peers. This is also in line with the sayings of McKenzie and Lewis (2008), placing a child with visual impairment in a regular classroom and not providing the necessary support services does not constitute integrated education. This again shows that, though the designed activities for the IEP in the Hohoe municipality was appropriately laid out for the successful Integration of the pupil with visual impairment in the Hohoe municipality, the provision of material resources is inadequate to satisfy the conditions for integration.

To conclude the above discussion on the availability of resources to run the integrated education programme for pupils with visual impairment in the Hohoe municipality, it can be clearly stated that in terms of human resources adequate provisions have been made to cater for the programme despite a few lapses coming from the attitude of some classroom teachers. On the other hand, material resources for the pupils are inadequate coupled with the fact that some are outmoded considering technological advancement of learning materials for the blind nowadays.

Research Question 3

How does the IEP Influence the academic performance of the pupils with visual Impairment before placement and after placement on the IEP in the Hohoe Municipality?

In response to research question 3, the interviewees commented on both the positive and negative influences that came with IEP.

Positive impacts of IEP visually impaired

For most of the respondents, the IEP has helped to enhance the teaching and learning process of pupils with visual impairment in the mainstream school.

According to one teacher:

“IEP has helped the Visually Impaired child to contribute meaningfully to lessons in the classroom” (CT- 2 in Focus group B).

Another teacher stated:

“Those who are academically good are given the opportunity to express themselves and compete with their sighted peers” (CT- 9 in Focus group A).

Furthermore an itinerant teacher for IEP had this to say:

“The classroom is adapted to suit the conditions of the child with Visual Impairment through the provision of items like special exercise books with deepened line, font enlargement of text books, special sets of furniture, remedial lessons etc. all these makes the child comfortable to some extent and hence enhances their performance in the classroom”. (IT- 4 in Focus group A)

A pupil with visual impairment in Focus Group 4 also had this to say:

“The help given to us by our teachers and resource teachers makes it easy for us to understand most of the lessons taught. We even explain some of the topics to our sighted colleagues and they also help us with the reading and recording print text” (VI- B in Focus Group 4).

From the comments of the pupils, learning alongside their sighted peers is regular for the visually impaired on the IEP. This means that, to a large extent the IEP in the Hohoe municipality has made learning easier in the new environment for the pupils with visual impairment. The sighted peers also have accepted the difficulties faced by the pupils with visual impairment and are ready to help them with the academic work. Also from the comments of the respondents, the sighted peers, class teachers and the itinerant teachers have

accepted the limitations of pupils with visual impairment and are ready to help them overcome in the mainstream schools. Suffice this to say that assistance offered by the sighted peers, class teachers and the itinerant teachers to pupils with visual impairment actually buttress the thought of the social model as propounded by Mike Oliver in 1983 which talks about access to an enabling environment which makes persons with disability to function effectively within their social environment. Further comments on the influence of IEP on the academic performance of the pupils with visual impairment revealed some setbacks/challenges.

Setback/challenges

There was some evidence that a few setbacks were encountered that hindered the full potentials in the performance of pupils with visual impairment

An Itinerant teacher noted:

“Inadequate funds to train more regular teachers to complement the resource teacher’s efforts are one of the reasons why pupils cannot unleash all their academic potential” (IT- 2 in Focus group A).

Another also stated:

“Non-availability of a well-equipped resource room in the practicing schools makes it difficult for the (VSS) volunteer support staffs in the schools to function effectively” (IT-1 in Focus group A).

A regular teacher also commented:

“These children take a long time to master the usage of devices, this derails the course structure of the regular timetable due to the extra time needed to teach the blind”(CT-10 in Focus group B).

One factor that has consistently been a concern to most of the regular teachers is the time taken by pupils with visual impairment to comprehend fully during the teaching and learning process. From the responses above, one could clearly state that regular/mainstream teachers

lack the techniques and training required to teach the pupils with visual impairment alongside their sighted peers. According to Yekple and Avoke (2006), teachers working at all levels within the general system were not required, and therefore not trained, to respond to learners with disabilities. In their view, there appears to be a lack of awareness and skills among existing teachers to deal with diversity among learners and to identify needs in learners and within the system.

Inadequate funds to train more regular teachers, non-availability of a well-equipped resource room, and time taken to master device usage notwithstanding, the hindrances to the effectiveness of the IEP in the Hohoe municipality are caused by societal factors just as stated in the social model of disability which identifies systemic barriers, negative attitudes and exclusion by society purposely or inadvertently as the main contributory factor in disabling people. The few setbacks were not attributed to the type of disability a child on IEP has, but rather on the failure of the system to adequately make provisions to resolve the setbacks that have been identified. This situation in the Hohoe Municipality agrees with the social model of disability's school of thought which sees an impairment of pupils with visual impairment as a cause of environmental limitations but contradicts the following statement; Realizing the importance of integrating children with special needs in the regular schools, integrated education programmes (IEPS) has made adequate provisions for educating children with special needs (Engelbrecht, Green, Naicker, Engelbrecht, 1999 cited in Engelbrecht & Green, 2001), as compared to the state of the IEP in the Hohoe municipality of the Volta region.

In finding out how the IEP influences the specific academic needs towards the performance of pupils with visual impairment, the following conclusion were drawn from the responses of the respondents. Positively, the IEP has made an impact on the academic performance of the pupils in that there was an awareness/education created within the mainstream environment

hence the environment and people adapted to accommodate pupils with visual impairment and hence an improvement in their academic performance. On the other hand, the existence of some preventable hindrances caused by human errors would have further improved on the academic performance of the pupils on IEP in the Hohoe municipality.

Research Question 4

What is the state of academic performance in English language and Mathematics among pupils with visual impairment before and after placement on IEP in the Hohoe Municipality?

This research question was analysed using data on scores obtained, 20 percent of 4 class exercises of 5 marks each, 30 percent of 3 class tests of 10 marks each from continuous assessment and end of term exam scores of 50 percent all summing up to 100 percent over a period of 2 years (2011/2012 before placement scores and 2013/2014 after placement scores).

Table 2: Summary of Placement Scores for Pupils with VI Before and After in

Mathematics			
	N	Mean (\bar{x})	Standard Deviation (S)
Before Placement	25	60.48	10.89
After Placement	25	63.84	11.51

Table 2 shows a summary of placement scores for pupils with visual impairment before and after placement on the IEP in Mathematics. From Table 2, the results suggest that pupils with visual impairment improved in performance in Mathematics after being placed on the IEP. The mean score for the before placement scores is 60.48, while the after placement scores show a mean score of 63.84 suggesting an achievement result interval of 3.36 on the IEP over before placement scores. The mean difference between the before placement scores and after placement scores may not necessarily be statistically significant. However, the before

placement scores and after placement scores are within 3 standard deviations of the mean $(\bar{x} \pm 3S)$ which agrees fairly with the Chebyshev's rule of interpreting standard deviation.

Table 3: Summary of Placement Scores for Pupils with VI Before and After in English

	N	Mean (\bar{x})	Standard Deviation (S)
Before Placement	25	56.24	10.99
After Placement	25	60.68	12.14

Table 3 shows a summary of placement scores for pupils with visual impairment before and after placement on the IEP in English language. From Table 3, the results have proved that VI students improved in performance in English Language after being placed on the IEP. The mean score for the before placement scores is 56.24 while the after placement scores shows a mean score of 60.68 showing an achievement result interval of 4.44 on the IEP over before placement scores. The mean difference between the before placement scores and after placement scores may not necessarily be statistically significant. However, the before placement scores and after placement scores are within 3 standard deviations of the mean $(\bar{x} \pm 3S)$ which agrees fairly with the Chebyshev's rule of interpreting standard deviation.

It is evident from the results in Table 2 and Table 3 that, if pupils with visual impairment are placed on tailored programmes such as the IEP they might perform better academically learning alongside sighted peers with the needed support. This means that the support that the child needs for education should be available in schools (Davis & Watson, 2001). In Davis and Watson's view, it also implies capacity building of teachers, parents and communities to negotiate with the education system and for governments to develop policies wherein such inclusion is perceived as a vital element of the education system. The improvement in performance by pupils with visual impairment on IEP in the Hohoe municipality also ascertain to the fact that when all kinds of barriers are removed by the sighted environment

for the pupils with visual impairment, they will function effectively and unleash their full potentials as has been argued by the social model of disability that identifies systemic barriers, negative attitudes and exclusion by society (purposely or inadvertently), that mean society is the main contributing factor in disabling people. While physical, sensory, intellectual, or psychological variations may cause individual functional limitation or impairment, these do not have to lead disability unless society fails to account of and include people regardless of their individual differences (Oliver, 1996). One other cause for the improved performance on the IEP is linked to the strategies that were put in place by the programme initiators. Some of the strategies as outlined by the interviewees can be linked to that of Younger, Warrington, and McLellan (2002) who examined different approaches in place in the British school system at the secondary level. They grouped these approaches into four categories: (i) organizational, (ii) individual, (iii) pedagogical, and (iv) socio-cultural. Organizational strategies were defined as whole-school approaches that attempted to change the culture of the school to one where achievement was the norm, and was celebrated. Individual approaches were those that focused on certain children and involved some type of individual target-setting. Pedagogical strategies involved work at the classroom level and included interactions and dynamics within the classroom as well as teaching and learning styles. Socio-cultural approaches attempted to influence or change “images of laddish masculinity”. In the case of the IEP in Hohoe Municipality; (i) organizational strategies such as assessment before placement with age appropriateness and parental concern was a critical component of the programme, (ii) The child is considered as an individual with unique needs and given appropriate tasks. Children are given assistive devices to aid their learning, (iii) Pedagogical strategies involve reading aloud when teaching and writing on the board, tape recording as well as remedial teachings when necessary, and (iv) the socio-cultural approaches involves the education on mainstreaming and later placing pupils with visual

impairment in the regular school, training of teachers and resource teachers to demystify superstitions about blindness and education of the blind.

In a nutshell from the analysis, the state of academic performance in English and mathematics by pupils with visual impairment on IEP in the Hohoe Municipality has improved statistically by a margin of 3.36 percent for mathematics and 4.44 percent for English, over a period of 2 years after placement on the programme.

Research Question 5

How do male and female pupils with visual impairment perform in English language and Mathematics on the IEP in the Hohoe Municipality?

Table 4: Summary of After Placement Scores for Boys and Girls with VI in

Mathematics			
	N	Mean (\bar{x})	Standard Deviation (S)
Boys	13	61.62	8.43
Girls	12	63.67	14.07

Table 4 shows a summary of placement scores for boys and girls with visual impairment after placement on the IEP in Mathematics. From table 4; the results have proved that girls with visual impairment performed better than the boys after being placed on the IEP in Mathematics. The mean score for the after placement scores for the boys is 61.62 while the girls have 63.67 showing an achievement result interval for the girls of 2.05 on the IEP over the boys. The mean difference between the before placement scores and after placement scores may not necessarily be statistically significant. However, the before placement scores and after placement scores are within 3 standard deviations of the mean ($\bar{x} \pm 3S$) which agrees fairly with the Chebyshev's rule of interpreting standard deviation.

Table 5: Summary of After Placement Scores for Boys and Girls with VI in English

	N	Mean (\bar{x})	Standard Deviation (S)
Boys	13	56.54	8.79
Girls	12	65.17	13.98

Table 5 shows a summary of after placement scores for boys and girls with visual impairment on the IEP in English language. From table 5; the results have proved that the girls performed better than the boys in English Language after being placed on the IEP. The mean score for the after placement scores for the boys is 56.54 while the after placement scores for the girls show a mean score of 65.17 showing an achievement result interval of 8.63 for girls on the IEP over boys. Though the mean difference between the girls' placement scores and the boys after placement scores are wide, the result may not necessarily be statistically significant. However, the two mean scores are within 3 standard deviations of the mean ($\bar{x} \pm 3S$) which agrees fairly with the Chebyshev's rule of interpreting standard deviation.

From the results of Table 4 and Table 5, the performance of the girls with visual impairment over the boys is attributed to the facts stated in the cognitive process taxonomy developed by Halpern (2004). The cognitive process taxonomy developed by Halpern (2000, 2004), attempts to formulate an understanding of student performance via cognitive gender differences. Halpern argues that both boys and girls have differential strengths and weaknesses in problem solving. With respect to reading and writing, Halpern categorizes underlying cognitive skills as follows.

- a. Boys perform better on tests of verbal analogies, which involve mapping verbal relationships in working memory, as well as tasks involving transformations in visio-spatial working memory.

- b. Girls are able to more rapidly access phonological, semantic, and episodic information from long-term memory; they show the largest advantages in other memory tasks, as well as a strong advantage in writing.

Taking Halpern's argument into consideration, since English language involves phonological, semantic and episodic information from long-term memory, the cognitive process taxonomy had an influence on the performance of the girls with visual impairment over the boys. This improvement of the girls in English over the boys affirms the argument of the social model of disability that; when systemic barriers, negative attitudes and exclusion by society (purposely or inadvertently) are removed, each individual grows and functions without limitation or impairment. Results from table 5 confirm that girls with visual impairment on the IEP in the Hohoe municipality grew up „normally“ cognitively without or less systemic barriers and exclusion, and hence their performance over the boys as expected from the cognitive process taxonomy.

On the other hand, since Mathematics involves tests of verbal analogies, which involve mapping verbal relationships in working memory, as well as tasks involving transformations in visio-spatial working memory (Halpern, 2006), one could have expected that the boys would perform better in mathematics but this did not happen in the case of the visually impaired boys in the Hohoe Municipality as shown from the results of the analysis in table 4.

Furthermore the type of test administered to the pupils with visual impairment in English Language (see appendix D) have also influenced the positive performance of the girls over the boys in both mathematics and English Language since it was a teacher made test. According to Halpern (2004), the approach to testing also leads to the differing levels of performance of boys and girls: girls tend to receive higher grades in school, especially when

the teacher's test material closely resembles what was taught, while males obtain higher marks on standardized tests, where test material tends not to be as similar to what was taught in class (Halpern, 2006). Halpern dismisses the suggestion that this difference is simply due to girls' learning being more rote than boys' (as was suggested by Kimball (1989), for example), noting that girls' superior performance in writing constitutes a "highly creative act" that is above and beyond rote learning.

To conclude, on the gender performance in English and mathematics of pupils with visual impairment on IEP in the Hohoe municipality, the results from both Table 4 (mathematics) and Table 5 (English) shows a further improvement for the girls over the boys. The girls show an achievement interval of 2.05 and 8.63 in Mathematics and English, respectively. Other unseen factors might have contributed to performance of the girls with visual impairment over the boys; it might be environmental as explained by the social model of disability, which states that enhancing, friendly environment that leads to functional ability of the disabled in the society. This also supports Halpern, (2006) who argues that biological and (Yekple & Avoke, 2006) environmental influences may be too closely intertwined to be isolated, making the gender gap a difficult one to address.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the summary, conclusions and recommendations drawn from the study carried out in the Hohoe Municipality of the Volta Region of Ghana. Also, included are suggestions for further research.

Summary of Major Findings

This study analysed the academic performance of pupils with visual impairment placed on the integrated education programme in the Hohoe municipality. The study used evaluation research design with both qualitative and quantitative methods to collect data. Two Instruments comprising semi-structured interview and scores from teacher made test were used. The sample size was 50, made up of 20 teachers including 5 head teachers, 5 itinerant teachers and 25 pupils with visual impairment (13 boys and 12 girls) drawn from five inclusive basic schools in the Hohoe municipality. Purposive sampling was used for selecting the samples. All the respondents were interviewed using focus group discussions. Five research questions guided the study. Answers to the research questions 1 to 3 were sought using qualitative analysis while 4 to 5 were sought using quantitative analysis.

Findings of the study showed that among the strategies used in the placement of pupils with visual impairment on the IEP, assessment played an important role. Also varying designed activities were put in place to accommodate pupils with visual impairment into the mainstream schools. Evidently, the teachers believed that the integration of pupils with visual impairment in the regular classes would improve upon their academic performance. Respondents as well asserted that the integration of pupils with visual impairment enhances

greater tolerance level for inclusive schools. The outcome of the study indicated that when pupils with visual impairment are integrated and put on a tailored programme, it enhances their academic performance. On the other hand, the results revealed that teachers perform better when they are trained so that they can effectively monitor children's academic work. Finally the results revealed that pupil's performance in the integrated unit in the Hohoe municipality is encouraging.

With respect to resources made available for the pupils with visual impairment it became evident that the resources (personnel's and materials) made available for the programme were implemented successfully except for a few concerns raised by pupils with visual impairment about the out datedness and inadequacy of some material resources . Resource teachers and regular teachers in the schools where IEP is practiced both supported the integration of pupils with visual impairment. However, there were some inherent challenges involving teachers' uncooperativeness, teacher attrition, lack of motivation and the use of appropriate teaching techniques for the blind.

Concerning the influence of IEP on the academic performance of pupils with visual impairment before and after placement, it was found out that learning alongside sighted peers became regular hence pupils with visual impairment on the IEP in the Hohoe municipality showed an improvement in academic performance following their placement on the programme.

The level of academic performance in English Language and Mathematics showed that pupils with visual impairment improved in both subjects after being placed on the IEP. Also girls performed better in English Language than the boys.

Finally, the results from the performance on gender bases in both Mathematics and English language showed that, the girls with visual impairment performed better than the boys while on the IEP programme.

Conclusions

The study concluded that the organizational strategies such as initial assessment before placement with age appropriateness and parental concern were critical components of the integrated education programme for the pupils with visual impairment in the Hohoe municipality. Pedagogical strategies, involving reading aloud when teaching and writing on the board, tape recording, remedial teachings as well as other necessary assistive devices to aid learning for pupils with visual impairment alongside sighted peers were used effectively except that the pupils had problems with the lesson delivery of some class/regular teachers. Also inadequacy and out datedness of some learning aids were some problems faced by the pupils with visual impairment.

It can also be concluded that, the IEP influenced the academic performance of the pupils with visual impairment positively. The programme faced problems like; the provision and presence of teacher support facilities, for regular teachers in the schools where IEP is practiced to cater for the problems that come with teacher attritions for effective and efficient teaching and learning of the Visually Impaired child in the regular school.

Again, the state of academic performance of the pupils with visual impairment before placement and after placement saw a significant improvement in both English and Mathematics after placement.

Finally, the girls with visual impairment on IEP performed better than the boys with visual impairment in both English language and Mathematics on the same programme in the Hohoe municipality.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. The schools should focus on the IEP programme to meet the individual needs of the pupils and they should develop strategies that will ensure that the assessment processes continue even after the initial assessment before placement to cater for any other need of the child during placement on the program.
2. The various stakeholders in education including the government, organizations and parents, must provide the necessary academic and infrastructural facilities that the regular schools need to support the integration of pupils with visual impairment. Through these provisions, schools practicing the IEP will become more environmentally friendly and supportive of the education of the visually impaired.
3. The school system needs to place emphasis on the development of IEPs for every pupil with visual impairment in the school since this has shown that the IEPs had influence on their academic performance.
4. Since both boys and girls have shown improvement in their academic performance, teachers need to be given some form of in-service training so that they can use appropriate methodologies in teaching mathematics and the English language and any other subject on the school curricular.
5. Finally, the school system needs to reexamine from time to time to find out why girls turned out to be performing better in both mathematics and in the English language than boys. This would help in addressing any inherent challenge facing the boys in these subjects.

Suggested Areas for Further Research

In order to extend the study on the academic performance of pupils with visual impairment on the IEP, the following recommendations for future studies are made;

This study covered only the Hohoe Municipality of the Volta Region of Ghana. It is being suggested that in order to have more accurate assessment of the academic performance of pupils with visual impairment on the Integrated Education Programme, future researchers should consider more districts and regions as the present study covered only the Hohoe Municipality in the Volta Region.

The researcher focused her study on the pupils with visual impairment, regular school teachers and their heads as well as resource/itinerant teachers. A further study research could cover both personnel's in the inclusive schools and their counterpart schools for the blind so that comparison can be made of the academic performance of pupils with visual impairment in the Inclusive and Special schools. The result of the comparison could assist individuals to ascertain whether the academic performance of pupils with visual impairment in the regular schools differ from that of their special school colleagues, regarding the practice of inclusive education.

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APPENDIX A

INTRODUCTORY LETTER



DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF EDUCATION, WINNEBA
(UEW)
OFFICE OF THE HEAD OF DEPARTMENT

November 21, 2014

The Director
Ghana Education Service
Hohoe Municipal Assembly
Hohoe V/R

Dear Sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you, Ms. Jacqueline Edem Akosua Dorleku is an M.Phil student of Department of Special Education of the University of Education, Winneba, with registration number 8110150007.

She is currently working on his thesis on the topic: *Analysis of the Academic Performance of Students with Visual Impairment Placed on the Integrated Education Programme in the Hohoe Municipality*

I should be grateful if you could give her the needed assistance to enable her carry out his studies.

Thank you.

Yours faithfully,

**HEAD
DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF EDUCATION
P. O. Box 25, WINNEBA**

SAMUEL K. HAYFORD (PHD)
AG. HEAD OF DEPARTMENT

APPENDIX B

INTERVIEW GUIDE FOR TEACHERS' AND PUPILS

INTERVIEW GUIDE FOR CLASS/ HEAD TRS/ ITINERANT TEACHERS

Strategies for placement of the visually impaired on the Integrated Education

Programme (IEP)

1. What activities are outlined to place/accommodate the VI children on the IEP?

Prompts: how effective are they?

Are there any benefits to the VI?

What are they?

2. What problem do you encounter while implementing the activities/methods for the VI placement?

Prompts: how are they solved/ what attempts are made to solve such problems?

Are such attempts being positive?

To what extent?

Resources available for the Visually Impaired on the IEP

1. What facilities are at your disposal for the use of the VI on IEP?

Prompts: how responsive have the VI been to these available facilities/how beneficial have they been to the VI?

Any notable examples?

2. How professional/competent are the teachers in handling these facilities?

Prompts: are there any complains about their usage?

What forms are these complains/what form does these complain take?

Influence of IEP on the academic performance of the Visually Impaired

1. What positive impact does the IEP have on the learning needs of the Visually Impaired?

Prompts: are there any specific examples/areas?

Any setbacks?

What are they?

Academic performance before and after placement on the IEP

1. What positive impact does the IEP have on the learning needs of the Visually Impaired/how is the Visually Impaired performing academically on the IEP?

What about in English language and Mathematics?

Prompts: how different are their performance from before placement on the IEP?

What are the areas of differences/are they vast or close?

How do you think we can improve upon the current IEP for the Visually Impaired?

INTERVIEW GUIDE FOR THE VI CHILDREN

Strategies for placement of the visually impaired on IEP

1. What activities are designed for you to take part in teaching and learning? Prompts: what do you gain from these activities? Give examples
2. Are there areas of the designed activities that you do not enjoy/understand? Prompts: what are these areas?

Resources available for the Visually Impaired on the IEP

What facilities/items do your teachers give you while teaching you?

Prompt: what do you use them for?

Do they guide you?

How is this done?

Influence of IEP on the academic performance of the Visually Impaired

How do you benefit from what the teacher teaches you?

Prompts: what about you as an individual?

What about the group?

Academic performance among visually impaired pupils on the IEP

What subjects are you taught?

Prompts: how do you perform in them?

What about in English and Mathematics?

Why do you think you perform that way?

What do you think you must do to perform better?

Prompt: What about the teacher?



APPENDIX C

DATA FOR BEFORE AND AFTER PLACEMENT IN

MATHEMATICS

SCORES OF VI STUDENTS IN MATHEMATICS

S /N	BEFORE PLACEMENT ON IEP %	AFTER PLACEMENT ON IEP %
1	54	46
2	56	59
3	66	66
4	56	57
5	72	75
6	66	69
7	55	58
8	51	53
9	61	62
10	65	67
11	49	52
12	60	65
13	70	72
14	71	76
15	82	85
16	69	70
17	42	45
18	44	48
19	73	73
20	64	68
21	78	68
22	53	79
23	43	79
24	50	61
25	62	43

APPENDIX D

SCORES OF VI STUDENTS IN ENGLISH LANGUAGE

S/N	BEFORE PLACEMENT ON IEP		AFTER PLACEMENT ON IEP	
		%		%
1		55		57
2		54		58
3		39		45
4		63		64
5		60		61
6		61		69
7		50		52
8		62		65
9		42		48
10		40		46
11		64		70
12		44		47
13		49		53
14		78		78
15		53		56
16		58		81
17		57		59
18		51		63
19		72		51
20		67		79
21		46		66
22		38		50
23		66		41
24		69		76
25		68		82

APPENDIX E

SCORES OF VI BOYS AND GIRLS IN MATHEMATICS AFTER PLACEMENT

S/N	BOYS	GIRLS
1	46	76
2	59	85
3	66	70
4	57	45
5	75	48
6	69	73
7	58	68
8	53	79
9	62	61
10	67	43
11	52	51
12	65	65
13	72	

APPENDIX F

SCORES OF VI BOYS AND GIRLS IN ENGLISH LANGUAGE AFTER PLACEMENT

S/N	BOYS	GIRLS
1	57	78
2	58	56
3	45	59
4	64	63
5	61	51
6	69	79
7	52	66
8	65	50
9	48	41
10	46	76
11	70	82
12	47	81
13	53	

APPENDIX G

NEW TOWN M/A JHS, HOHOE
 SPECIAL MOCK EXAMINATION
 ENGLISH LANGUAGE I
 .H.S 3
 DURATION: 45 MINUTES
 OBJECTIVE TEST

ANSWER ALL QUESTIONS

Each question is followed by four options lettered A to D. Find out the correct option for each question and shade in pencil on answer space which bears the letter as the option

PART I

LEXIS AND STRUCTURE

From the alternative lettered A and D, choose the word or group of words which best completes each of the following sentences

1. Aborday is looking for.....
 (A) Employments the employment
 (C) an employment employment

2. The salmon is a kind of fish that can live in sea and.....
 (A) A fresh water fresh water
 (C) the fresh water (D) fresh waters

3. Grandpa warned Atiemo to refrain from giving.....
 (A) Many bad advice (B) bad advices
 (C) some bad advices bad advice

4. Kojo needs a broad piece of paper and to practice his drawing
 (A) Some crayon (B) crayons
 crayon (D) much crayon

5. The police investigator has gathered..... to complete the investigation
 (A) Few information (B) many information
 sufficient information (D) an information

6. These old tables and chair are very valuable.....
 items of furniture (B) furniture
 (c) items of furnitures (D) item of furniture

7. We received that the students would soon embark on demonstration.
 (A) An information (B) informations
 (B) (C) those informations information

8. He has stained his shirt with.....
 (A) Oils (B) an oil
 (C) the oils oil

9. The baker has sold several.....
 Loaves of bread (B) loafs of bread
 (C) loaves of breads (D) breads

10. There is enough..... in the soup
 (A) Peppers pepper
 (C) some pepper (D) of pepper

11. The task force has seized several.....
 Log of timber (B) logs of timber
 logs of timber (D) timbers

12. There are on the floor
 Drops of blood (B) drops of bloods
 (C) drop of bloods (D) bloods

13. There were..... across the road.
 (A) Heaps of sands (B) heap of sand
 heaps of sand (D) sands

14. The salesman could not account for several.....
 (A) Gallon of petrol (B) gallons of petrols
 gallons of petrol (D) petrols

15. We saw several at katamanto market.
 (A) Bales of cloth (B) bales of clothes
 (C) bails of cloth (D) clothes

SECTION B

Choose from the alternatives lettered A to D the one which is NEAREST IN MEANING to the underlined words in each sentence.

16. The aroma of the Kate's food made every one hungry.
 (A) Smells good (B) is tasty
 (C) is spicy (D) is valuable
17. Adiza's mother prepares very palatable dishes
 (A) Expensive (B) rich
 (C) tasty (D) colourful (E) interesting
18. Sindi was brought up by a very strict woman.
 (A) Saved (B) reared (C) born
 (D) taught (E) beaten
19. Janet promised to attend to her mother-in-law who was ill
 (A) Look after (B) look at (C) look into
 (D) look for (E) look on
20. The printing company has over a thousand agents here
 (A) Vendors (B) caretakers (C) deputies
 (D) correspondents (E) representatives
21. The police inspector asked all drivers to obey the speed limit regulations
 (A) Understanding (B) notice (C) recognize
 (D) observe (E) answer

SECTION C

In each of the following sentences, a group of words has been underlined. Choose from the alternatives lettered A to D the one that BEST EXPLAINS the underlined group of words.

22. At the end of the investigations, the police said, the hands of the accused were clean. This means that the
 (A) Police praised the accused for his neatness
 (B) Accused was blameless

- (C) Accused had washed his hands
 (D) Police saw the accused's finger print
 (E) Police said the accused told the truth

23. I don't like people who blow their own trumpet. This means I dislike people
 (A) Are noisy (C) blow trumpets
 (B) Are selfish (D) are boastful
 (E) are quarrelsome

24. "Put this money aside against a rainy day, Kwesi". Kwesi is being told
 (A) To keep the money until he really needs it.
 (B) To keep the money until it rains
 (C) Not to waste the money when it rains
 (D) To put all his money in the bank
 (E) To give out money on the day it rains

25. It is very difficult for many workers to make ends meet.
 (A) Do two jobs at a time
 (B) Make workers, managers come together
 (C) Live within their means
 (D) Feed two people

26. Since the chief came out of prison he has turned over a new leaf. This means the chief has
 (A) Changed his style of stealing
 (B) Started growing flowers
 (C) Changed for the better
 (D) Grow even more stubborn
 (E) Got a new job

27. When the army stormed the village, all the inhabitants took to their heels. This means
 (A) The army came to the village in the storm
 (B) The army inhabitants were frightened and stood still
 (C) The inhabitants had their shoes removed
 (D) The inhabitants danced around on their heels
 (E) The inhabitants were frightened and so run away

SECTION D

From the alternatives lettered to A to D, choose the one that is most NEARLY OPPOSITE in meaning to the word underlined in each sentence

28. The traders agreed to pay extra money to the council
(A) Tired (B) struggled ~~(C) refused~~
(D) remembered (E) wanted
29. The box displayed a high degree of bravery in the flight
(A) Speed ~~(B) cowardice~~ (C) alertness
(D) competence (E) skill
30. It is a fact that zaibu often gives accurate answer to question
(A) long (B) silly (C) interesting (D) quick ~~(E) wrong~~
31. The students rejected the prefect chosen by the staff
(A) Admired (B) advised (C) relied on ~~(D) accepted~~ (E) helped
32. The headmaster thanked his teachers for a wonderful job done
(A) Quick (B) difficult (C) big ~~(D) bad~~ (E) odd.

PART 2
LITERATURE

Read the following questions carefully and choose the correct answers to each of them.

33. The time and place in which the events in a story or play occurs is the
(A) Site (B) setting (C) plot (D) point of view
34. The angle from which a narrative is told is known as
(A) Coner (B) point of narration (C) point of view (D) point of reference

35. The sequence of events or actions in a short story, novel or play is the
(A) Plot (B) chronology (C) setting (D) line of action

36. The line 'life is a dream' is a example of
(A) Simile (B) metaphor (C) personification (D) irony

Read the following extracts and use it to answer the questions 37-40

Stone walls do not a prison make
Nor iron bars a cage;
Minds innocent and quiet take
That for an heritage.....

37. Which literary device is present I the above lines?
(A) Paradox (B) irony (C) metaphor (D) hyperbole
38. A character in a story or play who opposes the chief character is known as
(A) Hero (B) protagonist (C) antagonist (D) against
39. The method an author use to acquaint a reader with his or her character is called
(A) Alliteration (B) consonance (C) pun (D) assonance
40. 'Tiger Tiger burning bright'..... the device used in the above line is called
(A) Alliteration (B) consonance (C) pun (D) assonance