

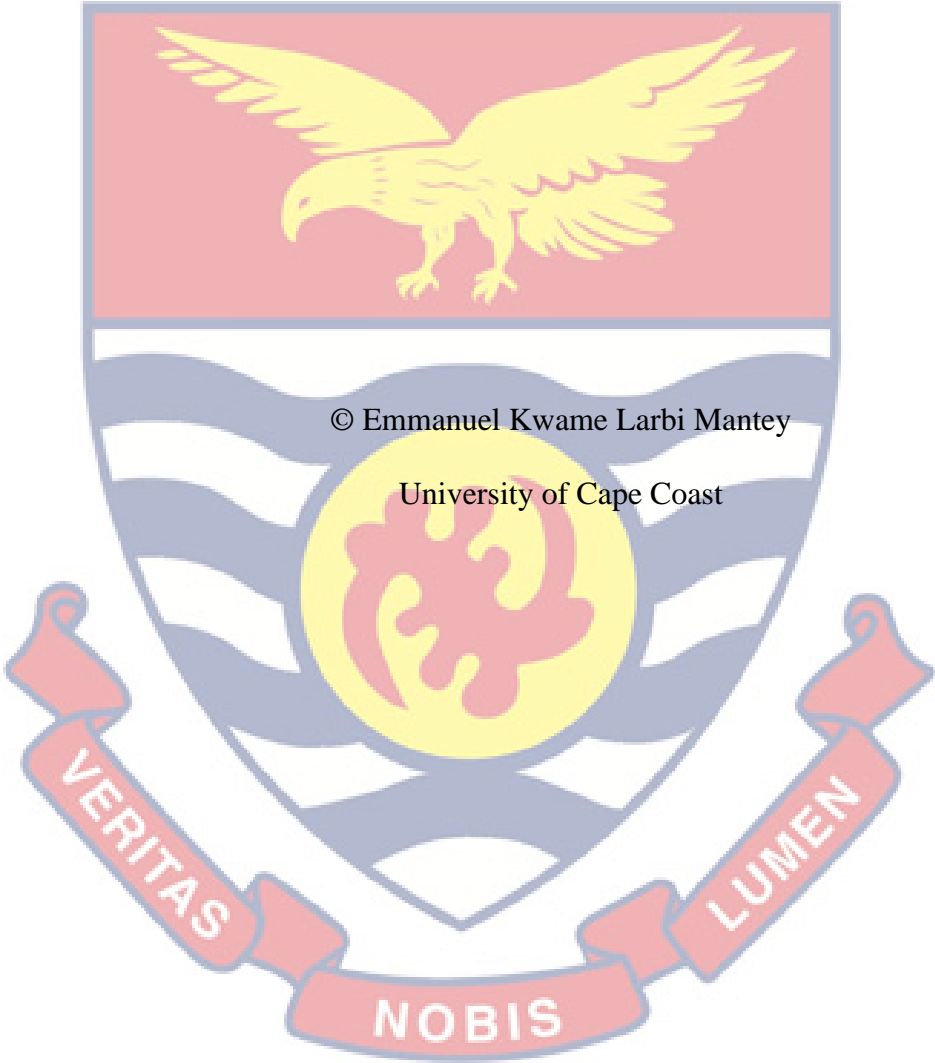
UNIVERSITY OF CAPE COAST



IMPACT OF INCLUSIVE EDUCATION EXPERIENCES ON
SATISFACTION, PERSISTENCE AND ACADEMIC PERFORMANCE OF
TEACHER-TRAINEES WITH SENSORY IMPAIRMENT: THE
MODERATING ROLE OF SELF-EFFICACY

EMMANUEL KWAME LARBI MANTEY

2021



© Emmanuel Kwame Larbi Mantey
University of Cape Coast

UNIVERSITY OF CAPE COAST



IMPACT OF INCLUSIVE EDUCATION EXPERIENCES ON
SATISFACTION, PERSISTENCE AND ACADEMIC PERFORMANCE OF
TEACHER-TRAINEES WITH SENSORY IMPAIRMENT: THE
MODERATING ROLE OF SELF-EFFICACY

BY

EMMANUEL KWAME LARBI MANTEY

Thesis submitted to the Department of Education and Psychology, School of
Graduate Studies and Research, University of Cape Coast, in partial fulfilment of
the requirements for the award of Doctor of Philosophy degree in
Special Education

APRIL 2021

DECLARATION

Candidates' Declaration

I hereby declare that this project work is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: Date:

Name:

Supervisors' Declaration

We hereby declare 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 Cape Coast.

Principal Supervisor's Signature: Date:

Name:

Co-Supervisor's Signature: Date:

Name:

ABSTRACT

The study assessed the impact of inclusive education experiences on satisfaction, persistence and academic performance of teacher-trainees with sensory impairment and the moderating role of self-efficacy. Data was collected in three Colleges of Education (CoEs) in Ghana. All the Teacher-Trainees with Sensory Impairment (TTSI) (66) in the CoEs participated in the study. The study was based on pragmatist philosophy. It utilised the convergent parallel mixed-methods approach. Data was collected using questionnaires and a focus group discussion guide. Descriptive statistics, independent samples t-tests, Pearson product-moment correlation coefficients, and Hayes PROCESS-Macro were used for quantitative data analysis. Using Braun and Clarke's (2019) reflexive thematic method to qualitative data, qualitative extracts were analysed. TTSI were reported to be satisfied with their schools in the study. A major moderator of the connection between inclusive education experience and TTSI persistence was self-efficacy, but not the relationship between inclusive education experience and TTSI satisfaction. Among the recommendations were that College authorities work in tandem with the MoE to provide comfortable campus environments for TTSI. Learning materials printed in readable and or audio form for TTSI should be available and delivered on time to facilitate academic work. Finally, College staffs are to develop the self-efficacy of TTSI to help them persist and progress in their academic life successfully.

KEY WORDS

Academic Performance

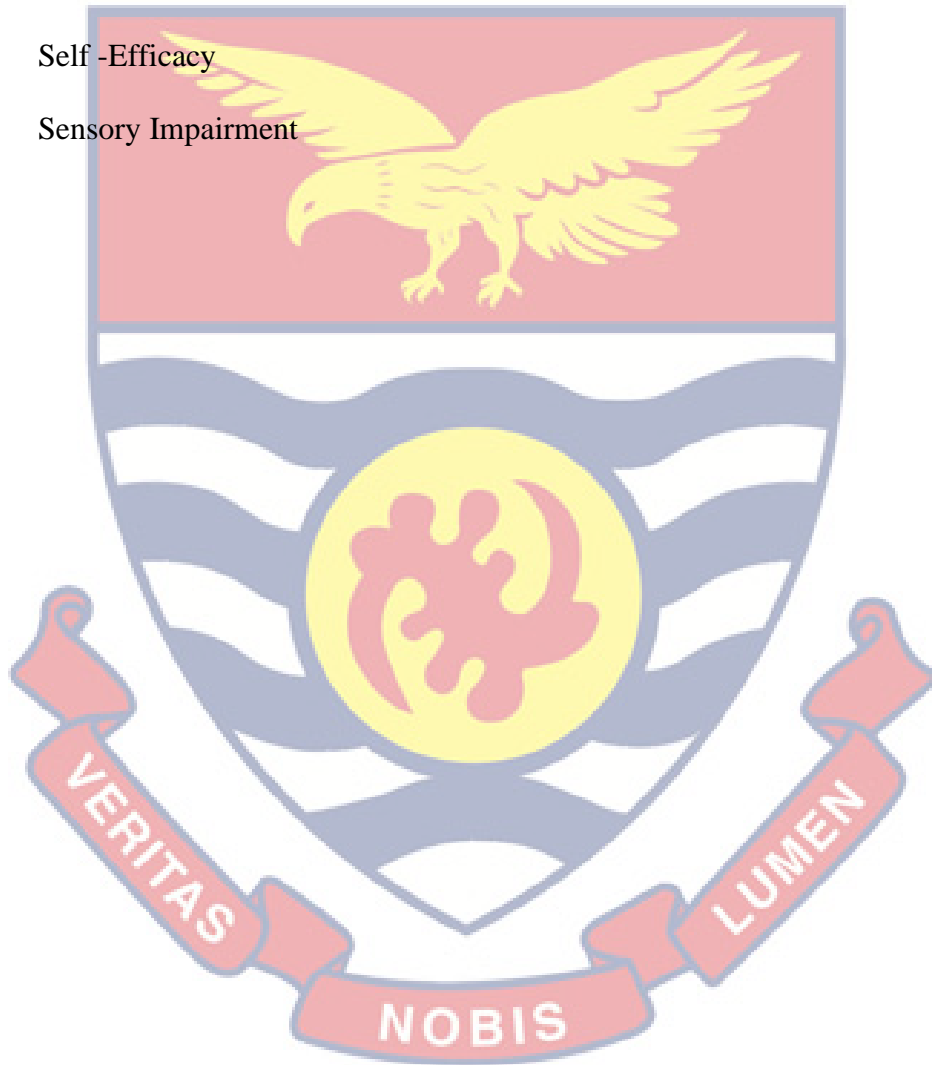
Inclusive Experience

Persistence

Satisfaction

Self-Efficacy

Sensory Impairment



ACKNOWLEDGEMENTS

I am grateful to my supervisors, Dr Irene Vanderpuye and Dr. Lebbaeus Asamani of the University of Cape Coast for their expert advice and encouragement from the commencement of this study to its completion, amidst all the challenges I went through. I also wish to thank the Late Professor Prosper Deku for starting with me but had to attend to his heavenly call. I thank the resource Tutors and Principals of the Colleges used for the study, especially Mr Bright Brew, Ms Afia Ntoaduro, Mr John Bosco Zenanyuor and Mr Richard Amoako as well as my sign language interpreters who served as my field assistants for their dedication to collecting quality data. I thank all the respondents for their contribution towards the data collection without which this work could not have been successful.

I am also grateful to Dr Ivy Nkrumah and Dr Samuel Asiedu Owusu, who painstakingly helped in diverse ways for the success of the work. I also thank the Session and members of Presbyterian Church of Ghana, Bethel Congregation, OLA Estates, Cape Coast, for their prayer support and motivation during the course of my study. I sincerely thank the Principal and Staff of OLA College of Education for their support as well. I also wish to thank all the authors that I used their works to enrich the work. I am totally responsible for any inadequacies in this work and not any of the people mentioned in the work.

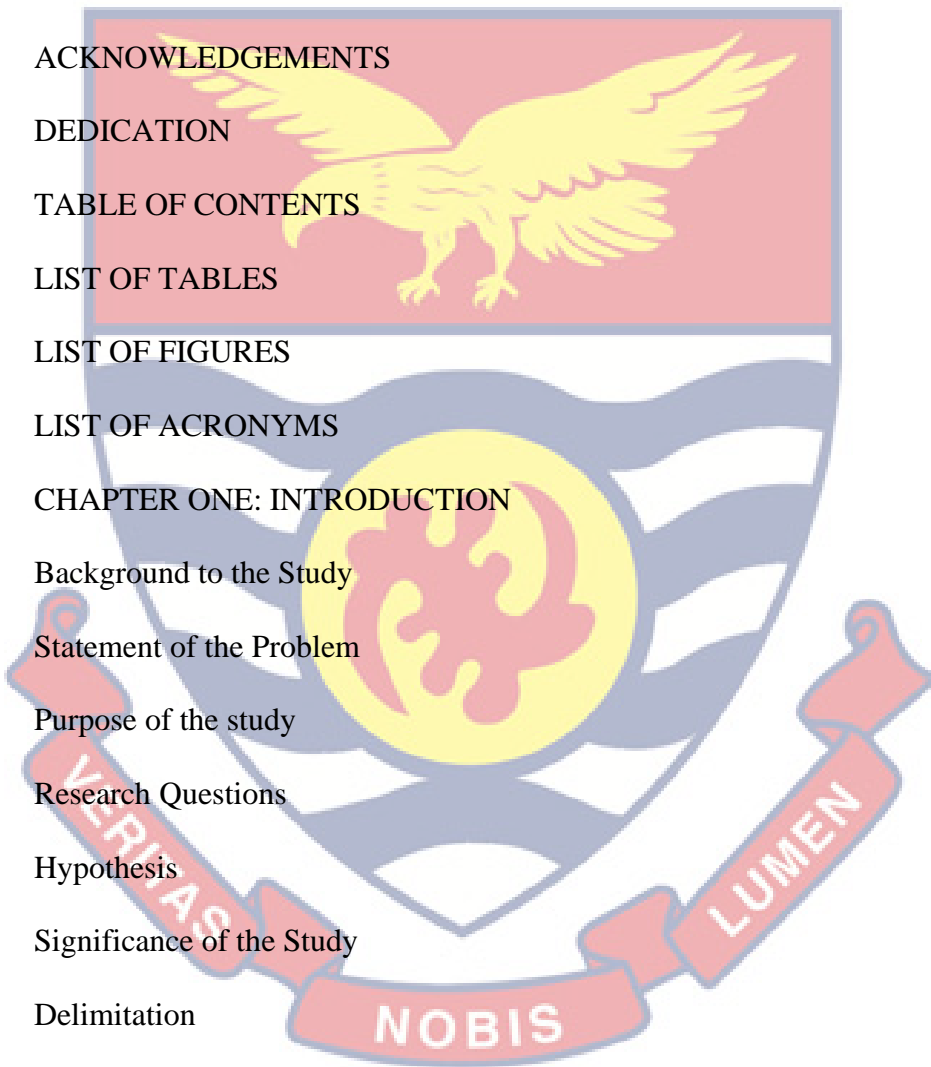
DEDICATION

To my dear Wife, Mavis Larbi Mantey, and daughters: Asi, Persis and Odi



TABLE OF CONTENTS

	Page
DECLARATION	ii
ABSTRACT	iii
KEY WORDS	iv
ACKNOWLEDGEMENTS	v
DEDICATION	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xiii
LIST OF ACRONYMS	xiv
CHAPTER ONE: INTRODUCTION	
Background to the Study	1
Statement of the Problem	14
Purpose of the study	18
Research Questions	19
Hypothesis	20
Significance of the Study	22
Delimitation	23
Limitation	23
Operational Definition of Terms	24
Organisation of the Study	25
Chapter Summary	26

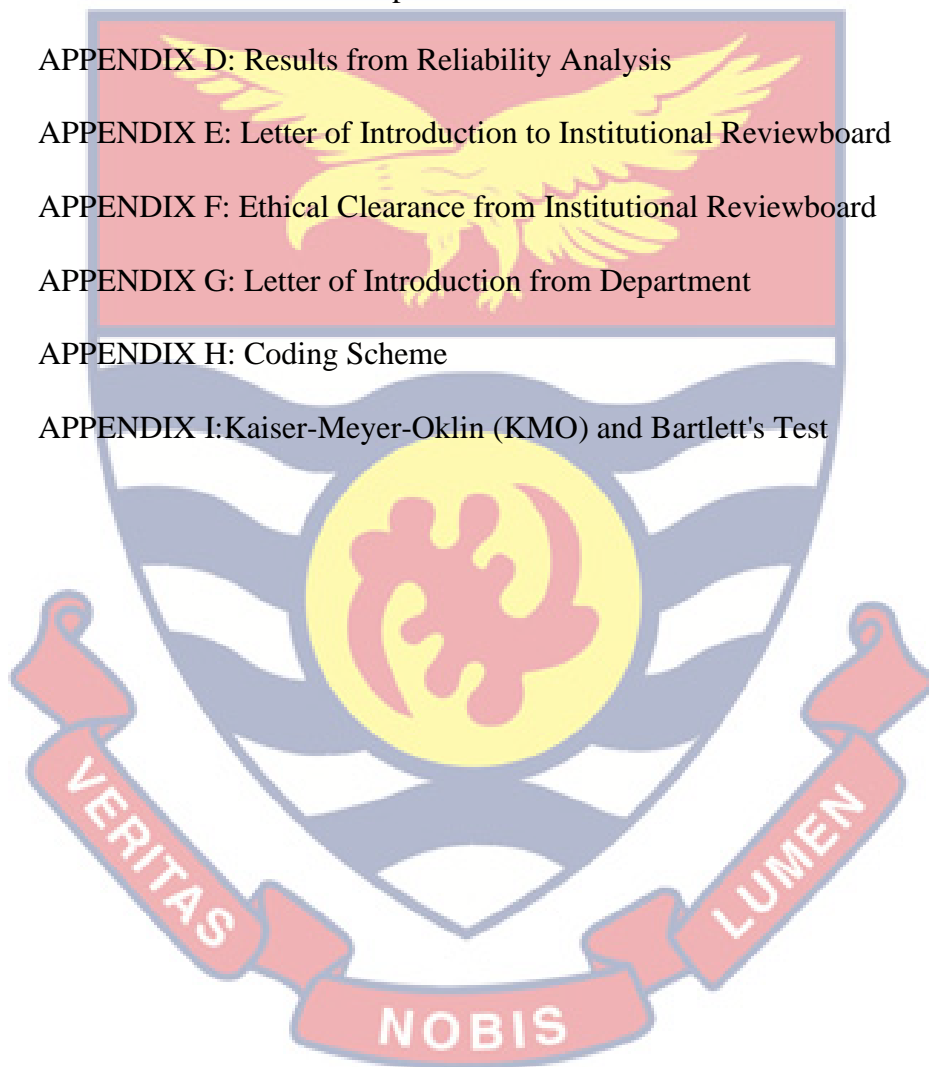


CHAPTER TWO: LITERATURE REVIEW

Conceptual Framework	27
Inclusive education practice	28
Inclusive education	28
Benefits of inclusive education	43
Barriers to inclusive education	46
Sensory impaired (VI, HI) in inclusive environments	52
The visually impaired in an inclusive environment	52
The hearing impaired in an inclusive environment	56
Satisfaction in the inclusive system	59
Persistence Levels of Students with SEN	65
Academic Performance of Teacher-trainees with sensory impairment	68
Self-Efficacy	70
Theoretical Framework	74
Models of Disability	75
The social model of disability	76
Theories of Retention and Attrition	84
The integrated model (Tinto, 1993)	84
The model of students departure	86
Impact of the models/theory on this work	89
Special Education in Colleges of Education (CoEs) in Ghana	91
Conceptual Framework	92
Empirical Review	94

CHAPTER THREE: RESEARCH METHODS	
Introduction	127
Research Paradigm	127
Research Design	129
Population	133
Sample and Sampling Procedure	134
Data Collection Instruments	135
Data Collection Procedure	146
Data Processing and Analysis	149
Ethical Considerations	155
CHAPTER FOUR: RESULTS AND DISCUSSIONS	
Introduction	157
Section B: Quantitative Data Analysis	158
Analysis of data on research questions	158
Test of Research Hypotheses	171
Section C: Analysis of Qualitative Extracts	185
Other Findings	197
Observed conceptual model based on the results of the study	204
Discussion of Findings	206
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	
Conclusions	244
Recommendations	246

Suggestions for Further Research	247
REFERENCES	249
APPENDIX A: Informed Consent Form	296
APPENDIX B: Questionnaire for Students	301
APPENDIX C: Focus Group Discussions Guide	308
APPENDIX D: Results from Reliability Analysis	310
APPENDIX E: Letter of Introduction to Institutional Reviewboard	311
APPENDIX F: Ethical Clearance from Institutional Reviewboard	312
APPENDIX G: Letter of Introduction from Department	313
APPENDIX H: Coding Scheme	314
APPENDIX I:Kaiser-Meyer-Oklin (KMO) and Bartlett's Test	319



LIST OF TABLES

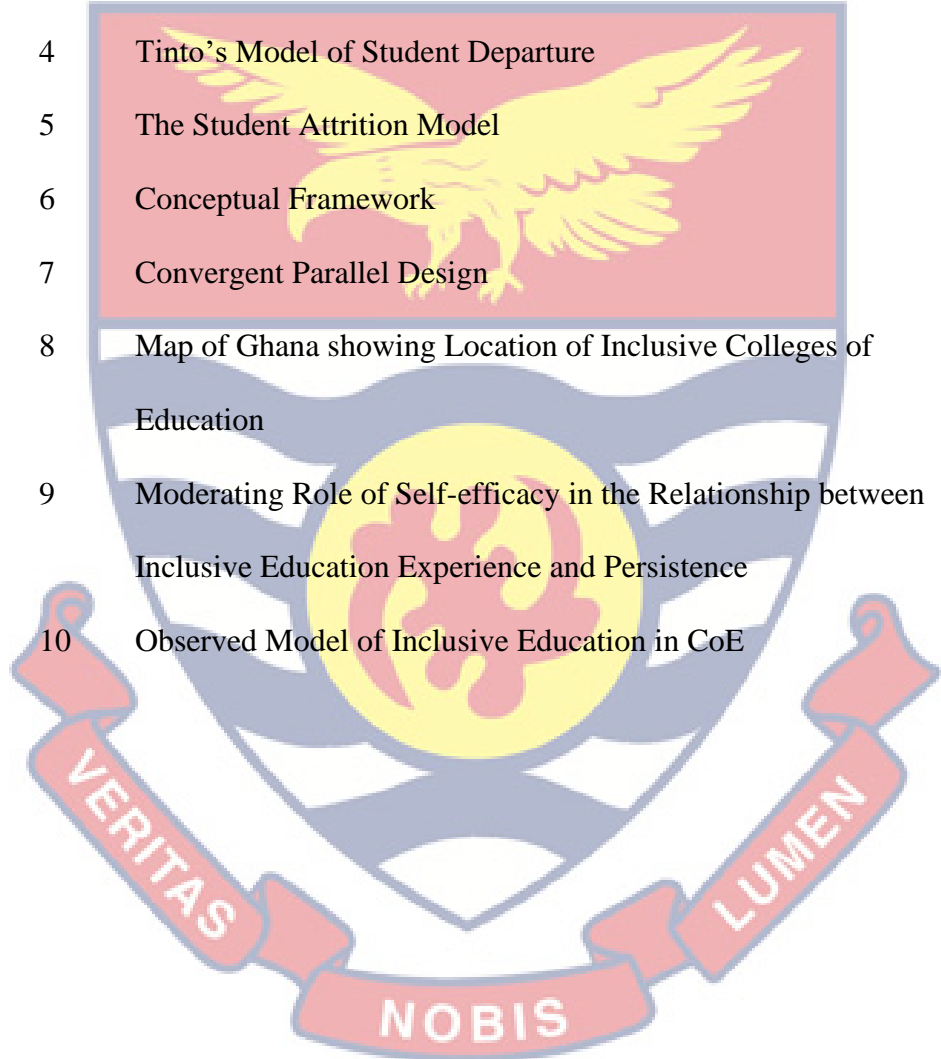
Table	Page
1 Target Population and Sample for the Study	134
2 Colleges and Type of Impairment	158
3 Inclusive education experiences of TTSI in CoEs	159
4 Satisfaction of students with hearing and visual impairment in CoEs	162
5 Level of Satisfaction among TTSI	164
6 Persistence among TTSI in CoEs	166
7 Level of Persistence among TTSI	168
8 Current CGPA of TTSI	169
9 Self-efficacy of TTSI in CoEs	170
10 Group statistics of TTSI on satisfaction	172
11 Results of Independent samples t-test of TTSI on satisfaction	172
12 Group statistics of TTSI on persistence	173
13 Results of Independent samples t-test of TTSI on persistence	173
14 Group statistics of TTSI on academic performance	175
15 Results of Independent samples t-test on TTSI academic performance	175
16 Relationship between IE experience and satisfaction of TTSI	176
17 Relationship between IE experience and persistence of TTSI	177
18 Relationship between IE experience and academic performance of TTSI	178

19	Moderating Role of Self-efficacy in the relationship between IE experience and satisfaction of TTSI	180
20	Moderating Role of Self-efficacy in the relationship between IE experience and persistence of TTSI	181
21	Moderating Role of Self-efficacy in the relationship between IE experience and academic performance of TTSI	184



LIST OF FIGURES

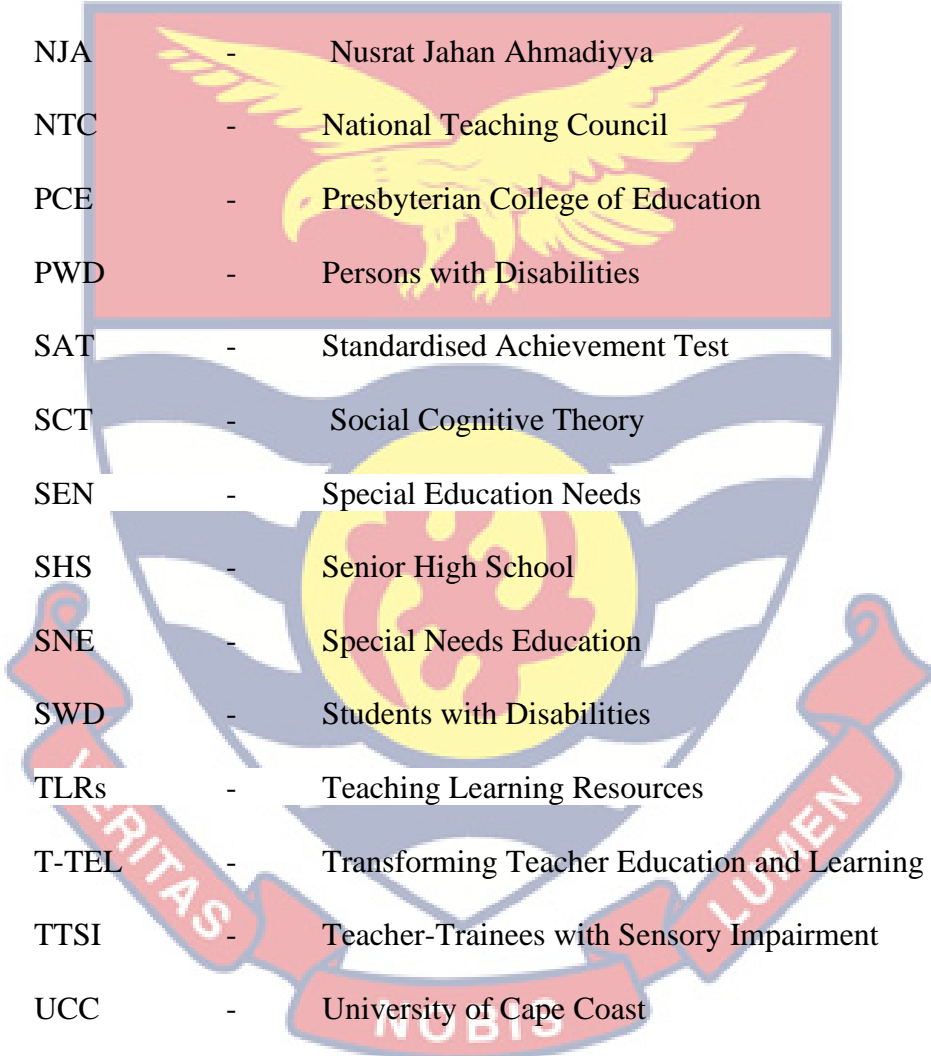
Figure		Page
1	The Medical Model	76
2	The Social Model	78
3	Ecosystemic-approach	81
4	Tinto's Model of Student Departure	85
5	The Student Attrition Model	87
6	Conceptual Framework	93
7	Convergent Parallel Design	130
8	Map of Ghana showing Location of Inclusive Colleges of Education	133
9	Moderating Role of Self-efficacy in the Relationship between Inclusive Education Experience and Persistence	182
10	Observed Model of Inclusive Education in CoE	205



LIST OF ACRONYMS

BECE	-	Basic Education Certificate Examination
CGPA	-	Cumulative Grade Point Average
CoEs	-	Colleges of Education
CRDD	-	Curriculum, Research and Development Division
DHH	-	Deaf or Hard-of-Hearing
DPO's	-	Disabled People's Organisation
EFA	-	Education for All
GES	-	Ghana Education Service
GNAD	-	Ghana National Association of the Deaf
GPA	-	Grade Point Average
GSS	-	Ghana Statistical Service
GTEC	-	Ghana Tertiary Education Commission
HCEEP	-	Handicapped Children's Early Education Programme
HI	-	Hearing Impairment
ICT	-	Information and Communication Technology
IDEA	-	Individual with Disability Education Act
IE	-	Inclusive Education
IEP	-	Individualised Education Plan
IG	-	Inclusion Ghana
IRB	-	Institutional Review Board
LDs	-	Learning Disabilities
LRE	-	Least Restrictive Environment

MOE	-	Ministry of Education
MoESS	-	Ministry of Education, Sports and Science
NAB	-	National Accreditation Board
NCTE	-	National Council for Tertiary Education
NDSS	-	National Down’s Syndrome Society
NJA	-	Nusrat Jahan Ahmadiyya
NTC	-	National Teaching Council
PCE	-	Presbyterian College of Education
PWD	-	Persons with Disabilities
SAT	-	Standardised Achievement Test
SCT	-	Social Cognitive Theory
SEN	-	Special Education Needs
SHS	-	Senior High School
SNE	-	Special Needs Education
SWD	-	Students with Disabilities
TLRs	-	Teaching Learning Resources
T-TEL	-	Transforming Teacher Education and Learning
TTSI	-	Teacher-Trainees with Sensory Impairment
UCC	-	University of Cape Coast
UCCIRB	-	University of Cape Coast Institutional Review Board
UDL	-	Universal Design for Living
UDLE	-	Universal Design Living Environment
UKDHM	-	UK Disability History Month



UNESCO - United Nations Educational, Scientific, and Cultural Organisation

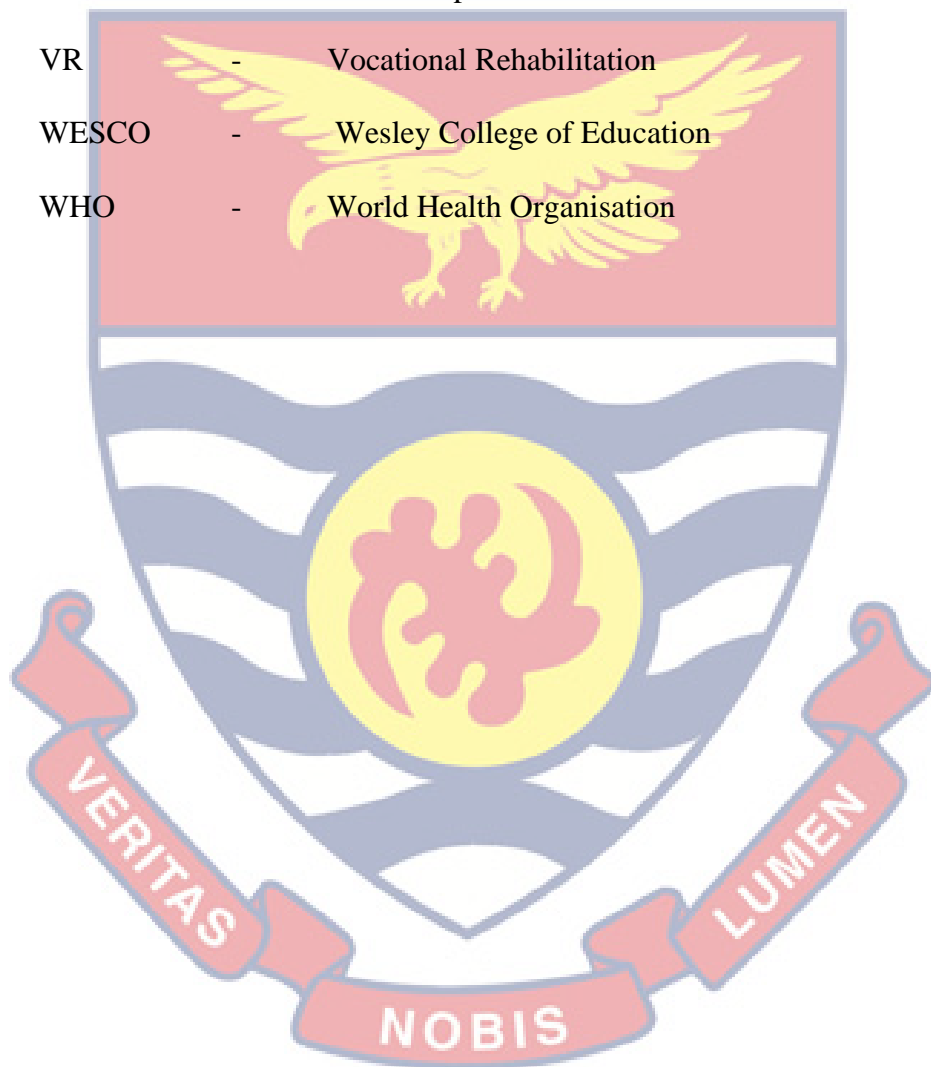
UNESCO - IBE- United Nations Educational, Scientific, and Cultural Organisation, International Bureau of Education

VI - Visual Impairment

VR - Vocational Rehabilitation

WESCO - Wesley College of Education

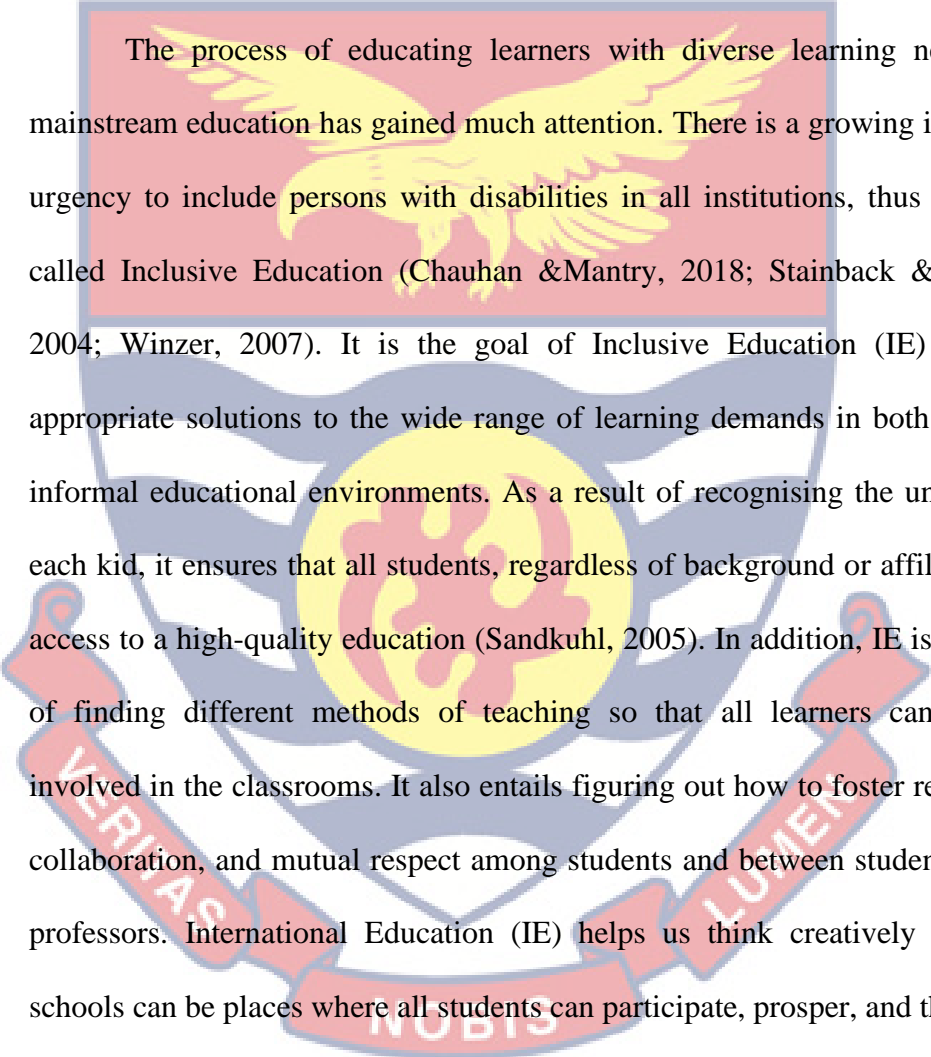
WHO - World Health Organisation



CHAPTER ONE

INTRODUCTION

Background to the Study



The process of educating learners with diverse learning needs in the mainstream education has gained much attention. There is a growing international urgency to include persons with disabilities in all institutions, thus the concept called Inclusive Education (Chauhan & Mantry, 2018; Stainback & Stainback, 2004; Winzer, 2007). It is the goal of Inclusive Education (IE) to provide appropriate solutions to the wide range of learning demands in both formal and informal educational environments. As a result of recognising the uniqueness of each kid, it ensures that all students, regardless of background or affiliation, have access to a high-quality education (Sandkuhl, 2005). In addition, IE is the process of finding different methods of teaching so that all learners can keenly be involved in the classrooms. It also entails figuring out how to foster relationships, collaboration, and mutual respect among students and between students and their professors. Inclusive Education (IE) helps us think creatively so that our schools can be places where all students can participate, prosper, and thrive.

There are other definitions of "inclusive education," such as "a situation in which all students are placed in age-appropriate general education classes in their own neighbourhood schools to receive quality instruction, interventions and assistance that allow them to succeed with the core curriculum," by Bui, Quirk,

Almazan and Valenti (2010) or "Alquraini and Gut (2012). IE is for all students and not a fraction of them. Being included is about the institutions being ready for the learner. To Alquraini and Gut (2012), learners are most of the times ready to attend regular schools and be in regular classrooms to learn except when they have challenges.

Consequently, there is the need for teachers' creativity for a successful inclusive education. Creativity may mean the teachers' ability to teach in different ways or design their classroom environment and lessons so that the attention of all learners can be captured for them to fully participate in classroom learning. In a quasi-experiment carried out by Deku, Mantey, and Gyimah (2013) in Cape Coast, children with Down's syndrome were included for six weeks in a regular class. Children with Down's syndrome found the regular classroom appealing and did not want to return to the special school they attended. This is an indication that learners with Down's syndrome get interested in the environment as a result of the experience they encounter in their new environment.

Furthermore, IE reflects the expectation that learners should be appreciated and accepted throughout life. Students with disabilities (SWD) are treated the same as students without disabilities (SWD) by schools and classrooms (Alquraini & Gut, 2012). Consequently, all students are able to participate fully in their classroom activities and in their local school communities. A lot of the recommendations for IE are linked to legislation according to Alquraini and Gut. Consequently, students are able to receive instruction in the least restricted setting possible (LRE). The Salamanca Statement

of 1994 is a common piece of law that is often cited. In accordance with this law, students with disabilities should be educated alongside their typically developing classmates to the fullest extent practicable, and general education placements should be the primary choice for all students (Alquraini & Gut, 2012). This is one critical area of focus in IE, where access must be provided for the learner in the regular school.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) held a conference in Salamanca, Spain, in June 1994. There were five significant sections in the Salamanca Statement (UNESCO 1994) that outlined the most important issues in International Education (IE). To begin, it emphasises that every child has the right to an education and that they must be given the opportunity to learn at a satisfactory level and to maintain that level throughout their lives. According to the article, every child is unique in terms of their characteristics, interests, abilities, and educational requirements, and as a result, educational systems and programmes should be developed and implemented to take this into account. For students with special educational needs (SEN), this means that they should have the option of attending a regular school. In the end, this study shows that normal schools with an inclusive orientation are the most essential component in decreasing negative preconceptions, generating welcoming communities and creating an inclusive society. In addition, they deliver high-quality instruction to the vast majority of students while simultaneously enhancing the overall efficacy and efficiency of the educational system (UNESCO, 1994).

According to the principles of inclusive education, all students should be included in the same classroom, even if they have different learning styles or physical limitations. Mitchell (2005) states that IE entails placing students in age-appropriate general education classes in nearby schools where they can benefit from high-quality lessons, interventions, and other forms of assistance in order to complete the expected primary academic curriculum. Teachers have a responsibility to operate with the assumption that students with disabilities have the same potential to learn and to perform to the best of their ability as students without impairments. This group of students is expected to participate in all school and community-based educational activities. This includes things like school field trips and other organised activities like debates or student government.

The adoption of IE models in both school systems and service delivery is supported by new research in pedagogy and education (Farrell et al., 2004). In effect, IE has become a contentious issue in debates about the evolution of educational policy and practice around the world. Individual students may leave the classroom for a variety of reasons, but this inclusive approach does not preclude them from doing so. A child may, for example, need one-on-one assistance in a specific subject, which may or may not occur during regular class time. Including the learners and making room for special attention does not imply that those with specific characteristics (for example, those who have some disabilities) are grouped in distinct classrooms for most or throughout the school

day depending on the situation at stake, the appropriate placement may be carried out.

The education of people with disabilities has become an established policy objective in many countries for which Ghana is not an exception. Several studies on IE have been conducted in this respect (Deku & Vanderpuye, 2017; Gyimah, 2006; Kuyini, Yeboah, Das, Alhassan, & Mangope, 2016; Vanderpuye, 2013; Vanderpuye, Obosu & Nishimuko, 2018). Results from these studies point to the fact that education of people with disabilities together with those without disabilities should be given the needed attention in countries where it has not gained the desired prominence, especially in Ghana.

In particular, Vanderpuye, Obosu, and Nishimuko (2018) carried out research on the viability of IE in Ghana and published their findings. They took into account the attitude of the teachers, their appraisal of the resources that were required, and their perception of the prospective influence on the students. According to their findings, IE practises are still taking place in Ghana; however, this topic has not yet received the necessary amount of attention. They emphasised that the requirements of educators should be satisfied in order to maintain the practise of IE. These include instruction on how to effectively teach students with special educational needs (SEN), education on how to modify educational materials for students with SEN, training on how to stimulate social interaction, and suitable teaching-learning resources (TLRs). It is necessary for educators to receive education and training in all aspects of IE.

Accepting, understanding, and paying attention to student differences and diversity are essential components of successful IE. Physical, cognitive, technical, social, and emotional requirements all fall into this category. This inclusiveness does not rule out the possibility of students spending time outside of regular education classes for specific reasons such as speech or occupational therapy. Many factors have converged to drive for greater inclusion of students with special needs in general education classrooms. The following are only a few examples: Students with special needs who attend regular classrooms outperform those who attend non-inclusive schools in both academic and social terms (Florian, Black-Hawkins & Rouse, 2017). They encourage one other to do their best academically and socially. In addition, students without special needs become aware of their own uniqueness and learn to appreciate and respect this uniqueness (UNESCO, 1994). Self-esteem is boosted as a result of this (Gyimah, Dankwa & Mantey, 2019).

These are key factors that are driving the IE agenda both domestically and internationally. Empirical research on the particular transition process that school districts go through when switching from special education to an IE model is lacking. However, in Toronto, a considerable amount of evidence-based research has identified effective strategies for promoting quality IE for students with SEN (Parekh, Flessa & Smaller, 2016; Sandkuhl, 2005). The result of Deku, Mantey and Gyimah's (2013) quasi-experiment conducted in Cape Coast also revealed that the social interaction among students with and without disabilities enhanced after six weeks of intervention, hence their (Deku, Mantey & Gyimah, 2013)

attestation to the assertion made by Parekh, Flessa and Smaller (2016) and Sandkuhl (2005).

Sandkuhl (2005) indicates that IE extends beyond marginal integration of students into mainstream education. The focus is on how to make the system more flexible so that it can accommodate a wider range of students' demands in the future. Inclusion is defined by UNESCO (2009) as a method for meeting the diverse needs of all students by expanding their involvement in education, culture and society as a whole, and by reducing their risk of being excluded from or marginalised within it. This definition captures the major dimensions of IE which occur due to barriers to students' attendance to school, students' access to and full participation in the education process as well as students who are restricted from fully engaging in their classroom educational process.

According to findings from Gleason and Dynarski (2002), risk factors can accumulate from year to year, so measuring trends in students' risk factor status over time could be beneficial. For example, a year of bad performance for some students may be viewed as a temporary setback that motivates them to sit up and work harder the following year. Other students may not be as resilient; one year of bad performance may lead to another, leading to discouragement, detachment from school, and eventually dropping out.

These risk factors are often centred on institutional and pedagogical procedures that are pervasive and regressive. This is realized, for example, when every learner is treated as if their learning conditions and abilities are equal (United Nations Educational, Scientific, and Cultural Organisation, International

Bureau of Education [UNESCO-IBE], 2007). Exclusion, on the other hand, entails a lack of social and professional competencies, as well as the inability to gain access to necessary expertise to exercise autonomous and responsible citizenship (Opertti & Brady, 2011). In general, IE denotes four key elements:

It is a process of determining the best ways to respond to diversity while also attempting to learn how to learn from differences. It is associated with encouraging students' creativity and ability to address and solve problems through a variety of strategies. It also includes a student's right to education, expresses themselves, have good learning experiences, and achieve meaningful learning outcomes.

About 15% of every population has one form of disability or another (World Health Organisation [WHO], 2020). Out of over 7.8 billion people the world over, an estimated 2.2 billion people have a form of visual impairment with one billion also with some form of hearing impairment (WHO, 2020). In the same way, Disabled World (2018) also indicated that in Africa, an estimated 60-80 million people are living with disabilities. It goes on to say that individuals with disabilities account for 10% of the African population overall, but could be as high as 20% in the poorest areas. The great majority of Africans with disabilities are denied access to education and employment opportunities, practically ensuring that they will spend the rest of their lives as the poorest of the poor. The number of disabled students enrolled in school is estimated to be between 5 and 10%. The Ghana Statistical Service (GSS, 2014) estimates the prevalence of disability in the Ghanaian population at 3% (737,743). They further reported that 40.1% and 15%

of the persons with disabilities were visually and hearing impaired respectively. They further mentioned that cumulatively, less than 10% of persons with disabilities have a high school or vocational/technical education.

The IE agenda advocates that the population of persons with disabilities of school-going age should have access to education in their immediate environments (Mitchell, 2005). There are segregated basic and vocational or technical institutions for SWD across the country. At least, in Ghana, one of such institutions can be found in every region. It is also expected that inclusive schools are available for persons with disabilities from basic to tertiary institutions. Training of teachers for general education (Basic Schools) in Ghana is generally the mandate of Colleges of Education (CoEs), though some graduates from the Universities can also be posted to teach in the basic schools, especially those who undertake courses in Early Grade and Basic Education. For training of the teachers for the second cycle and other higher educational institutions, it is the responsibility of the Universities.

However, the advertisements for admission into CoEs in Ghana for the 2019/2020 academic year (“Admission into Colleges of Education 2019/2020 academic year, 2019) and the preceding years show that only three out of the 46 Colleges practice inclusive education for teacher-trainees with sensory impairments. Although the Colleges practising IE are few, they have been able to produce some teachers with sensory impairment. With a few exceptions, most of these teachers with sensory impairments work in special schools; a few are also employed by coeducational institutions (CoEs). A few colleges in Ghana have

teachers who are visually challenged, such as the Mampong Technical College of Education and Wesley College of Education-Kumasi in Ghana. For teacher-trainees with sensory impairment (TTSI) to be able to graduate successfully from inclusive colleges, various factors need to be considered and put in place. The students would have to develop some satisfaction and persistence which would enable them to perform academically and graduate successfully. Tinto (1993) points out that, while persistence in college is essential, the most important factors are students' overall satisfaction with their educational experiences and their interactions on campus. There are various predictors to academic achievement which includes social experiences, ability, personality, Learning approaches, non-attendance and others (Chamorro-Premuzic & Furnham, 2008; Flook, Repetti & Ullman 2005; Salamonson et al., 2013). Factors such as satisfaction and persistence can also predict academic performance. Furnham, Chamorro-Premuzic and McDougall (2003) point out that academic performance can also be predicted by personality, beliefs about intelligence (BAI), cognitive ability, and gender. This study concentrated on the impact of inclusive education experiences on satisfaction, persistence and academic performance; the moderating role of self-efficacy.

All the Colleges that practice IE in Ghana mostly enrol students who are visually or hearing impaired. Braille and large prints are used for the blind and those with low vision, while sign language and hearing aids are used for the deaf and hard of hearing to aid them in the teaching and learning process. Lourens and Swartz (2016) identified that in South Africa, what has been missing from

previous research on students with disabilities is an embodied account of their lived experiences on campuses. Ghana is no exception to this observation. Therefore, this study was focused to fill that existing gap. In addition to the situation observed in Ghana, there is a scarcity of research on how the inclusive experiences support the students with disability to persist in Ghanaian CoEs, or how satisfied students with disabilities are in the Colleges that admit them. This area has therefore become an important area of study as there may be other TTSI willing to attend CoEs to become professional teachers but may find it difficult to enrol since they may not know how they can fit into the institutions. IE, as we have is about acceptance, participation and achievement. For this to be possible, it is expected that the student is satisfied with whatever transpires in the institution to be able to reach the expected success in the inclusive colleges.

Another key determinant in the success of teacher-trainees in college is their level of satisfaction. According to Hassan, Malik, and Khan (2013), a student's subjective evaluations of the many outcomes and experiences linked with education are what are meant by "student satisfaction." In their view, because satisfaction is founded on experience, student satisfaction is always affected by the total experience of the students. It is critical to meet the demands and expectations of pupils. The term "satisfaction" relates to students' feelings, which can be described and evaluated in a variety of ways. So identifying percentages of students who are satisfied, unhappy or neither satisfied nor unsatisfied at a certain institution becomes a rather simple task. In order to make

sound policy decisions for the system, questions about "university life" are always included in the standard survey questions.

For these reasons, it is expected that IE experiences should promote the satisfaction of students with any form of sensory impairment in the CoEs. Since it is difficult to have all the needs met in an inclusive environment, some students may not be able to cope with the challenges and drop out while others may persist to overcome the challenges encountered to graduate successfully. Related to IE are factors that help students to either persist or dropout of schools.

Persistence herein describes the aspiration and act of a student to stay within the higher education system (Berger & Lyon, 2005). Thus, some students may enrol but will drop out before completion due to their inability to endure the challenges on campus. When it comes to the reasons why students drop out of college, Therriault and Krivoshey (2014) have found that those who attend college are incredibly diverse. Persistence in the colleges is one of the core determinants of students' completion success. The topic of persistence according to Therriault and Krivoshey is multifaceted, in that it signifies a blend of person's academic, and background characteristics with higher education institutions. It further shows a changeover between a perhaps structured educational experience (high school) to a wide range of situations, climates and cultures that characterise Colleges and Universities.

Therriault and Krivoshey (2014) have also demonstrated that early warning signs of a student's inability to complete a degree. Some of these signs include financial barriers. The most prominent barrier to persistence was lack of

financial support. Work and family obligations were other factors. Many non-traditional students in the United States were now turning to community colleges to gain the skills and education needed to achieve upward mobility in the workforce (Chapolt, Darla, Johnson, & Karandjeff, 2015). When students are underprepared and overextended, they often “delay entry into post-secondary education after high school, enrol part-time or inconsistently, disengage from school, or in many cases, drop out altogether” (Chapolt et al., 2015, p.2). Medical and transportation issues were also noted to be key factors.

For most students, barriers to persistence do not operate independently of each other. Rather, financial issues, work and family obligations, lack of family supports and enrolment status often work together to deter college completion. These indications or signs may enable higher education institutions to provide targeted support to students while they are still in school, as well as evaluate trends over time. Higher education institutions may be able to meet accountability efforts to enhance completion rates by tracking these indicators.

Tinto (1993) also provided three principles that promote effective persistence; First, there should be effective retention programmes that are committed to the students they serve. Again, there should be effective programmes which should first and foremost be committed to education for all, not just some of their students, and finally, that the programmes are dedicated to the improvement of supportive social and educational communities in which all students are incorporated as competent members. These experiences being effective or not may also not hinder some students to drop out but continue to

persist to achieve the expected success even though they might not be satisfied with the conditions on their campuses. This might be as a result of their self-efficacy which could urge them to achieve success in their educational pursuit.

Statement of the Problem

Inclusive education has become one of the most prominent issues in the education of students with SEN in almost every country. “In the past 40 years, the area of special needs education has shifted from a segregation paradigm through integration to a point where IE is central to contemporary discourse” (Mitchell, 2010, p. 121). The transition to IE is in line with recent changes in disability discourse and views of disability (Ferrante, 2012). Disability activist and advocacy groups have been questioning the social roots of disability since the 1970s (Barnes & Mercer, 2005). The budding/emerging information is the international attention that focuses on areas that were seen as presenting challenges to the full involvement of persons with disabilities- the crucial area being education.

Many learners with disabilities in normal classes, according to Ajuwon and Oyinland (2008) do not always receive the special education services they need to fully access the curriculum. Inaccessible instructional approaches may be blamed for this lack of substantive involvement. The IE policy of Ghana section 5.1.1.2.3 provides a policy statement on tertiary education, which states that;

“Tertiary and Higher Education (both public and private) should under no circumstance deny an applicant admission on the basis of his or her special needs. Admission should be given to an

applicant who satisfies the minimum admission requirements.

Concessionary admission should be given to candidates who manifest special needs” (Ministry of Education, 2015, p. 20).

This statement from the policy clearly shows that Ghana expects TTSI to be given access to tertiary institutions without any hindrance. As a follow up from the passing of Persons with Disability Act (Republic of Ghana, 2006), Act 715, provision was made for the education of the person with SEN. For example, Article 20 (1) states that:

“A person responsible for admission into a school or other institution of learning shall not refuse to give admission to a person with disability on account of the disability unless the person with disability has been assessed by the ministry responsible for education in collaboration with the ministries responsible for health and social welfare to be a person who clearly requires to be in a special school for children or persons with disability”.

This policy appears not to have been fully implemented by most CoEs in Ghana. The question of why the policy is not being fully implemented remains unanswered. This might partly be due to lack of resources, personnel and more qualified potential TTSI not applying to the CoEs. A study by Braun and Naami (2019) in Accra, Ghana, attest that the theoretical framework of universal design and a ‘disability friendly’ environment that is proposed in Ghana’s IE Policy (MOE, 2015) is not being upheld as expected. For example, few CoEs in Ghana

enrol TTSI. In cases where they have been admitted to the colleges, there is a paucity of research on how satisfied they are in the institutions, how they persist as well as how they manage to graduate successfully. This again has called for this study which otherwise seeks to find out how TTSI are faring in the colleges practising IE and what could be done to encourage other colleges to enrol prospective TTSI.

Various studies (Braun & Naami, 2019; Deku & Vanderpuye, 2017; Gyimah, 2006; Kuyini, Yeboah, Das, Alhassan, & Mangope, 2016; Vanderpuye, Obosu & Nishimuko, 2018) have been done on inclusive education which addressed issues on attitudes of parents, teachers and learner, their perception and inclusive practices at various levels in the education field but not on inclusive experiences of TTSI in CoE in Ghana.

As already indicated only three Colleges of Education (6.5%) out of the 46 Colleges admit TTSI. The entire 16 CoEs in the southern belt of Ghana do not admit TTSI. Students with a visual impairment from this belt have to travel to the Eastern, Ashanti or Upper West Regions to access Colleges of Education. The hearing impaired would all have to converge at Akropong Akwapim in the Eastern region. A case in point was a qualified student who could not be admitted by a college for lack of supportive basic infrastructure such as ramps, and unfriendly environmental landscape and had to be referred to another college for consideration. The point was that the authorities did not admit this student because there was no supporting infrastructure to facilitate her teaching and learning. In this instance, the best option was the referral. This also is an

indication that facilities to meet the needs of learners with disabilities in colleges must be considered.

This situation of not making provisions to enrol TTSI by most CoEs in Ghana is contrary to the IE agenda which seeks to include all learners. Similarly, during a sandwich programme taking place in the CoEs, a student who was visually impaired was to be transferred from a college to another college due to his impairment. He insisted he could make it without going to the new place and he was allowed to remain and eventually graduated successfully. Though he had some challenges, he persisted and completed the programme graduating with a second-class lower division. These two anecdotal experiences necessitated an in-depth assessment of the lived experiences of TTSI currently enrolled in Ghanaian CoEs.

Students have expectations that must be met to help them succeed in school (see Gyimah, Kwarteng, Anane, & Nkrumah, 2016). Although IE has been appraised to be beneficial in many instances, the problem with existing empirical literature is that much has not been done in examining the students' satisfaction, persistence and academic performance in such inclusive environments. Despite the support offered by rehabilitation agencies, about half of visually impaired students drop out of college before completing their degree (Schuck, 2015). An understanding of how existing inclusive education practices affect the retention of TTSI on the CoEs could provide appropriate direction(s) in terms of maintaining, modifying or otherwise of the current practices. From the literature and my personal experience, in as much as inclusive education is being practiced, TTSI

are restricted to Colleges of Education to attend. This might affect their satisfaction and academic performance. They therefore need to persist or have high self-efficacy to help them graduate successfully. Based on my initial review of literature, it appears that in Ghana, little or no detailed research has been done on the CoEs classrooms and how IE experiences affect the satisfaction, persistence and academic performance of TTSI enrolled in these institutions. This study provides, to the best of my knowledge, the first detailed investigation on this topic using data on CoEs and TTSI.

Purpose of the Study

The purpose of the study was to assess the impact of inclusive education experiences on satisfaction, persistence and academic performance of teacher-trainees with sensory impairment in Ghanaian CoEs and the moderating role of self-efficacy.

Specifically, the study sought to:

1. examine the inclusive education experiences (IEE) of teacher-trainees with sensory impairment (TTSI) in the Colleges of Education (CoEs)
2. assess how satisfied TTSI are with their IEE in the CoEs.
3. explore the level of persistence of TTSI in the CoEs.
4. identify the academic performance levels of TTSI in the CoEs
5. examine the self-efficacy level of TTSI in the CoEs.
6. identify the differences between the levels of satisfaction of teacher-trainees with visual impairment (VI) and those with hearing impairment (HI) in CoEs.

7. identify the differences between the levels of persistence of teacher-trainees with VI and those with HI in CoEs.
8. identify the differences between the academic performance of teacher-trainees with VI and those with HI in CoEs.
9. determine the relationship between IEE and levels of satisfaction of TTSI in the CoEs.
10. determine the relationship between IEE and levels of persistence of TTSI in the CoEs.
11. determine the relationship between IEE and academic performance of TTSI in the CoEs.
12. establish how self-efficacy of TTSI moderate the relationship between IEE and their satisfaction in CoEs.
13. establish how self-efficacy of TTSI moderate the relationship between IEE and their persistence in CoEs.
14. establish how self-efficacy of TTSI moderate the relationship between IEE and their academic performance in CoEs.

Research Questions

The following research questions guided the study:

1. What are the inclusive education experiences (IEE) of teacher-trainees with sensory impairment (TTSI) in the Colleges of Education (CoEs)?
2. How satisfied are TTSI with their IEE in the CoEs?
3. What is the level of persistence of TTSI in CoEs?
4. How are TTSI performing academically in CoEs?

5. What is the self-efficacy level of TTSI in CoEs?

Hypothesis

1. H_0 : There is no significant difference in levels of satisfaction between teacher-trainees with VI and HI in CoEs.

H_1 : There is a significant difference in levels of satisfaction between teacher-trainees with VI and HI in CoEs.

2. H_0 : There is no significant difference in levels of persistence between teacher-trainees with VI and HI in CoEs.

H_1 : There is a significant difference in levels of persistence between teacher-trainees with VI and HI in CoEs.

3. H_0 : There is no significant difference in academic performance between teacher-trainees with VI and HI in CoEs

H_1 : There is a significant difference in academic performance between teacher-trainees with VI and HI CoEs.

4. H_0 : There is no relationship between inclusive education experiences and levels of satisfaction of teacher-trainees with sensory impairment in CoEs.

H_1 : There is a relationship between inclusive education experiences and levels of satisfaction of teacher-trainees with sensory impairment in CoEs.

5. H_0 : There is no relationship between inclusive education experiences and levels of persistence of teacher-trainees with sensory impairment in CoEs.

H_1 : There is a relationship between inclusive education experiences and levels of persistence of teacher-trainees with sensory impairment in CoEs.

6. **H_0 :** There is no relationship between inclusive education experiences and academic performance of teacher-trainees with sensory impairment CoEs.

H_1 : There is a relationship between inclusive education experiences and academic performance of teacher-trainees with sensory impairment in CoEs.

7. **H_0 :** Self-efficacy does not moderate the relationship between inclusive education experiences and satisfaction of teacher-trainees with sensory impairment in CoEs.

H_1 : Self-efficacy moderates the relationship between inclusive education experiences and satisfaction of teacher-trainees with sensory impairment in CoEs.

8. **H_0 :** Self-efficacy does not moderate the relationship between inclusive education experiences and persistence of teacher-trainees with sensory impairment in CoEs.

H_1 : Self-efficacy moderates the relationship between inclusive education experiences and persistence of teacher-trainees with sensory impairment in CoEs.

9. *H₀*: Self-efficacy does not moderate the relationship between inclusive education experiences and academic performance of teacher-trainees with sensory impairment in CoEs.

H₁: Self-efficacy moderates the relationship between inclusive education experience and academic performance of teacher-trainees with sensory impairment in CoEs.

Significance of the Study

The results of this study will provide information that can be used by College Councils and Principals of CoEs to implement the identified strengths to make room for the admission of prospective TTSI into their Colleges. Service providers will also get to know what makes the TTSI satisfied, persist and achieve in CoEs in Ghana. It will also reveal the type of support services the Principals would need for the admission of persons with disabilities.

Administrators and policymakers will have a basis upon which they can design programmes and take specific actions at increasing enrolment and successful graduation of TTSI in CoEs. When the Inclusive ideology is embraced by all CoEs, prospective TTSI into CoEs will have much comfort attending Colleges of their choice. It will also help to promote successful completion of colleges without any fears of drop-outs due to problems with satisfaction, persistence and academic achievement. Finally, the study will add to knowledge on the IE progression in Ghanaian CoEs.

Delimitation

The study was restricted to the three inclusive CoEs in Ghana and included only TTSI. Three Colleges were selected because they are the only colleges practising IE for TTSI in the country. The sensory impaired was also chosen because they are the outstanding group of persons with disabilities in CoEs, whose IE calls for major attention. Those with orthopaedic challenges also need some attention in inclusive colleges but theirs can be easily overcome without major problems. The variables, satisfaction, persistence and academic performance were also selected as they were important factors in determining students' attrition or retention (Tinto, 1993; Bean, 2005) on a programme of study in their schooling. Michell (2005) is of the view that IE is not just about depositing the student with SEN in the regular class but helping them to achieve their potentials.

Considering why the three CoEs were the ones admitting the TTSI, Policymakers; National Teaching Council (NTC), National Council for Tertiary Education (NCTE), the Ghana Education Service (GES) and the Principals could have been interviewed, but the study was delimited to the TTSI since the variables could best be captured from the students own perspectives.

Limitation

The face-to-face nature of the focus group discussion might cause participants not to provide information freely, as it did not promote the anonymity required of the study. For this reason, ethical reasons of research, such as keeping information confidential, was spelt out to participants and they were encouraged

to keep to themselves whatever transpired in the discussions the findings of the study are to promote effective IE practices in the CoEs in Ghana. The students filled a consent form (see appendix A) approved by the Institutional Review Board (IRB) of the University of Cape Coast (UCC), seeing to their security and for due process in the event of the researcher violating the contract.

In translating, the interpreters might have modified some statements either adding to or eliminating some salient information. This might distort the main statements signed by the respondents which could affect the results of the study. To prevent this, the interpreters were advised to interpret exactly what was signed or stated, but its effectiveness could not be justified.

The small sample size may have impacted the study's ability to generalise its findings, even if they were based on data from the total population (the census). Three of the nine hypotheses were found to be significant, whereas the other six were not. When doing a study on a small population, Ary, Jacobs, Sorenson, and Razavieh (2010) say that a preserved null hypothesis might legitimately be read as a lack of link between variables in that sample. It was also challenging for me to compare my findings to current research because there was a lack of study on the influence of inclusive experiences on student satisfaction, perseverance, and academic success in Ghana, and the moderating function of self-efficacy.

Operational Definition of Terms

The following terms are used in this thesis and the definitions adopted are outlined as follows:

Academic performance: a measure of student ongoing institutional Cumulative Grade Point Average (CGPA) for most recent academic semester/year.

Inclusive Education: educating individuals with special needs with their peers without disabilities in the same institution with the necessary services provided for their success.

Persistence: a student's decision to continue with his/her educational programme through to graduation. Persistence is the opposite of attrition.

Satisfaction: the favourability of a student's subjective evaluations of the various outcomes and experiences associated with education.

Self-Efficacy: the beliefs individuals have about whether or not they can successfully complete a task.

Sensory impairment: students who are either visually or hearing impaired.

Student teachers: refers to the pre-service teachers in the Colleges of Education

Students without disabilities: students who have not been diagnosed as having any visual or hearing difficulties.

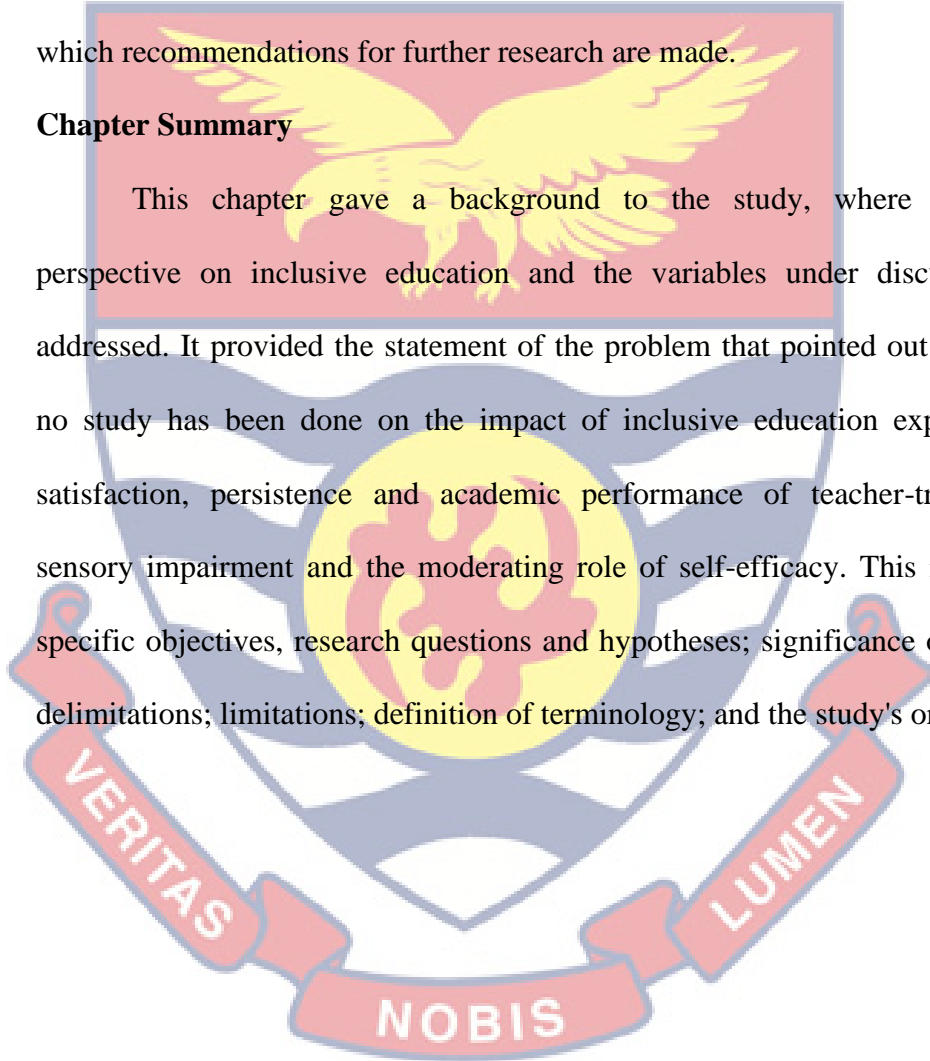
Organisation of the Study

There are a total of five chapters to this thesis. This chapter explains the study's background; the problem, the objective of the study, the research questions and hypotheses, importance of the study, delimitations and limitations; and the definition of words. There is a literature review is provided in chapter two. It presents the main concepts and theories were covered in this section. The data collection process is detailed in the third chapter. Research design, study area, population, sample and sampling procedure, instruments for data collection, data

collection procedures and the data processing and analysis procedures are discussed in this chapter. Fourth chapter presents the findings and discussion of the data obtained. Using research questions and hypotheses as a framework, it offers the outcomes and findings. Chapter five concludes the research with a summary, conclusion, and recommendations based on the study's findings, after which recommendations for further research are made.

Chapter Summary

This chapter gave a background to the study, where a historical perspective on inclusive education and the variables under discussion were addressed. It provided the statement of the problem that pointed out that little or no study has been done on the impact of inclusive education experiences on satisfaction, persistence and academic performance of teacher-trainees with sensory impairment and the moderating role of self-efficacy. This included the specific objectives, research questions and hypotheses; significance of the study; delimitations; limitations; definition of terminology; and the study's organisation.



CHAPTER TWO

LITERATURE REVIEW

This chapter reviews literature related to the study. It is generally presented along with the themes of Conceptual framework, Theoretical framework and Empirical reviews which are in line with the aims of the study presented. The conceptual framework covered inclusive education practices, satisfaction in the inclusive System, persistence levels of students with SEN and self-efficacy. The theoretical framework considered models of disability and theories on retention and attrition. The empirical review was based on IE experiences of the student with VI and HI, satisfaction and persistence levels of TTSI in inclusive CoEs in Ghana. Students with visual impairments and students with hearing impairments were compared in terms of their levels of satisfaction, perseverance, and academic performance. Students with VI and HI were also evaluated in terms of their contentment, tenacity, and academic success in relation to their inclusive education experience. Students with VI and HI were examined for the moderating effect of self-efficacy on the relationship between inclusive education experience and satisfaction, perseverance, and academic success.

Conceptual Framework

There are a number of concepts that are covered in the conceptual framework. As well as providing an explanation of the key variables of the study, it also addresses definitional and explanatory concerns.

Inclusive education practice

The concept of Individualized Education (IE) recognises that every learner is unique and must have access to regular education regardless of their physical, intellectual, emotional, financial, linguistic, or other differences. The review examines the following subheadings: inclusive education, the history of inclusive education, and the current state of inclusive education in America. The theory and practice of IE, as well as the advantages and challenges of IE have all been examined.

Inclusive education

Though a precise definition of IE would be appreciated by readers, the term has different connotations for different people because it is approached from various angles and therefore can mean different things to various people. Pearson (2005) affirms that there has not been a generally acknowledged explanation for IE. This is a result of people from different disciplines and background addressing it to suit their ideologies. It was the opinion of Hunt and Marshall (2002), for example, that inclusive education usually meant placing children with disabilities in regular education classrooms and providing them with the assistance they require. Students who would normally be assigned to an IE school are instead educated with their age-peers, as argued by Adams, Harris, and Jones (2016). There were two other claims made by the group: that IE encompasses both mainstreaming and integration in which students with disabilities are enrolled in general education classes in order to improve their social interactions but not their academic outcomes. All students with disabilities should be educated in the

regular classroom in their neighbourhood schools, according to Hallahan and Kauffman (2002).

Citing the Phi Delta Kappa's Centre for Evaluation, Development and Research's Research Bulletin Number 11, Huston (2007) described IE as an expression of guarantee to educate each child to the maximum extent appropriate in the school and classroom he or she would otherwise attend. In this case, services are brought directly to the child, rather than the child having to relocate to receive them (rather than having to keep up with the other students).

IE acknowledges that all students can learn. Children, age, gender, disability, and other health-related statuses are all taken into consideration in the programme. As stated in the Universal Declaration of Human Rights of 1949, it promotes social IE and enshrined the rights of children (UNESCO, 2003).

IE is an approach to addressing and responding to the needs of all children, youth, and adults by increasing their involvement in learning, cultural exchange, and society and decreasing and eliminating their exclusion from education. Furthermore, he says that the goal is for all students in the required age range to be educated by the regular education system and the belief that all students must be educated by the regular education system (UNESCO, 2009).

The basic concept of IE, according to Tomko (2004), is the value of diversity within human society. He emphasizes that IE is completely accepted when the notion that learners must become "natural" to contribute to society is abandoned. The only way we can rise to the status of contributing members of society is to think outside the box. As a result of this accomplishment, society

moves one step closer to attaining the attainable goal of giving all students a sense of belonging. To Tomko, a sense of belonging is a sense of belonging to the campus community and a sense of loyalty to a particular group. College students' sense of belonging is based on their experiences with social support, connectedness, and a sense of belonging, according to Strayhorn (2012). Since the sense of belonging measure is linked to the entire campus population, Hurtado and Carter claim that it is distinct from social inclusion in that it measures the sense of belonging of the entire student body. Having a strong sense of belonging may have a positive impact on one's overall college experience.

Given what has been said thus far, IE could be described as an approach that acknowledges the fact that each child is a unique individual who requires regular education regardless of their physical, intellectual or emotional well-being or financial resources. All children, regardless of their abilities or disabilities, must be taught in the same classroom and receive appropriate support services. The appropriateness of instruction given to students is therefore a primary concern for IE, but the location of instruction is not. Students with and without disabilities and students from different backgrounds and abilities all work together in the classroom and connect socially during the school day in an IE system or process, according to the definitions above. IE was supposed to take the place of the long-standing, historically segregated system of special education for people with disabilities.

During the 1800s and early 1900s, many schools around the world separated (segregation) learners with special needs (disabilities) from those

without SEN. Osgood (2005) indicated that segregation was seen as the most effective way for efficient classroom operation and best for all students to receive a high-quality education. This period witnessed many children with disabilities denied the privilege of receiving an appropriate education. Around the 1960s special education came under serious scrutiny from various anti-segregation movements whose aim was to help all children with disability to have access to similar education to those in regular education (Kavale & Forness, 2000). This paved way for inclusive education. Villa and Thousand (2003) revealed that by the 1980s and 1990, in the United States, many schools accepted this idea of IE and educators were encouraged to make their classroom more receptive to all students by making available supplementary resources and services.

Advocates included Madeleine C. Will, who was the first to introduce the REI (Regular Education Initiative) initiative in the US Department of Education's Office of Special Education and Rehabilitative Services (Hallahan & Kaufman, 2002). Will, in speeches and articles, urged general educators to take on greater responsibility for the education of students with special needs, such as those who are economically disadvantaged or who have disabilities, according to Hallahan and Kaufman (2002). Her doubts about the validity of special education as a system of education separate from general education stemmed from the fact that other professionals had long advocated mainstreaming. Segregation is the practice of separating students with disabilities from their peers and sending them to separate schools. To ensure that more projects aimed at mainstreaming in the United Kingdom received federal government funding, Will worked at the highest

levels of government. Mainstreaming was the idea of integrating students with disabilities (SWD) into mainstream classrooms while providing them with specialised services in resource rooms. Okyere and Adams (2003) defined mainstreaming as:

“the temporal, instructional, and social integration of eligible exceptional children with general education peers based on an on-going, individually determined, educational planning and programming process and requires clarification of responsibility among general and special education administrative, instruction, and supportive personnel” (p. 44).

According to Huston (2007), "mainstreaming" has been used to refer to the preferential placement of students with special needs in one or more "regular" education classes. Regular classroom teachers expect students to "earn" their place in daily classes by demonstrating an ability to "keep up" with the work they are given.

According to Hallahan and Kaufman (2002), the United States passed and re-evaluated a number of legislative instruments.

Included in this legislation was the Handicapped Children's Early Education Program (HCEEP) PL 90-538. Through PL 94-142 to PL 99-457, this instrument provided funding for model demonstration projects for experimental education programmes for children with disabilities. Children from three to five years of age were added to the scope of PL 94-142's mandate, and states were

given incentives to set up programmes for infants and toddlers up to age three. This has been continually updated up until this point.

IE is considered to be a fundamental right of every learner (Ainscow & Miles, 2008; UNESCO, 2003). In light of the "Education for All" policy, this is a global priority (EFA). In 2000, at the World Education Forum in Dakar, Senegal, it was decided to achieve EFA by the year 2015. Despite this, its worldwide implementation is a challenge (Ainscow, 2005).

It is now possible to observe SWD students learning alongside their non-disabled peers in elementary, middle, and high schools across the United States (National Down's Syndrome Society [NDSS], 2004). IE refers to the practice of accepting, valuing, inspiring, and encouraging students of all abilities in their academic and social learning. In the years preceding IE, students with disabilities were systematically and deliberately denied access to a regular school system because schools were not sensitive to their learning styles and backgrounds. (NDSS, 2004). These students were separated from their peers and put in special schools as a gesture of empathy (Mantey, 2014). As a result, countries developed two distinct educational systems: standard and special education. Open University (2003) adds to the claim that certain people with disabilities were considered incurable and placed in long-term hospitals and special schools, mostly for social or political reasons. It was focused on deficit evaluations of impairments toward normality, that is, what one cannot do rather than what one can do.

The Warnock Committee of Education for Handicapped Children and Young People (Norwich, 1919) made several recommendations for dealing with

disabled children, including mainstreaming all disabled children, managing statements of special education need, financing resources and budgeting arrangements specifically for pupils with SEN. To ensure that all students have the opportunity to learn, UNESCO established the Salamanca Statement and Action Framework in 1994, both in Spain (UNESCO, 1994). Education for All is part of the United Nations' global policy, according to Farrell and Ainscow (2002) who cite the Salamanca Statement (UNESCO, 1994) as international support for the IE programme (EFA). In the Salamanca Statement on Principles, Policy, and Practice in Special Needs Education, Internet Explorer (IE) was a prominent feature. According to the five key clauses of the statement, every child has a fundamental right to education and must be provided with opportunities for learning that are adequate for their age and development. A child-centred pedagogy capable of meeting the needs of students with special needs should be allowed to attend normal schools, according to the article. The best way to counteract racism, create accepting societies, build an inclusive community, and achieve education for all is to use daily schools with this approach (UNESCO, 1994).

According to Mitchell (2005), one of the key features of IE is that students with disabilities are allowed to participate fully in age-appropriate classes at their local elementary schools. People with disabilities need to be integrated into society, and this statement agrees with that. People with disabilities should not be demeaned because of their medical condition, but rather their physical and social barriers should be removed so that they can participate in the normal life of their

community on an equal basis. As a result, the IE agenda must be supported and adopted by all communities. Increasing numbers of students with disabilities are being educated in settings that include them, according to Bliss (2017). Teaching best practices in these settings is a key component of successful integration (Jorgensen, McSheehan, Schuh, & Sonnenmeier, 2012). For the purpose of assessing the effectiveness of an inclusive education programme, this guide lists 14 types of best practices.

Special education services provided by the Ghana Education Service (GES) include three main procedures: segregated special schools, segregated units onsite with mainstream schools, and inclusive education (Anthony, 2011). There are three main types of disabilities traditionally addressed by SEN services, including special schools: visual impairment, hearing impairment, and intellectual/mental disability. In most Ghanaian special schools, the distinguishing characteristics of impairment appear to be decided at random. There is a significant lack of precision in their work. A student who has a mild learning disability and is also spastic would be placed in a strict classroom with other students with similar disabilities. Students from Ghana with autism are included in the programme for the physically (intellectually) handicapped despite the fact that they do not have a mental health disability (Inclusion Ghana, 2012).

One of the SEN Policy Framework's goals is to address the "inadequate classification/categorisation scheme that describes disability" (Ghana Education Service [GES], 2003, p. 5). In this discussion, categorisation is not debated in relation to its educational value. An individual model of disability will once again

be used when the focus shifts to categorising specific impairments (Eide & Loeb, 2005). High-quality mainstream educational programmes that are tailored to each student's unique learning style coexist with the need to first recognise these needs in the design of IE (Florian & McLaughlin, 2008). Ironically, it is national IE campaigns, which are in response to international demands for IE rooted in human rights and a social model of disability, that are primarily responsible for the perception of a need for additional disability classification. According to national policies and studies, IE is a strategy for meeting EFA obligations, but some SWD consider it to be unacceptably restrictive.

Under the "Persons with Disabilities Act, 2006," Ghana must "create special schools for persons with disabilities who are unable to enrol in formal schools due to their disability" (Article 18.2). According to Article 20, except for students who clearly require special education, no student should be denied admission to a school because of their disability (Republic of Ghana, 2006). These conditions are thought to be self-evident because there is no explanation of what they entail. Despite the fact that the MoESS has set an ambitious goal of enrolling all students with "non-severe" SEN in mainstream schools by 2015, the document does not define what constitutes a "severe" disability. Furthermore, this arbitrary deadline may be the result of outside influences, as it is in line with both the Millennium Development Goals and the EFA targets. Only the three CoEs remain to enrol TTSI in 2021. International understandings of IE conflict with the idea that it is not suitable for everyone with a disability. Individuals with intellectual disabilities (IE) and other accommodations have benefited from

changes in national policy in Ghana, where disability is defined as "the unjustified oppression of individuals by social attitudes and systems" (Singal, 2014).

For many Ghanaians, disability is still seen as an individual trait (Singal, 2014), so the placement of SWD in general education classrooms is seen as IE, which is consistent with the term "integration." Integrating a student into a normative social and academic environment may necessitate adapting to those norms. The implicit assumption that students with intellectual disabilities cannot be classified as "non-severe" by definition and therefore cannot attend "inclusive" public schools also tends to be prevalent in the educational community. Students with visual or auditory impairments are the primary target audience for Internet Explorer, according to official government studies (GES, 2003; MoESS, 2008).

Educational success, according to McMahon (2009), is a road to personal stability, active citizenship, and full participation in a democratic society. Individuals who complete post-secondary education have more opportunities for meaningful and long-term jobs, but this is not a guarantee (US Bureau of Labor Statistics, 2013). Before the advent of special education services, these persons with disabilities had no formal education and so were left behind in almost all aspects of life. This made them to be classified as part of the minority in life and belonged to the poor. In the advent of special education, concentration was on the child and so most legislation for persons with disabilities leading to IE was mostly stated for the child. Some of which were:

1. The 1948 Universal Declaration of Human Rights guarantees the right to free and obligatory basic education for all children.

2. The 1989 UN Convention on the Rights of the Child, which ensures the right to receive an education without discrimination on any grounds.
3. The 1994 Salamanca Statement and Framework of Action on Special Needs Education, which requires schools to accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions.

4. The 2000 World Education Forum Framework for Action, Dakar, EFA and Millennium Development Goals, which stipulates that all children have access to and complete free and compulsory primary education by 2015.

5. The 2001 EFA Flagship on the Right to Education for Persons with Disabilities: Towards IE.

Ten three-classroom units for students with intellectual disabilities (ID) will be built in Ghana by 2008, and "infrastructure facilities in special schools will be expanded to admit at least 50 percent of learners with profound and multiple disabilities" as a result of IE policy outputs in Ghana (MoESS, 2008, p.

14). Attendance in segregated classes held on-site at traditional schools was considered "inclusive" even though it did not conform to the international definitions outlined in Ghana's policies. According to this theory, rather than a disparity in commitment to rights-based provision, this is due to divergent views on what constitutes information exchange (IE). Due in part to the conflict between international and Ghanaian views of disability, which are both individual and group-based, this has occurred. There is a persistent mental barrier that prevents

SWDs from fully participating in society, and this belief that SWDs "belong" in their institutions only strengthens this belief.

The rapid rise in the number of children enrolled in primary school is also a direct result of Ghana's dedication to the EFA goals (Avoke, 2005; MoESS, 2008). It will be even more difficult to implement true Individualized Education for Students with Disabilities (IE for SWD) if classrooms are overcrowded and teachers are in short supply. It is possible that some of Ghana's national pressures can be attributed to well-intentioned major international movements like UNESCO, T-TEL, and Inclusion Ghana (IG). Overcrowding, under qualified teachers, and decreased efficiency are all possible consequences of political pressure to meet EFA deadlines. This could lead to a conflict of interests for already stretched educational budgets, especially if high-quality IE is also required. EFA deadlines in Ghana appear to be working toward IE for SWD in the country's efforts to meet them. In Ghana, all of these studies are based on IE rather than CoEs, resulting in a gap that needs to be filled.

There are three main stages to the development of special/IE in Ghana, according to Ametepe and Anastasiou (2015). This period, from 1936 to 1956, was known as the "Early Special Education Efforts" (ESE) stage. There were no special schools for students with visual or orthopaedic impairments in Akropong, so missionaries like the Basel Missionaries opened one. The Presbyterian and Methodist Churches in Wa once again established a special school for students with visual impairment. Independence - Establishment of Public Special Education System, which lasted from 1957 to 1993, was the second phase of the

project. Educating handicapped children was a new venture for Ghana's government. The government is mandated by the Educational Act to ensure that all Ghanaian children, including those with disabilities, have access to free and compulsory basic education. Emphasis on IE began in 1994 and has lasted to this day. From the Salamanca Statement of 1994, Education for All (EFA) to the United Nations Convention on the Rights of Persons with Disabilities (CRPD), Ghana corrected the international conventions. Botts and Owusu (2013) point out that the government of Ghana has signed numerous international conventions on disability. Increasing the quality of life for people with disabilities (PWDs) by supporting their legal entitlements to various services necessary for full and equal citizenship has been the primary goal of each of these conventions (Basic Education Division, Ghana Education Service, 2004; Thurman, 2003).

With a Special Education Coverage (SPEDC) of 0.098 percent, there were approximately 6,308 students with disabilities receiving special education services in Ghana in 2008. (Anastasiou & Keller, 2014). The IE policy in Ghana was implemented in 34 of the country's 170 districts by 2011/12, with 19,775 students with disabilities taking part, according to Ametepe and Anastasiou (2015a). TTSI students are admitted to nearly every major university in Ghana, including the Winneba University of Education (UEW). A deaf-blind UEW student completed their 24th graduation in 2019. All students in tertiary institutions are required to take a special education course as part of the IE teacher education policy. It was not until 2007 that teacher training courses were introduced or incorporated into the curriculum for teaching children with special

needs. Large percentage of current classroom teachers who graduated from college prior to 2007 lack the necessary course work and training to effectively teach students with disabilities (Inclusion Ghana, 2012). Additionally, second-year students at the College of Education must complete an educational programme for students with special or diverse learning needs. Special education is available to every student in Ghanaian educational institutions (CoEs and universities), but the content of these courses falls short of meeting the needs of future teachers who will be responsible for providing inclusive education to all students. As a result, teachers in Ghana may not have been adequately trained and equipped with the necessary skills prior to the implementation of IE (Vanderpuye, et al., 2018). In light of this, Mprah, Amponteng, and Owusu (2015) recommend that these institutions' curricula be rewritten to include more classes on special education needs (SEN). Teacher candidates should be given the chance to interact with children who have special needs, as this exposure can help shape their views of special education and break down stereotypes.

CoEs were created to provide teacher training from an associate's degree to a bachelor's degree, and these newer trainings aim to broaden access to postsecondary education and alleviate some of the strain on traditional higher education institutions (Effah, 2011). The goal of the CoEs is to increase the number of qualified teachers in the field. This is a vital policy initiative that will widen access to higher education by promoting sustainable alternatives. In the 2018/2019 academic year, students enrolled were to undertake a 4-year Bachelor of Education Programme to phase out the Diploma in the Basic Education

Programme. This, notwithstanding, the three Colleges; Presbyterian College of Education (PCE), Akropong-Akwapim in the Eastern Region, Wesley College of Education (WESCO), Kumasi in the Ashanti Region and Nusrat Jahan Ahmadiyya College of Education (NJA), Wa in the Upper West Region, have still been maintained as the only CoEs to enrol TTSI in Ghana. PCE is noted to be the pioneer of special education in Ghana. Currently, the College practices IE with students who are visually impaired or hearing impaired. The other two Colleges, WESCO and NJA admit only students with VI. This also means that only one College of Education in Ghana enrolls pre-service teachers with HI.

A 2008, Individual with Disability Education Act (IDEA) reported data from the U.S. Department of Education, Office of Special Education and Rehabilitative Services (2010) indicated that as much as 95% of all SWD were educated in their local neighbourhood schools in the United States. This cannot be likened to Ghanaian students who enrol in CoEs as only three Colleges admit students with recognised disabilities throughout the country and so they have to travel from the various regions and communities to access these Colleges.

According to Public Law 101-476, the Individuals with Disabilities Education Act, students with sensory impairments have the best chances of academic success in educational systems with a full range of programme options and competent staff dedicated to meeting the individual educational needs of each student (IDEA). It is in the same way that their peers' social, academic and attitude can make them happy and help them realise their potentials. These and other unknowns may cause the challenges to persist or not, until graduation.

Benefits of inclusive education

Schuelka (2018) points out that the importance of IE is defined in its positive outcomes for all children. There are several reasons for implementing inclusive education. Some of which are outlined as follows:

1. IE enhance societal and academic prospects for both children with and without disabilities, as well as significantly increases the likelihood that children with disabilities enrol in higher education and have better employment and life outcomes (Schuelka, 2018). Another important benefit was discovered by Schifter (2016) who examined the graduation pattern of SWD in the United States and found that SWD in IE were more likely to graduate than those in segregated schools.
2. IE improves educational and employment opportunities for SWD. According to research, students with disabilities in standard school settings achieve better academic and social learning outcomes than those in separate special education settings (Gyimah, Dankwa & Mantey, 2019; McCarty, 2006). It is also reported that educating learners with disabilities alongside their peers without disabilities facilitates access to the general curriculum (McCarty, 2006). Also, most learners with disabilities do make better academic progress when expectations of their performance are raised (Gyimah, Dankwa & Mantey, 2019; McCarty, 2006).
3. Educating both SWD and students without disabilities together fosters understanding and tolerance, and it better prepares students of all abilities to

function in the world beyond school (Florian, Black-Hawkins & Rouse, 2017; Hehir, Grindal, & Eidelman 2012).

4. IE is also essential in delivering learners with disabilities from the segregated institutions which keep them separated from the rest of their peers (UNESCO, 1994). Mainstream schools give SWD the social contact and it gives them the sense of how this world operates (Gyimah, Dankwa & Mantey, 2019: UNESCO, 1994)
5. IE gives opportunity to learners who have a disability and adults to challenge prejudice, become visible, and gain the confidence to speak for themselves and build their own future within the mainstream of society (Eide & Loeb, 2005; Florian et al. 2017; Hehir, Grindal, & Eidelman, 2012).
6. IE enables learners with disabilities to stay with their families and communities. The placing of learners away from their homes and families to attend residential special schools is a contradiction of their rights to home, family and their involvement in the community. Although there may, sometimes, be educational benefits to attending a special school, the separation of learners with disabilities from their families and communities often confirms society's prejudice towards people with disabilities (Gyimah, Dankwa & Mantey, 2019).
7. IE can act as a catalyst for change in educational practice, leading to improved quality of education (Florian, Black-Hawkins & Rouse, 2017; UNESCO, 1994). Including learners with diverse needs in mainstream schools' challenges teachers to develop more child-centred, participatory, and active

teaching approaches. This benefits all children. Teachers often think they need 'special skills' to teach children with disabilities, but experience has shown that in most cases learners with disabilities can be included through good, clear and accessible teaching which encourages the active participation of children (Florian, Black-Hawkins & Rouse, 2017; UNESCO, 1994). In addition to these skills, teachers may also need some specific technical help and/or equipment to meet certain children's impairments (Florian, Black-Hawkins & Rouse, 2017; UNESCO, 1994).

8. Discriminatory attitudes towards learners with disabilities persist in society because of lack of awareness and information and little, or no, experience of living closely with people (UNESCO, 1994). It is difficult to break down these attitudinal barriers, but experience has shown that, within the right context, learners can be more accepting of difference than adults (Gyimah, Dankwa & Mantey, 2019; UNESCO, 1994). Learners are our future leaders. If they go to school with learners with disabilities, they will learn to live with them and not discriminate. In addition to this, Voltz, Brazil and Ford (2001) advanced that the climate in such learning environment enhance the idea that, differences are natural and thus special needs students feel comfortable since they are accepted by their teachers and other students.
9. Alshahrani (2014) observed that students with hearing impairments self-confidence are enhanced when in an inclusive school. They learn to become independent and less dependent on teachers like their peers without the disability. Similarly, Gupta, Henninger and Vinh (2014) found that higher

expectations in an inclusive school enable students with hearing losses to perform better, gain self-confidence and independence and additionally develop a sense of self. Another study indicated that schools with inclusive ideology offer a more encouraging learning atmosphere and access to an extensive curriculum that enhance the overall academic wellbeing of all students (Bashir, 2005). For instance, a systematic review on studies that assessed the effect of IE on students without disabilities found that the children with disabilities either experience no effects or experience academic improvement when educated with persons with disabilities (Kalambouka, Farrell, Dyson, & Kaplan, 2007).

Barriers to inclusive education

Like any other form of education, there still are several obstacles to the implementation of inclusive education. In their attempt to explain the concept of IE, Ainscow, Booth and Dyson (2004) said that IE is concerned with the identification and removal of barriers. Educational barriers come in several forms. They can be physical, technological, structural, financial, or attitude-based, or they can result from a school's failure to provide a required accommodation in a timely fashion (Mungai, 2015). Mungai further points out that lack of or inadequate resources remain a major challenge to inclusive education. He, therefore, concluded that for most SWD, inadequate infrastructure makes them dissatisfied with the school environment. In addition to this, Kuyini and Mangope (2011) reveal that limited resources and facilities act as barriers to practising and implementing inclusive education. Murphy (2015) in the article "Think Inclusive"

outlined the biggest barriers to IE as Attitudes, Physical Barriers, Curriculum, Teachers, Language and communication, Socio-economic factors, Funding, Organisation of the Education System, and Policies as Barriers.

According to Ainscow et al. (2004), the following things stand in the way of IE: societal values and beliefs; economic factors; a lack of measures to ensure compliance with policies; the spread of responsibility for education; conservative traditions among teachers, teacher educators, and educational researchers; parental resistance; a lack of skills among teachers; rigid curricular and examination systems; fragile democratic institutions; inadequate education.

Another significant factor is a lack of resources. It is an important consideration to consider when designing an IE strategy (Gyimah, Sugden, & Pearson, 2008). According to Artiles and Dyson (2005), funding and support for SEN educational programs are top priority since other parts of the economy vie for attention. This is a major reason for delayed and inadequate financial support towards the provision of special education services at various levels of the educational ladder. Accommodation decisions are often taken based on financial considerations rather than an evaluation of SWD's individual needs. Certain programmes include eligibility requirements and limitations that raise human rights concerns in the postsecondary funding system. IE relies on adequate funding, however funding for the programme is low. Schools have a reputation for providing substandard services, educational materials, and general support.

Lacks of ramps and/or elevators in multi-story buildings, heavy doors, inadequate bathrooms, and/or inaccessible transportation to and from schools

continue to be physical barriers for students with disabilities (SWD) (Behrman, 2012). Post-secondary students sometimes have a difficult time finding reasonably priced housing. Schools for students with physical disabilities are often located in areas that are difficult to access, according to Murphy (2015), who cites a UNESCO report on "Inclusive Education." Poorly maintained and dilapidated structures, especially in rural locations, might restrict access in economically challenged school systems. Students' well-being suffers when any of these services is provided. Unfortunately, many schools and local governments lack the necessary resources to adequately serve students with special needs. Environmental obstacles include, but are not limited to, doors, corridors, stairways and ramps, and recreational areas (Murphy, 2015). Accurately teaching ordinary classroom teachers is crucial to educate children with disabilities in the usual classroom, but Vuuro (2016) points out that little progress has been made in terms of ensuring that classrooms and infrastructure are accessible, as well as funding. Most of Ghana's school buildings and classrooms were unavailable, according to Mantey (2014). Due to these impediments, some kids are unable to simply enter the school building or classroom and get to work.

Another significant impediment to IE is negative perceptions and prejudices. SWDs continue to encounter discrimination in the educational system (Murphy, 2015). It is possible that educators, administrators, and students do not have a full understanding of the unique challenges faced by students with disabilities, making it harder for them to obtain an equal education. Social conventions are frequently the most major obstacle to IE (Mprah, Amponteng &

Owusu, 2015; Murphy, 2015). Obeng-Asamoah (2016) argued that the positive attitude of teachers towards SWD encourages and makes the SWD more satisfied with their colleagues. However, the attitude is not always the same for the students without disabilities. Their attitudes towards the SWD are not always positive. The SWD may feel insecure and frustrated as a result of this. According to Murphy (2015), old habits die hard, and many people are resistant to accepting SWD. According to him, biases against people who are different can lead to discrimination, which stymies the educational process. As a result, the difficulties of IE may be attributed to students' difficulties rather than educational system flaws.

A fixed curriculum that does not allow for innovation or the use of various teaching techniques, in addition to the above, can be a huge barrier to IE. Research plans that do not take into account various learning styles degrade the school experience for all students, including those that are not commonly recognised as having physical or mental disabilities (Murphy, 2015). For example, Weddell (2005, p. 9) claimed explicitly that "IE is not feasible within the rigidities of the current school system." In Ghana, for example, the Curriculum, Research and Development Division (CRDD) creates the same curriculum for all schools, regardless of whether the students have disabilities or not. Furthermore, the educational system requires students to sit for and pass tests at various points of their education to participate in such programs. If a student intends to pursue secondary education in Ghana, he or she must first pass the Basic Education Certificate Examination (BECE), which includes the key topics

of mathematics, English, science integration, and social studies. This same principle holds for moving to tertiary institutions in Ghana. Failing in Mathematics and or English automatically means students are to drop out from furthering their education. Students with VI and HI turn to have challenges in these subjects, especially Mathematics for the VI and English for the HI. Teachers would have limited time for weaker students or those who do not show scholarship if schools expect their students to do well in these exams and to be well-positioned in the annual school success charts. A person with special needs may be there, but their involvement and accomplishment is a matter of chance and probabilities.

A teacher who is not specially qualified, reluctant or unenthusiastic about working with students who are differently-able becomes a hindrance to successful IE (Murphy, 2015). I had a practical experience when a student offering Educational Psychology taking a course in Special Education, during a practicum session, at the University of Cape Coast Child Development and Referral Unit, indicated her inability to work on a child with cerebral palsy since she was afraid of the movement of the child. In such a situation, it is likely to be difficult for such a teacher to handle learners with diverse disabilities in class. It is indeed difficult for instructors who already have a lot to consider to come up with new ideas for teaching the same material. Many standard education teachers, it is widely known, lack the skills and competencies to adapt to curricular demands and the physical environment to assist the child in adjusting (Vanderpuye et al., 2018; Murphy, 2015). Students with special needs and disabilities must be taught

in a way that allows them to perform well in mainstream settings (Rose, 2002). Teachers, teacher educators, and educational scholars have several conservative practices as well. Some educators are unable to modify their perception and methods (Mprah et al., 2015), thus they do not welcome change but prefer to maintain the status quo.

Many policymakers do not recognise or believe in complete inclusion, and as a result, attempts to make school policies more inclusive may be thwarted. This can remove whole classes of students from the formal school system, denying them access to the same educational and job opportunities as typical students. According to Murphy (2015), centralized educational systems are seldom conducive to substantive change and initiative. High-level administrators in the school system make decisions, and their programmes prioritise employee compliance over quality learning. The organisation's top levels may have little to no understanding of the realities that teachers face daily.

Another major factor is the dual-mode (special and inclusive schools) system which continues to be operated in the country. Though IE is being promoted, special schools continue to be established. Instead of promoting IE generally, Gyimah, Dankwa and Mantey (2019) are of the view that there is the proliferation of special schools as a result of factors that have generally been attributed to regular education teachers' lack of methodology and principles, that is, teaching strategies to effectively teach or manage the learners in their classrooms as well as lack of resources and materials or logistics to facilitate teaching and learning. Gyimah, Sugden and Pearson (2008) found that most

teachers express feelings of anxiety, disappointment and worry in teaching learners with SEN. These factors to a larger extent infringe on the effective development of inclusive schools which is making it difficult for learners with disabilities to be easily accommodated in the regular classroom to aid their continuation into higher education. According to Abeywickrama, Jayasinghe, and Sumanasena (2013), regardless of the type of disability, a lack of adapted materials and assistive equipment to promote learning was a major hindrance. Besides, the nation lacks adequate assistive technology to facilitate the successful teaching and learning of disabled students (Ayiah, 2017). The teacher-trainees who are visually and hearing impaired are the most affected in CoEs.

Sensory impaired (VI, HI) in inclusive environments

Since the study focuses on the sensory impaired in the inclusive environment, this part of the review looked at the visual and hearing impaired in inclusive environments. Unfortunately, the empirical literature on the experiences of TTSI in Ghanaian CoEs is unavailable. This has been a big gap this study is expected to fill.

The visually impaired in an inclusive environment

Students with VI have visual problems that, through correction, have a detrimental effect on their learning (Heward & Orlansky, 2009). A blind student studies using Braille as a means of instruction. (Hunt & Marshall, 2002). A report by Maindi (2018) in a study conducted at Busia, Siaya, Vihiga and Kisumu Counties revealed two groups of visually impaired students based on their educational needs. The first was those learners who need only print materials for

studying. The second were those learners that use Braille. As a result, students with visual impairments may be blind or have poor vision. Due to the severity of the visual impairment, special education services and accommodations need to be in place to support the affected students (Dakwa, 2009).

Ghana had 24,658,823 (0.4%) of her population as persons with disabilities (Ghana Statistical Service [GSS], 2014). The visually impaired accounted for 40.1 % of all disabled people. Among the many people with disabilities, those with VI were most common among those with a higher level of education, particularly those in middle school. The fact that Ghana has a variety of specialised academic institutions that serve the needs of visually impaired students explains this. Ghana's educational system has developed over time to encourage visually impaired students to participate in daily schooling up to the university level. These opportunities have helped a large number of visually impaired people (GSS, 2014).

Visual Impairment should not limit the student's ability to compete with their peers. People with VI need education to address some of the difficulties they face as a result of their condition and to fully improve their abilities and potential (Omede, 2015). Since education benefits everyone, regardless of ability or disability, it is important that people with visual impairments have equal access to educational, healthcare, and social services. IE happens when a student with VI is accepted by their peers and teachers as a regular class member (Mastropieri & Scruggs, 2018). An adequate number of IE-enhancing technologies should be available in standard courses (Dakwa, 2009; Stainback & Stainback, 2004). In

terms of learning, a traditional classroom is the most liberating environment available.

As per Kirk, Gallagher, and Anastasiow (2006), leading students through their learning planning and explicitly teaching them using a variety of techniques and technologies can take up a significant amount of time. Adequate human, financial, and material resources must be made available to facilitate good IE of students. An accommodating and flexible general education classroom instructor, as well as peer recognition and involvement, accessible support personnel, and adequate equipment supplies for both blind and low-vision students, are all critical to the success of students with visual impairments in mainstream classrooms (Darkwa, 2009).

According to Smith and Sutherland (2006), effective inclusive strategies for students of all types of disabilities, including those who are sensory impaired, necessitate certain changes to learning environments and teaching methods. To that end, blind students should have access to classroom furniture and learning materials. When it comes to bringing children with visual impairments into the classroom, a variety of factors need to be taken into consideration, including sitting locations, lighting, and reading content.

For people with serious visual impairments, technical developments have opened up a whole new environment. Students with visual impairments can now access print information due to developments in microcomputer technology. When reading an electronic book on a laptop, the reader can easily increase the size of the print or move from voice to print (Heward & Orlansky, 2009; Kirk et

al., 2006; Smith & Sutherland, 2006; Hallahan & Kauffman., 2002). Individuals with visual impairment are gaining access to technologies and assistive devices that can help them lessen the impact of their disabilities. Learners and adults with visual impairments should use the following technical devices: Braille machines, talking watches, clocks, calculators, and food scales are only a few examples (Kirk et al., 2006). Successful IE is supported by the use of suitable technical equipment.

Nonetheless, these educational and living aids for persons with VI are not readily available in most developing nations including Ghana. Omede (2015) reported that in Nigeria, a lot of the educational materials for the visually impaired were not produced locally and thus several challenges such as financial difficulties impede its purchases. Ekwueme (2003) found that factors such as availability of teaching and learning equipment, funding, law and administrative rigidity were the major challenges to a successful inclusive education. Ibrahim (2001) conducted a study to assess the challenges of the VI at University of Jordan. It was shown that the main challenges include using the library, transport, and the difficulties of lecturers understanding the needs of these students. Higher education institutions encounter many obstacles for visually challenged students, including a dearth of Braille-printed books and a paucity of visual readers, difficulties in assimilating to university life, and teachers' indifference to their unique needs (Otyola, Kibanja, & Mugagga, 2017).

Dwelling on these obstacles which influence the success of IE for the visually impaired, it could be asserted that to achieve a successful IE for VI,

various strategies and plans that will combat these obstacles are needed. Again, a team of professionals such as audiologists, psychologists, social workers, and speech therapists together with educational experts are needed to draw an updated individualised plan for VI in Ghana's Colleges. These experts will help the teacher prepare the best possible education for the learners. Even though parents and family members aren't experts in the technical sense, they should be a part of the team that supports students with visual impairments. Collaborative efforts could ensure that students with visual impairments have access to best practises from the qualified professionals in appropriate settings.

The hearing impaired in an inclusive environment

Mild to severe hearing loss can be the result of a variety of factors. Hearing loss is defined by Duthey (2013) as the inability to hear sounds with a decibel level of 25 or lower. Individuals with severe and profound hearing loss are considered deaf, while those with milder impairments, such as a hearing loss that affects only one ear, are considered hard of hearing. According to Agyire-Tettey, Cobbina, and Hamenoo (2017), hearing loss can be categorised as either deaf or hard of hearing depending on the severity of the hearing loss. If left unchecked, students with hearing loss of any kind and degree would have a detrimental effect on their ability to learn spoken and responsive expression, read and write, and academic achievement (Gyimah, Dankwa & Mantey, 2019).

Traditionally, strategies to educating deaf students have been focused on sentiment and personal philosophy rather than positive outcomes; on the other hand, the education of hard of hearing students has been largely ignored (Eriks-

Brophy et al., 2006). Educational traditions in the United States can be traced back to the teachings of European educators active in the eighteenth and nineteenth centuries, according to Eriks-Brophy et al. (2006). According to them, a French cleric named Charles-Michel de l'Épée created a school in 1770 where he emphasized the use of sign language and finger spelling (that is, a manual approach). Around the same time, members of the Braidwood family founded schools in England, emphasizing the use of spoken language and speech reading rather than sign language (that is, an oral approach).

According to Eriks-Brophy et al. (2006), 37% of 1,218 students with minimal hearing loss in Toronto missed a grade in a 1998 survey. Students with unilateral hearing loss are ten times more likely than usually hearing students fail a class, according to reports. The overwhelming majority of students with hearing loss (94–96%) are hard of hearing rather than deaf. Speech can be audible to these students, but it is not intelligible enough for them to distinguish one word from another.

In 2012, the WHO projected that about 350 million of the world's population live with some kind of hearing impairments. Out of this estimation, it was estimated that 91% were adults and 9% children (WHO, 2012). According to Dalebout, Martinez, and Hallahan (2014), the United States had about 50,000 school-age deaf students. A further 5 million school-aged children were permanently deafened, placing their education at risk. Again, 1.5 million people have conductive hearing loss, which is typically temporary. With the inclusion of

preschool students, the overall number of students with hearing loss could approach 10 million.

With the 24,658,823 (0.4%) of the Ghanaian population as persons with disabilities in the 2010 housing census, 15% were hearing impaired (GSS, 2014). The Ghana National Association of the Deaf (GNAD) encourages people with hearing impairment to work for themselves and engage in income-generating practices such as batik, seed farming, and citrus farming, according to GSS. It also helps people with HI to aspire for higher educational goals so that they can act as role models for others.

According to Ross et al. (2012), students with hearing loss should be able to choose from a variety of educational placement options within their school districts, ranging from limited to maximal assistance, depending on the individual student's needs. For students who have hearing loss, there are a variety of options available, such as specialised residential or day schools, classrooms designed specifically for them, resource rooms in regular schools, classrooms with an itinerant teacher, and classrooms with only the services available to students who are deaf or hard of hearing. The three options above are all forms of IE, in which a student with hearing loss spends some or all of the day in a classroom with hearing peers. Testing improvements, classroom assistance, and access to assistive listening devices are some of the accommodations to the educational program that could be included in these choices. However, in inclusive CoEs in Ghana, the curriculum is rarely changed, and students are required to perform at the same level as their peers with normal hearing in academic subjects (Ross et

al., 2012). The inability of parents, providers, and the community to recognize and provide the required assistance for hearing impaired individuals is one of the most important challenges that they face (Adoyo, 2008).

All of these advantages of IE are unique to orally trained students with hearing loss: social contact, access to traditional linguistic and behavioural models, a stimulating and highly oral atmosphere with richness of information, expanded learning opportunities, and access to a broader curriculum. Since it allows students with hearing loss to interact and form relationships with their peers who have normal hearing, IE has been shown to promote social acceptance and self-esteem, as well as the ability to form mature social relationships with those who do not have these disabilities. When it comes to inclusive education, students with hearing loss need to be given and take advantage of the many opportunities for interaction with their peers, instructors, and instructional materials (Rosa & Angulo, 2019).

Satisfaction in the inclusive system

A short-term attitude based on an evaluation of the educational experiences, service, and facilities of students, is how Weerasinghe and Fernando (2017) describe students' satisfaction. According to Elliott and Healy (2001), students who are happy in school work together, live together, play together, share resources together, and are generally content with their school lives as a whole. Per the Salamanca (1994), regular schools with an inclusive orientation are the best way to fight discrimination, create supportive societies, build inclusive communities,

and achieve education for everyone. The Salamanca World Conference on Special Needs Education adapted the IE Principle, which was later restated at the Dakar World Education Forum, as follows:

“...schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. This should include children who are disabled and gifted, street and working children, children from remote or nomadic populations, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalised areas or groups” (UNESCO 1994, para 3)

Whereas this practice remains partially practised in many countries at all levels of education, the question that remains unanswered is whether SWD remains satisfied in the inclusive systems or they only endure the concomitants of the practice to earn their certificates?

Satisfaction, according to Tessema, Ready, and Yu (2012), is a feeling of well-being that comes from having all of one's basic needs met. Satisfaction can be defined as a feeling of harmony between an individual and their social environment. Therefore, Tessema et al. note that higher education administrators must work hard to provide opportunities for students to participate in campus groups and events (Tinto, 1993). Students can be happy if this option is open. As a result, some students may be more likely to drop out if they do not participate in campus sports, organisations, and extracurricular activities that encourage participation and integration into college life.

Stevens and Wurf (2018) investigated the perceptions concerning schooling learners with disabilities in inclusive classrooms in Australia and revealed that there was high satisfaction with the IE system. Following an investigation into parents' perceptions of inclusive classrooms, they discovered that the majority of parents believe teachers are not well trained to support a wide range of SWD in such classrooms.

In Escambia County School District, Florida, Akerman (2008) used the index of work satisfaction questionnaire to examine the happiness of special education paraprofessionals at work. It was to determine whether a difference existed in the perceptions and attitudes toward work satisfaction between special education paraprofessionals employed at exclusively special education centres and special education paraprofessionals employed in special education programmes located in regular education facilities. Results revealed that paraprofessionals working exclusively in special education facilities differed statistically significantly from paraprofessionals working exclusively in regular education facilities. Besides, it was found that participants loved working with special needs students, but felt paraprofessionals were underpaid for their responsibilities. Other significant findings pointed to concerns of paraprofessionals such as lack of IE in the affairs concerning students, being treated with little respect, level of knowledge and skills, and the lack of autonomy (Akerman, 2008).

According to Nauta (2007), one of the reasons why this construct has gotten little empirical attention and yields inconsistent results when examined is

the lack of a psychometrically sound tool to quantify substantial satisfaction. There are several instruments available to evaluate satisfaction with different aspects of one's major (for example, the quality of teaching or advising, or the quality of interactions with faculty). Conversely, even if each of these elements is fulfilled, the overall option of a major can be unsatisfactory if it is not a good match for one's desires, beliefs, or self-concept. As a result, it's important to use steps that are appropriate for the hypothesis being tested (Tinsley, 2000). Liking this to students with sensory disabilities in CoEs in Ghana, one could agree with the fact that students may or may not be satisfied with the Colleges they find themselves in, even though they have the opportunity to offer the course leading to their desired profession.

For women, social/relational characteristics were more important than those for men in determining their level of happiness in private management institutes in Haryana, according to a study by Bean and Vesper (1994). They also discovered that for men, occupational assurance was substantially linked to happiness, but not for women. Trust in oneself as a student and having appealing courses were important factors for both genders, according to the researchers, and faculty members were the most prominent group on campus for both of these factors. They have the opportunity to affect students' confidence and are in charge of making courses relevant and exciting. In the first and second years of a student's private institute experience, formal interaction with faculty is extremely significant, according to the report.

Disappointment, irritation, and depression are all possibilities for students who feel that they do not belong at school or in the community (Evans, Forney & Guido-DiBrito, 2000). This feeling of exclusion makes pupils question whether or not they are important. Student engagement in college events and programmes is contingent on answering this question, thus it's crucial to student retention at the university. Students may learn to control their satisfaction by establishing favourable research conditions, such as studying with their peers or rewarding themselves when they complete a task, according to Darling-Hammond, Flook, Cook-Harvey, Barron, and Osher (2020). They also suggest that schools that are popular with students who are traditionally disadvantaged and underserved have a lot of activities that follow these values. These involve the creation of a group that fosters a sense of belonging and protection, as well as the inclusion of shared norms in all school activities. Interacting with peers is the most critical step in being active and involved. Students engaging with their peers, according to Darling-Hammond et al. (2020), are a prerequisite that must occur for involvement in campus events and student organizations to be meaningful.

Tinto (2004) proposed that all higher education institutions should provide readily accessible academic, personal, and social support services to increase student retention. Students' experiences with people in academic, personal, and support service centres on campus may affect their sense of belonging to the college or university, as well as their ability to manage campus community, meet standards, and graduate.

Conversely, the most important contacts with classmates appear to promote classroom learning, with the ripple effects spreading to other parts of college life (Pascarella & Terenzini, 2005). Despite the importance of academic success, students must also become involved in campus life and participate in extracurricular activities. Persistence issues may or may not arise for students who do not develop a strong social foundation. Seidman (2005) pointed out that “Tinto views student departure as a longitudinal process that occurs because of the meanings individual students attribute to their interactions with the formal and informal dimensions of a given college or university” (p. 67). These encounters occur between the student and the academic and social institutions of the college. Harper and Quaye (2009) feel that Tinto's proposal for better social and academic integration will boost students' commitment to their goals and to the university, resulting in higher retention rates for the students involved in it.

If students are content with their progress, they will be more likely to put in the effort and continue until graduation. Several characteristics of student satisfaction with the university were statistically linked to academic success for each institution's students (Oja, 2011). Bryant and Bodfish (2014) studied student happiness and graduation rates at four different colleges and universities and found that the higher the level of student satisfaction, the more graduates there are. In a similar vein, Dhaqane and Afrah (2016) found that student happiness enhanced academic performance and retention. Butt and UrRehman (2010) analysed student satisfaction in four areas of education: teacher expertise, accessible courses, learning environment, and classroom facilities.

Researchers have used a variety of methods to describe students' pleasure. This report focuses on student satisfaction from a pedagogical standpoint. When a student's actual interactions or performances meet or exceed their initial standards, Elliott and Healy (2001) define student satisfaction as a "short-term attitude" (p. 2) that "arises from an appraisal of a student's educational experience. According to Al-Sheeb et al., student happiness is a serious issue for higher education institutions (2018). Students' satisfaction is a significant success factor for universities, according to Bryant and Bodfish (2014), and as a result, many colleges and universities have put in place rigorous quality assurance procedures. A second reason for the importance of student satisfaction is that unsatisfied students are more likely to drop out of college during their first year.

Studies on the satisfaction of TTSI in CoEs have been unavailable in the literature in Ghana. Most studies were mainly in the Basic and SHS, which are on teacher or parental attitude towards learners with various disabilities in Ghanaian inclusive institutions or the sustainability of IE in general (Avoke, 2005; Deku & Vanderpuye, 2017; Gyimah, 2006; Gyimah, Sugden, & Pearson, 2008; Vanderpuye, 2013; Vanderpuye, Obosu, & Nishimuko, 2018).

Persistence Levels of Students with SEN

Burrus and Roberts (2012) claim that describing persistence can be challenging due to the wide range of possible interpretations. Persistence, for example, may refer to a student who is enrolled in any kind of higher education that comes within the jurisdiction of a national or state system (Tinto, 2005). Students who remain enrolled at a single university can also be described as

“persistent” from an institutional perspective. Student persistence is defined as the continuation of enrolment from one semester to the next, as stated by Summers (2003). Remaining enrolled at a postsecondary institution, no matter where they are located (nationally or internationally), is what is meant by the term “persistence” (Burrus & Roberts, 2012).

Belch (2004) reported that the world has seen an increase in the number of SWD in colleges; however, the rate of completion is lower among these students. Additionally, some studies have found that the enrolment of SWD are increasing whereas the rates of persistence are not (Eckes & Ochoa, 2005; Murray, Goldstein, Nourse, & Edgar, 2000; Peña, 2014). More specifically, Murray et al. (2000) found that when compared with 50% of students without disabilities, only 36% of students with learning disabilities attained a degree in five years.

Many factors account for the low level of persistence and retention among college students with disabilities. These unique challenges and specific transition (from secondary education to college) needs to affect the adjustment of SWD in colleges. Thomas (2004) noted that SWD are highly stigmatised and struggle to adapt to colleges. Tinto’s Student Integration Model (Tinto, 1975) also emphasised that persistence is largely dependent on a successful integration between students’ academic and social factors. Several studies have demonstrated that students who are older, first-generation, have poorer socioeconomic position, or are less academically capable have a lower rate of perseverance (Lohfink & Paulsen, 2005; McCarron & Inkelas, 2006; Reason, 2009).

Mamiseishvili and Koch (2011) conducted a study to assess the factors that influence the persistence of postsecondary SWD in the United States. Chi-square analysis indicated that academic and social integration was consistently associated with persistence. Additionally, it was found that the best predictors of persistence were gender, age, (attendance intensity, grade point average (GPA), degree aspirations, and cost of attendance. As a result of these challenges, Upcraft, Gardner and Barefoot (2005) indicated that many colleges around the world have enacted programmes to increase the persistence among SWD during the first year.

To better understand why students drop out of college, Weng, Cheong, and Cheong (2010) looked into Tinto's (1993) and Bean's (2005) mechanisms for student departure. Using self-efficacy theory, their model included a psychological construct known as "self-efficacy," which was incorporated into the integrated model. For those students who have DHH, the rise in inclusive higher education has boosted the number of students with this disability enrolling in university, according to Cheng, Zhang and Hu (2016). DHH students, like their hearing classmates, experienced attrition at the university level (Boutin, 2008; Gore, Leuwerke, & Turley, 2005), and the subject of how to help both DHH and HI students remain in their university studies had become increasingly critical (Boutin, 2008; Gore, Leuwerke, & Turley, 2005). This goes down to the CoEs now tertiary institutions where students need not just be seen as matured and capable of going through their education, but measures are put in place to establish their satisfaction and persistence to enable them to achieve and come out

successfully. Some students may be able to go through the processes no matter the challenges they go through as a result of their motivation and self-efficacy. These can therefore serve as moderating variables in promoting the success of the students.

Moderator variables, as defined by Fraenkel, Wallen, and Hyun (2012), are specific types of independent variables used to test whether the connection between the primary independent variable and the dependent variable is influenced or modified by those variables. Using the respondent's self-efficacy as a moderator variable, this study examined if the link between the variables (satisfaction, perseverance, and academic success) might be changed.

Academic Performance of Teacher-trainees with sensory impairment

Academic performance occupies a very important place in education thus it is more pressing for the students to have high academic achievement. Naz (2017, p.230) indicates that “the term achievement refers to the degree or the level of success attained in some specific school tasks especially scholastic performance, in this sense academic achievement means the attained ability to perform school tasks, which can be general or specific to a given subject matter”. Academic performance means getting required marks according to the standards set, while Academic achievement means reaching a certain level in education and is certified by a certificate indicating success in a certain discipline (Onete, Edet, Udey, & Ogbor, 2012).

The focus of this research is on long-term rather than one-time academic attainment. According to Narad and Abdullah (2016), the success or failure of any

academic institution is based on the academic achievement of its student body. A teacher's grades and educational goals set by students and their teachers are both indicators of a teacher's academic achievement, they conclude. According to Narad and Abdullah, these goals are evaluated through the results of ongoing evaluations or examinations. All teachers place a high value on students' academic performance, which is a foundation for the acquisition of knowledge and the development of one's skills and abilities.

Students with visual impairments who are admitted to postsecondary institutions have a wide range of qualitative and first-person perspectives of college life, but there is no data on how well they do academically. According to Fichten et al. (2016), a holistic strategy is needed to magnify the qualitative extracts in order to determine the contemporary realities. Many Tanzanian students with hearing impairment fail in school, according to a study by Migehe (2014). Due to their lower academic performance and higher likelihood of dropping out, students with disabilities are more likely to consider leaving school before completing their degrees than their peers without disabilities. This is especially true when institutional disability support is not readily available (Radloff & Coates, 2009).

Wolanin and Steele (2004) suggest that, despite the broad availability of counselling services and academic advising systems in higher education institutions, the student is often expected to access these services and resources on their own. In Ghanaian CoE, every semester is terminal and so students are provided with their result slips indicating their GPA and are cumulated as they

progress providing them with their cumulative grade point average (CGPA). This continues to be cumulated until students complete their programmes and be honoured based on their final CGPA.

Self-Efficacy

Bandura's Social Cognitive Theory includes self-efficacy as a central personal variable (SCT). He described it as “an individual's confidence in his or her own ability to coordinate and carry out an action to achieve the desired outcomes” (Bandura, 1997, p. 3). Bandura further argues that individual's preconceptions about whether or not they can do a task, he claims, are the root of the problem. The result is an assessment of one's own capabilities in carrying out a task. Confidence in oneself as well as a judgement of one's abilities to execute the task is required (Bryan, Glynn & Kittleson, 2011). Wood and Bandura (1989, p. 368) state that “Self-efficacy refers to beliefs in one's capabilities to mobilise the motivation, cognitive resources and courses of action needed to meet given situational demands”. It affects the activities students prefer, how much work they put in, how persistent they are when confronted with problems, and how challenging the goals they set are (Bandura, 1997). As well as how skilled one is, it is important to know how capable one believes themselves to be as a whole.

According to Lewis et al. (2012), thinking capacity is a major determinant of self-efficacy. It is important for students to believe in their abilities by receiving positive feedback, arranging events in a way that leads to achievement, and measuring success in terms of self-improvement (Glynn, Brickman, Armstrong, & Taasoobshirazi, 2011). Participation in the school is influenced by

a student's personal self-efficacy belief. Students' confidence in their ability to complete schoolwork affects their commitment and persistence in the task (Linnenbrink & Pintrich, 2003).

Researchers Farrand, Wild, and Hilson (2016) examined the self-efficacy of 30 Caucasian adolescents with visual disabilities before and after they attended a scientific camp based on inquiry. Participants' self-efficacy levels were studied to see if they improved as a result of their involvement. Science camps centred on investigative learning have been shown to boost academic self-efficacy in juniors and to have no effect on that of seniors.

The importance of self-efficacy in shaping student persistence has been emphasized (Wright, Jenkins-Guarnieri, & Murdock, 2013). Other research has found that self-efficacy is a good predictor of successful outcomes in several topics (Schunk, Pintrich, & Meece, 2008; Usher & Pajares, 2008). Self-efficacy, according to Usher and Pajares (2008, p. 751), "predicts students' academic success across academic areas and levels." Even though there is abundant evidence supporting the direct impact of self-efficacy beliefs on academic accomplishment, studies that have explored the motivational process that mediates the self-efficacy achievement link is unusual. Self-efficacy affects students' academic performance, and these researches are needed to better understand how and why that happens.

Bandura (1997) claims that a good sense of self-efficacy requires repeated encounters of progress in difficult tasks. His theoretical framework implies that to be successful, one must have a sense of self-efficacy or confidence in one's own

ability to perform well. Self-efficacy values, for example, influence target selection, effort investment, and persistence with these efforts. As a consequence, low self-efficacy beliefs can lead to low expectations and perseverance, as well as low academic achievement and target attainment in general. This necessitates improving students' self-efficacy to assist them in achieving their goals.

A model developed by Eccles and her colleagues based on Atkinson's 1964 Expectancy-Value Model (E-VM) is one of the most reliable solutions that incorporate these factors (Doménech-Betoret, Abellán-Roselló & Gómez-Artiga, 2017). There are various relationships and features in this complex model that may be separated into three primary blocks/categories of variables, which are classified in chronological order: social world, cognition and motivational beliefs. In one way or another, each of these indicators can be used to make predictions about a student's motivation, effort, and long-term success in school. Expectations for success (achievement expectancy is included) and subjective task values are strongly linked to achievement, task choice, persistence, and the individual's goals and self-schemata, according to this model, which is founded on motivational concepts. A key component of self-schemata is the conviction in one's own abilities.

Self-efficacy and motivational beliefs are also linked to achievement, according to research (Saif, 2014). Students' self-efficacy alone will not ensure success if they lack motivation. Both are required for academic accomplishment. According to Saif, students who were doing well in school had higher levels of self-efficacy and a greater number of learning objectives focused on mastering

(2014). In the view of Saif (2014), mastery goals have a vital role in promoting deep processing and effort, which in turn influences productivity. According to the findings of Saif (2014), academic success was positively associated with both self-efficacy and mastery objectives, while it was negatively associated with performance avoidance goals. Self-efficacy growth and the elements that govern it are shaped by four primary influences on individuals' views in their efficacy. Mastery encounters, role models, social persuasion, and inferences from physiological and emotional states that reflect personal strengths and vulnerabilities are all examples of these kinds of information that can be used to identify one's strengths and weaknesses (Bandura, 1986; Wood & Bandura, 1989).

Based on the above-mentioned literature, it appears that self-efficacy is linked to motivation, which improves students' academic performance. As a result, it is possible to conclude that encouragement in learning is a way of activating students' desire to achieve academic success. In Yemen, a study by Saif (2014) found that student self-efficacy and motivation as determinants of academic achievement should be promoted by the academic climate. Professors could use this to help motivate and encourage their students to do their best work. Higher education instruction's goal must go beyond merely imparting knowledge. Students in Yemen's universities should be taught in an environment that encourages them to strike out on their own in pursuit of their objectives and aspirations. High levels of student self-efficacy prepare them for independent learning on their own initiative and initiative (Bandura, 1986). CoEs in Ghana

could also benefit from these assertions as the self-efficacy of pre-service teachers towards their studies could be of greater benefits towards their academic achievement in the Colleges.

Human well-being can be improved by having a clear sense of efficacy, according to Pajares and Schunk (2001). For example, people's anxiety and tension levels can be influenced by their self-efficacy beliefs when participating in an activity (Pajares & Schunk, 2001). Course satisfaction can be predicted by students' self-efficacy in face-to-face classes as well (Bandura, 1997). It has been established through empirical data that students' well-being and course satisfaction are positively influenced by students' self-efficacy beliefs (DeWitz & Walsh, 2002), but the motivational elements that moderate this relationship remain unknown. In order to understand how and why self-efficacy increases students' course satisfaction, few researches have examined the process that mediates this relationship (Booker & Rebman, 2005; Cummins & Tomy, 2011; DeWitz & Walsh, 2002; Doménezh-Bétoret, 2017). In order to raise student happiness, these studies may provide significant clues. Student happiness was connected to improved academic achievement and the decision to take additional classes (Booker & Rebman, 2005). Student well-being is also dependent on how satisfied they are with their school (Cummins & Tomy, 2011).

Theoretical Framework

The theoretical framework of this study looks at some models of disability, theories of retention and attrition.

Models of Disability

This study focussed on the medical, social and ecosystemic models of disability.

Medical model of disability

People with impairments are seen as a problem by the 'medical model' (UK Disability History Month [UKDHM], 2018). According to Johnson (as stated in Ocloo et al., 2002), the primary method to explaining disability is the "medical" or "inside individual" paradigm. Medical science's potential to heal or at least rehabilitate persons with impairments is more firmly rooted in this new scientific perspective on disability's root causes. In the medical model of disability, consideration is given to how the disabled person can fit into society rather than how society can adapt to them. According to the medical paradigm, the inability of disabled persons to rehabilitate is to blame for these problems. In spite of this, the medical model was beneficial to the provision of SEN since it ensured that people were healthy. Some medical personnel are expected to be part of the child study/multidisciplinary team during the development of an Individualized Education Plan (IEP) (Hunt & Marshal, 2002). That medical method, no matter its flaws, can't be abolished from delivering services for children with exceptional educational requirements.

Disabilities are viewed by the disability community as hurdles that prevent persons from fully participating in society and thereby limiting their potential (Winter, 2003). Finding jobs and adequate work environments, accessing leisure and entertainment facilities, using private and public transportation, getting

suitable housing, or in their personal, family, and social lives are just some of the instances of these obstacles that students face (Open University, 2003). When it comes to special educational requirements in schools, for example, the child is viewed as abnormal, faulty, and in need of being examined. The UKDHM (2018) argues that in most cases, the handicap rather than the individual's requirements are the focus of attention. They serve as a visual aid for explaining the medical model through pictures. This can be found in Figure 1.

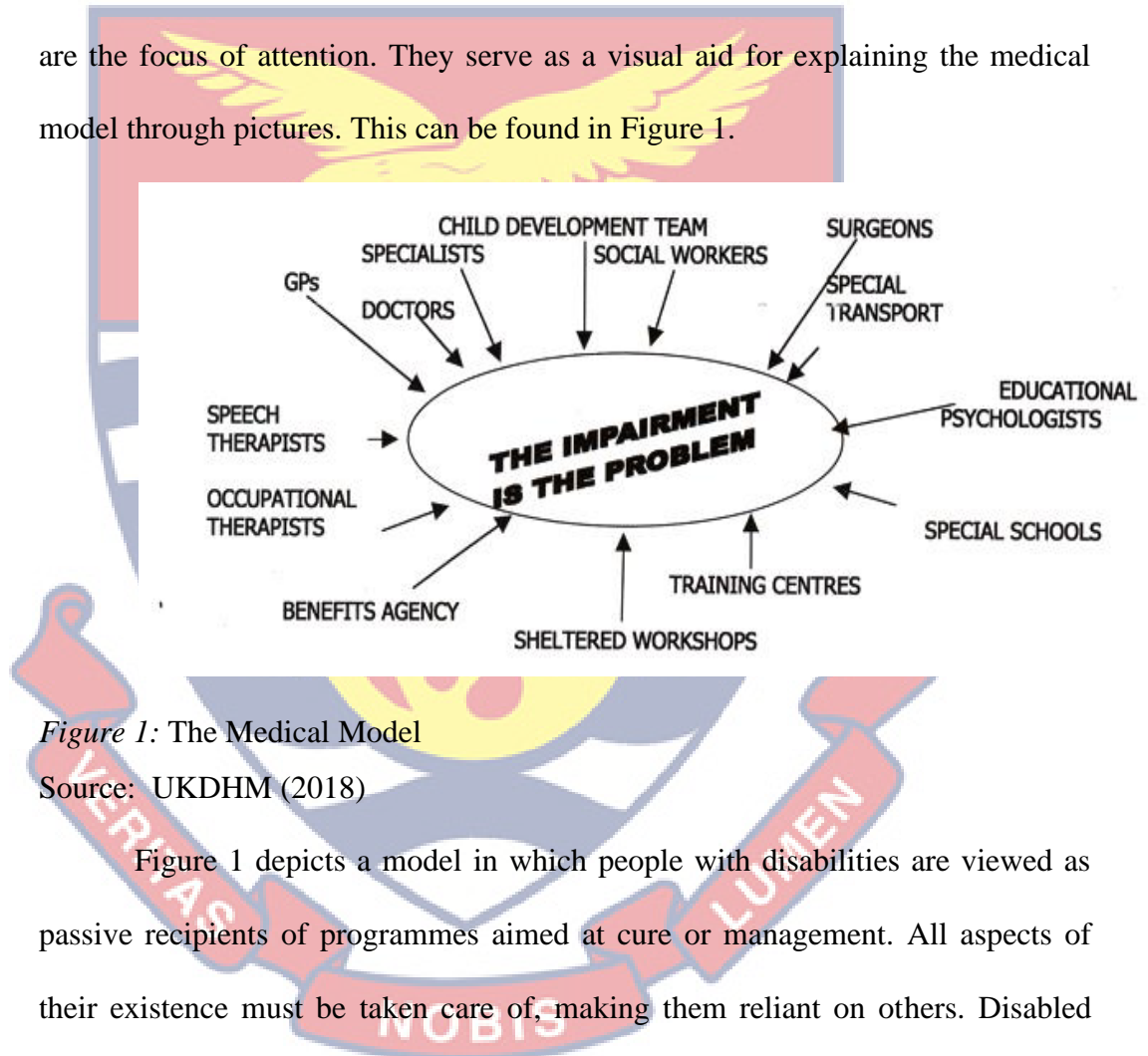


Figure 1: The Medical Model

Source: UKDHM (2018)

Figure 1 depicts a model in which people with disabilities are viewed as passive recipients of programmes aimed at cure or management. All aspects of their existence must be taken care of, making them reliant on others. Disabled people's rights groups have been advocating in recent years for a new approach known as the social model to disability.

The social model of disability

Both adults and children with disabilities have the right to belong and be valued in their local society, according to the 'social model'. The social model does not completely rule out impairments, but its proponents insist that disability is conditional on social circumstances (Thomas, 2004; Reindal, 2009). Using this model, examine the individual with impairment's strengths as well as the physical and social obstacles that hinder them, whether at school, college, home, or work. The 'social model' approach proposes that people with disabilities suffer from a complex type of cultural discrimination, such as sexism, racism, or heterosexism, which is as central to the culture as sexism, racism, or heterosexism (UKDHM, 2018). Disabled People's International (cited in Open University, 2003) claims that improving culture is the 'cure' for the issue of disability. Unlike medical cures, this is a target that can be done and benefits all.

Disabled people's disabilities are seen as a result of their malfunction in the social paradigm, according to Avoke (2005a). Social factors or structures stand in the way of disabled individuals participating. Instead of focusing on the condition itself, the social model of disability examines the environment in which the person with a disability lives. At its core, the social principle of disability is based on the notion that disability is a social construct that is a result of society's opinion that people with specific disabilities are different. People with disabilities are unable to participate in their communities because of social system barriers, according to certain academics (Avoke, 2005; UKDHM, 2018; Winter, 2003) who studied the social model. This, in turn, has an influence on the person's

academic work and performance, as well as the services given to them. To put it another way, the model considers disability as a series of environmental conditions that restrict one's desire to perform a job, preventing people with disabilities from fully engaging in society and determining the resources available to them.

The barriers that prohibit people with disabilities from engaging in any situation, according to the UKDHM (2018), are what disable them. The social model is based on the distinction between illness and disability. They offer the social model a visual representation. Figure 2 illustrates this.

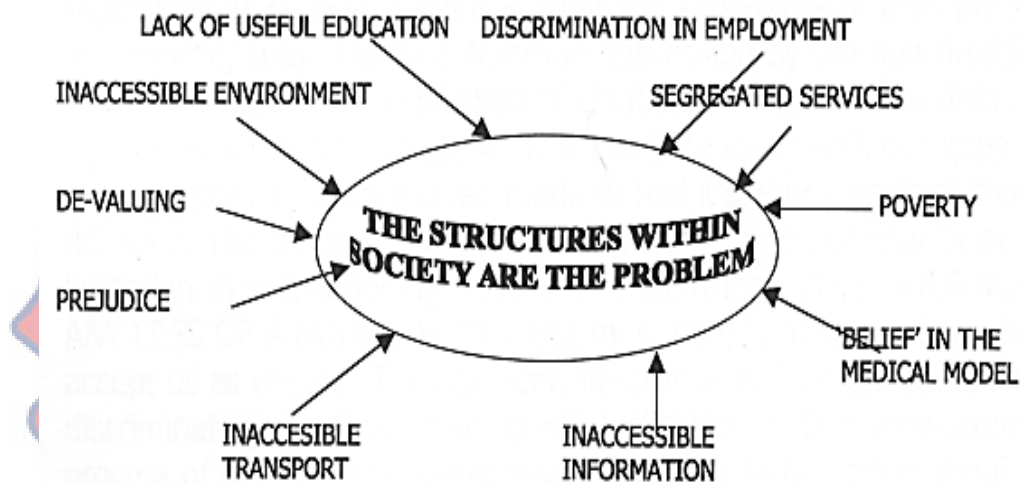


Figure 2: The Social Model
(Source: UKDHM, 2018)

People with disabilities, according to UKDHM (2018), are active fighters for equality who collaborate with allies. The social model emphasizes that the community is what restricts people with disabilities access to jobs, education, and social engagement. Prejudices, discrimination, and stigma are all ingrained in the social model (Smart, 2004). As a result, the majority of people with disabilities

have insufficient access to, involvement in, and adequate provision of quality education. As previously mentioned, the social paradigm of disability represents human rights and equality. The belief is that it was the organisation of society, as described by people without disabilities that were more severely debilitating than individuals' physical or mental impairments, as claimed by medical definitions of disability (Vuuro, 2016). The locus of the issue, according to the social model, is not the individual, but the oppressive aspects of cultural, political, and un-enabling economic conditions in which people with disabilities live (Barnes & Thomas, 2004; Barnes & Mercer, 2005; Vuuro, 2016).

Since the 1990s, the Disability Movement has argued that the solution to disability's problems lies in re-framing the world and culture, rather than in “normalization” or “care,” as the medical paradigm suggests (Winter, 2003). This viewpoint was the foundation of the social model, which saw disability as the product of any societal behaviour or obstacle that keeps people with disabilities from participating equally in society (Ferrante, 2012). It is possible that these obstacles are both physical (e.g., inaccessible buildings or transportation), as well as psychological (e.g., absence of sign language interpreters) (such as discrimination in the place of work). In contrast to the medical paradigm, the social model sees disability as a human right issue. Disabled people's organisations (DPOs) have been at the forefront of questioning professional superiority and demonstrating that persons with disabilities have the right to make their own life decisions. They have also raised awareness of civil society's role and duty in incorporating disability into wider social issues.

According to Swain, French, Barnes, and Thomas (2004) the administration of the situation in the social construction requires social values, and as a result, society is required to design the environment to meet the needs for complete participation in all aspects of life. The situation is ethnic as well as belief-based, encompassing the person, culture, and environmental change (Swain, et al., 2004). With the social model, culture and people's views and perceptions of people with disabilities must be modified (Vuuro, 2016). This model is relevant to this study because it underlines the importance of states ensuring that people with disabilities and special needs are educated as part of the educational system. People with impairments and those with special needs are thus educated by general educational authority in integrated surroundings. Disabilities education should be a major part of national education preparation, curriculum development, and school structure. Education in mainstream schools is predicated on the availability of suitable and essential support services for pupils who are partially sighted.

Ecosystemic model

This approach primarily takes into account all environmental conditions that influence the child's behaviour (Gyimah, Dankwa & Mantey, 2019). The entire social and emotional environment is checked - the home, the school (including the teachers and peer group), the community, and the media. It is, for example, reported that watching an aggressive film can make a child exhibit aggression. If the influencing factor is removed, it will help reduce, if not remove, the problem behaviour. This model tries to consider all aspects of the challenges

with the medical and social models and pull the strengths together. Education for sustainable development focuses on critical thinking and problem solving, interdisciplinary and holistic multi-method strategies, values-driven strategies that cover environmental ethics, social consciousness and ethical aspects as well as economic prudence, trust and participatory decision-making (Mula & Tilbury, 2009). A "new narrative" for humanity is proposed by development education, which goes beyond environmental education. It aims to improve local and global citizenship as well as human rights and justice by assisting people to better understand and affect the social, cultural, political, and economic systems that have an impact on their daily lives at the local, regional, national, and international levels (Pilon, 2009).

Lim and Chia (2017) adapting from Bronfenbrenner provide four levels in the ecosystemic model which deals with the Microsystem, Mesosystem, Exosystem and Mesosystems. This can be found in Figure 3



Figure 3: Ecosystemic-approach

Source: Lim & Chia (2017)

From Figure 3, Lim and Chia (2017) explain that the first level of the ecosystemic model is further separated into intra-microsystem and inter-microsystem provided here as ontosystem and microsystem. They clarify that the former refers to a person with special needs' natural or genetically defined ability. The latter is concerned with an individual's adaptive-behavioural skills for them to act normally in their everyday lives while living in the community or institution. For this reason, a community home or facility for people with special needs must incorporate the concepts of Universal Design for Living (UDL) and Universal Design Living Environment (UDLE) to meet the wide spectrum of severity in terms of capacity (innate competence), skill (acquired competence), and ability (level of performance).

The mesosystem is the second level. At this level, the connections or associations between and among the immediate settings are considered, according to Lim and Chia (2017) (i.e., microsystems). This could be likened to a situation such as working with teachers, playing, and eating together with other peers, interacting with other students in halls of residence or classes as well as in the resource room learning to use the available resources and revising notes or learning with other colleagues. During weekends, they wash their clothing all within the college community and entertain themselves. A student who suffers from a serious disorder may retreat from other students and teachers if he or she feels uncomfortable in their company.

This may have an impact on him/her. On the other hand, if he/she feels welcomed, then it would help them socialise improving upon their satisfaction, which can help her persist and achieve.

Stage three is the exosystem. A person with special needs is not a part of these social contexts, but their interactions with other members of their immediate group or institution are included in this category of contexts (Ng & Chia, 2009). Individuals with autism or hearing disabilities who are socially isolated have little personal or communal connections, according to the findings of the current study. As a result, a person's social interactions with people in the same community suffer when exosystemic behaviours break down.

The macrosystem is the fourth level. The beliefs, rules, customs, and resources of the larger society in which a therapeutic community or organization coexists influence the behaviour and interactions of all lower or inner environments (Lim & Chia, 2017). The macrosystem's priority for the clinical community's or institution's needs influences the care they obtain at the lower or inner levels of the ecosystem. At this stage, community therapists or resource persons, as well as instructors, play a critical role in ensuring that academic and economic circumstances, as well as other decisions, do not negatively impact the quality of living and services in the institution. Where these are met adequately, it is expected the student with disabilities will be able to cope with the system. This will in turn promote their satisfaction, leading to persistence and performance. Thus, the ecosystemic model applied in the colleges will be of much help to the

student with sensory impairments in the CoEs as their physical, social, academic and emotional needs are being met to some extent if not completely.

Theories of Retention and Attrition

It is the goal of Inclusive Education to help all students. Institutions that fail to meet the needs of students are more likely to lose them. To this end, the research examines theories of student departure and retention, paying particular attention to Tinto's Integrated Model and the Beans Model of Student Departure.

The integrated model (Tinto, 1993)

Student Departure Theory was born out of Tinto's 1973 collaboration with Cullen to develop a theoretical model of attrition and perseverance in the educational setting. In response to further discoveries and criticisms, Tinto's study expanded to include two-year college persistence studies, as well as the IE of ethnic groups and non-traditional students.

A re-examination and revision of his study solidified his notion that student engagement has multiple layers, particularly in terms of institutional research and student advancement. Tinto (2004) argued that all colleges and universities should have readily available academic, personal, and social support services in order to boost student retention. Academic, personal, and support centre interactions with students can have a significant impact on how well they integrate into the college or university community and whether or not they graduate. Students are more likely to succeed in college if the institution has high expectations and actively involves them in their own education. There are many factors that contribute to students leaving school, and Tinto's theory of student

departure is no exception (Harper & Quaye, 2009). According to Yorke, the model of student departure that Tinto presented in Figure 4 is a reduced form (2013).

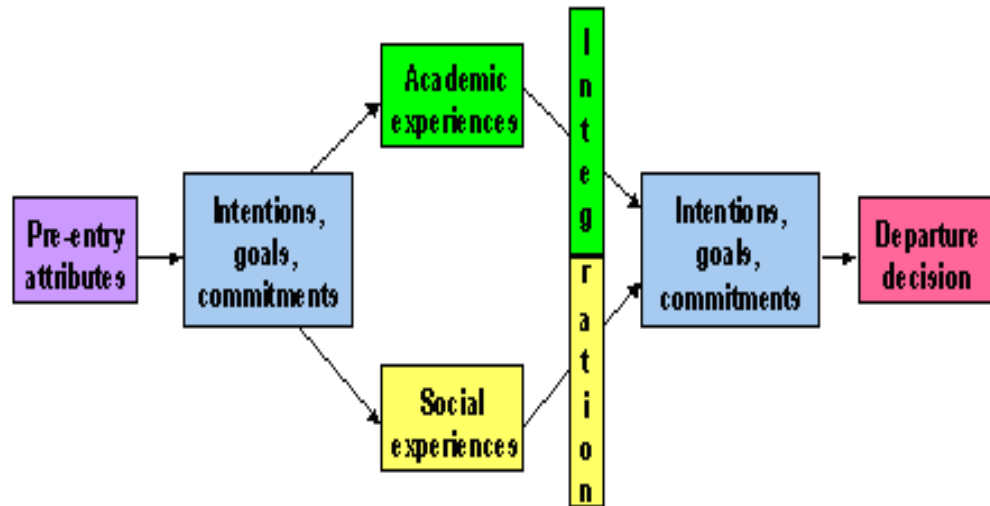


Figure 4: Tinto's model of student departure

Source: Yorke (2013)

Seidman, (2005) points out that “Tinto views student departure as a longitudinal process that occurs because of the meanings individual students attribute to their interactions with the formal and informal dimensions of a given college or university” (p. 67). These encounters take place between a student and a college or university's academic and social structures (Seidman, 2005). More social and academic integration, in the opinion of Tinto, would strengthen students' commitment to their goals and to the institution, leading in increased retention rates (Harper & Quaye, 2009).

"Model of Institutional Departure" by Tinto states that students must be integrated into both formal (academic performance) and informal (faculty/staff relationships) academic structures as well as informal (extracurricular activities

and peer group interactions) social systems. Student persistence necessitates not just academic but also social involvement, in accordance with this approach. Theories of persistence proved, according to Al-Sheebet al (2018) that the college experience, rather than other pre-college characteristics, was responsible for a student's decision to stay until graduation.

To help students adjust to college life, Tinto emphasises academic and social integration as two separate but equally important components. As far as academic integration goes, it encompasses both meeting stated criteria, such as passing grades, and the normative academic values of the institution in question. Social integration refers to the extent to which a student feels that the social climate of the institution supports his or her interests, which are influenced by the student's past, beliefs, and expectations. Academic accomplishment and main choice are a measure of academic integration, whereas interactions between students and faculty are a measure of social integration (Kuh, Kinzie, Buckley, Bridges & Hayek, 2006). By virtue of these complicated relationships between participants and other actors in and out of college, student persistence is defined.

Tinto believes that a more integrated academic and social environment would lead to a deeper commitment to the school and the goal of graduation (Bean, 2005). Students' chances of completing their education and earning a degree increase when they make these kinds of promises. According to him, families can pass on the benefits of their social role to their children through an expectation growth mechanism, which is consistent with status attainment theories and research on first-generation students.

The model of students departure

Bean (2005)'s model of students' departure emphasises the role of pre-college or pre-university academic preparation's contextual features. Consistent prior training and preparation for college-level work can have a direct impact on whether or not the student succeeds in higher education. The successful completion of a rigorous high school programme is an important predictor of academic success and student retention in college (Retention Study Group, 2004). Retention at college is also correlated with high school academic success, including GPA and class rank (Adelman, 2006). According to Aljohani (2016), Beans' student attrition model is depicted in Figure 5.

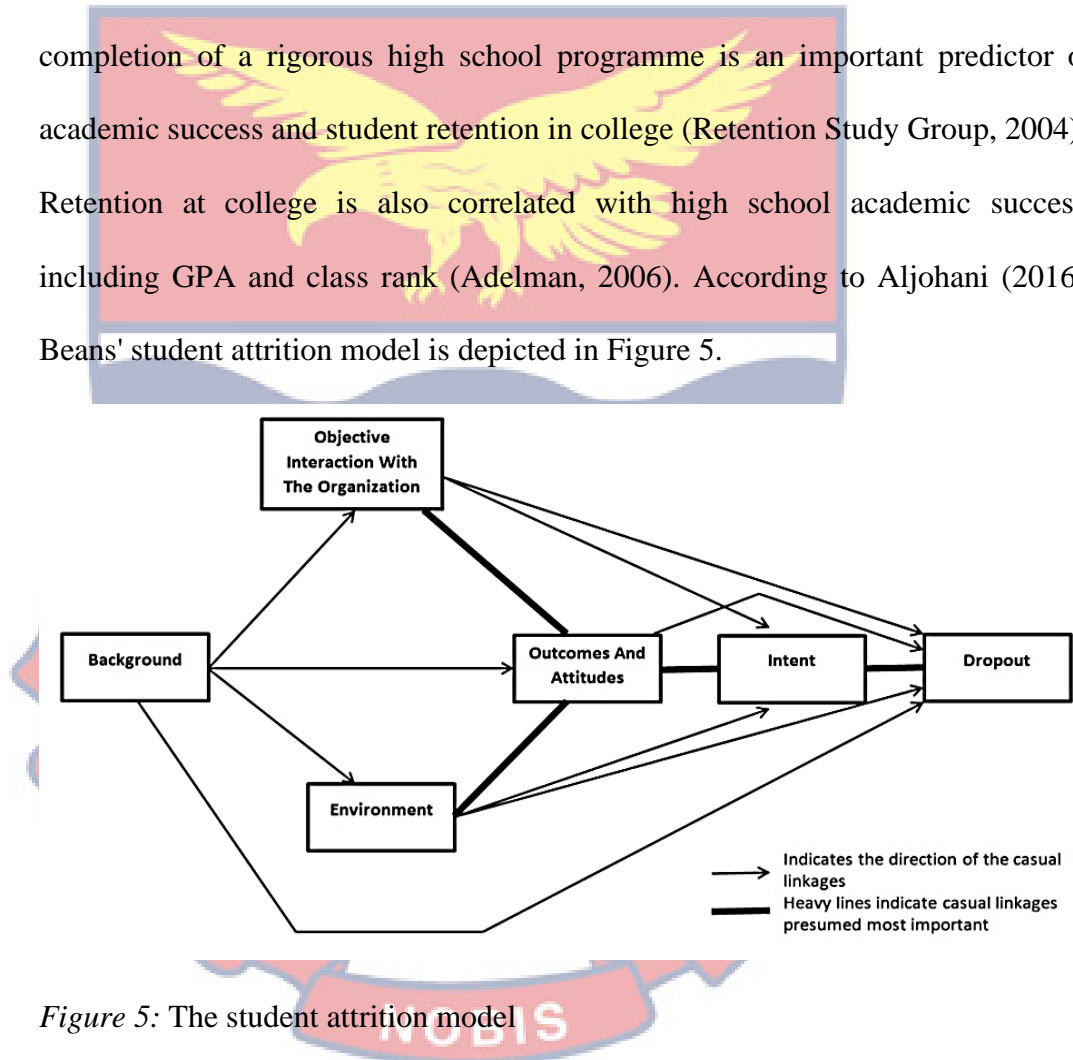
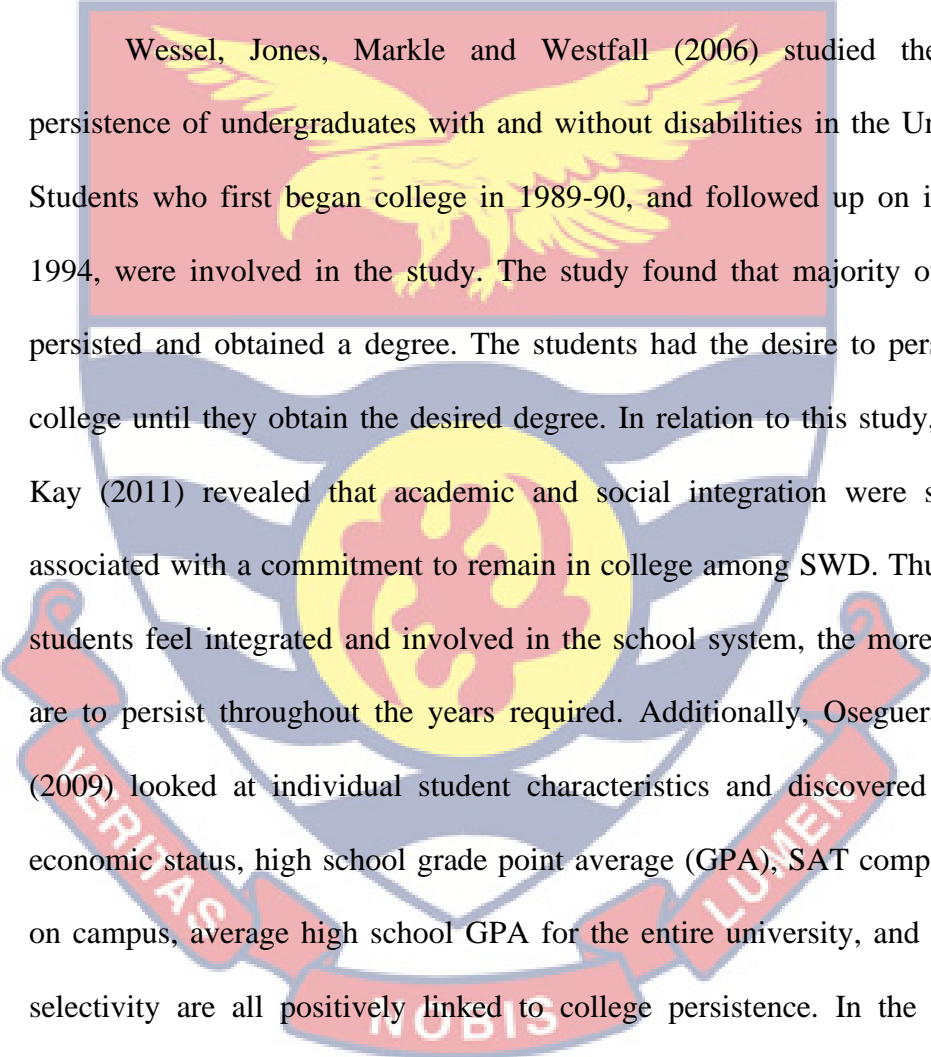


Figure 5: The student attrition model

Source: Aljohani (2016)

Bean's model was designed to define the factors that impact students' plans to leave, which, according to Bean, is the most significant measure of student attrition (Aljohani, 2016). Bean accomplished this by grouping the variables from the checked student attrition models into four categories: context,

organizational, environmental, and attitudinal, as well as outcome variables. An analysis of student attrition should contain variables from these four groups (Bean, 1982). Furthermore, since this model is not confined to a particular theoretical basis, it can be adapted for use in a variety of contexts and types of institutions.

The logo of the University of Cape Coast is a watermark in the background. It features a shield with a yellow eagle with spread wings at the top. Below the eagle is a yellow circle containing a red gear-like symbol. At the bottom of the shield is a red banner with the Latin motto "VERITAS LIBERABIT VOS".

Wessel, Jones, Markle and Westfall (2006) studied the academic persistence of undergraduates with and without disabilities in the United States. Students who first began college in 1989-90, and followed up on in 1992 and 1994, were involved in the study. The study found that majority of SWD had persisted and obtained a degree. The students had the desire to persist through college until they obtain the desired degree. In relation to this study, Wolfe and Kay (2011) revealed that academic and social integration were significantly associated with a commitment to remain in college among SWD. Thus, the more students feel integrated and involved in the school system, the more likely they are to persist throughout the years required. Additionally, Oseguera and Rhee (2009) looked at individual student characteristics and discovered that socio-economic status, high school grade point average (GPA), SAT composite, living on campus, average high school GPA for the entire university, and institutional selectivity are all positively linked to college persistence. In the analysis by Oseguera and Rhee, the intention to switch was also found to be negatively linked to persistence. As a result, students who do not wish to transfer are more likely to remain in college, and vice versa.

Getzel and Thoma (2008) also revealed that self-determination skills are the key attitude of students with disability in persisting through their colleges. The determination to overcome all obstacles to be able to complete their academic pursuits successfully is what aids most students with disability.

Students have involved participants of society, according to the analysis of the ecosystemic model. They both influence and are affected by what happens around them. As a consequence, the components and relationships in ecological processes are extremely complex. The argument is that achieving academic success in an egalitarian community requires a comprehensive understanding of their ecology and how it affects them.

Impact of the models/theory on this work

For TTSI to succeed in inclusive environments considering their satisfaction, persistence and academic performance, these models and theories have very significant roles to play. With the medical aspect of it (medical model), the within child /individual factor needs to be considered where the health challenges, fears and doubts as well as their inabilities as a result of the conditions needs to be addressed. Where some medications need to be provided, it must be established, so that the student's health will be good. The students need to be healthy to be satisfied, persist and achieve academically on campus. In these inclusive colleges, it becomes expedient to have health assistants and infirmaries available to see to the needs of students with health challenges which may not only be for the sensory impaired but the entire student body. The medical model points out that the TTSI should also learn to accept their impairments so as to live

by it. This will promote their persistence, knowing that that is how they have been born and so to go all out to develop their potentials. Person Power in the form of Personal Assistance is the most crucial and readily available resource needed to actualize this potential. Enabling disabled people to cross some of these hurdles will go a long way toward realising the potential that has been harnessed (Lagadien, 1993). In the Medical model, UKDHM (2018) point out that usually, it is the impairment that becomes the focus rather than the needs of the person. As such the TTSI have to be supported by others. This makes them dependent on their peers and resource persons to succeed. For this reason, the social model comes to play as they need support to succeed since they cannot do all by themselves.

The social model sees disability as a factor caused by man and not the person with the challenge. It proposes that in building classroom blocks, staircases and ramps should be used so that person with wheelchairs can also access the facilities. This study seeks to establish how the environment and all other social practices are put in place to support the TTSI in CoEs in Ghana. Open gutters need to be covered and undulating paths levelled, to aid mobility of the students with visual impairment. Speed ramps and signposts, indicating the presence of persons with hearing impairment could also be provided on campuses with the hearing impaired so that drivers will be cautious as they drive on the campuses. Education of the students without disabilities on the support systems available and how they can guide their colleagues with impairments when addressed would also be of much importance.

This leads to the ecosystemic model which involves the medical and social models. This shows that the entire education system needs to be organised to such an extent that it will enable TTSI to get satisfied to persist and achieve. Their levels of motivation and self-efficacy which is likely to cause them to go through their education successfully can also encourage students without disabilities to also sit up, seeing what their peers with sensory impairments are achieving.

Special Education in Colleges of Education (CoEs) in Ghana

Educating persons with SEN has received greater attention especially since the mid-1990s. This attention has been generally conceived as a human right issue and internationally supported by the Salamanca Statement (UNESCO, 1994) and the Dakar Forum of 2000, as well as the Ghanaian 1992 Constitution, the 2007 Educational Reforms, and Disability Act, 2006 (Act 715).

The drive to achieve education for all by 2015 has led educators to focus on barriers to participation in special and IE for marginalised groups (UNESCO, 2009). Consequently, at both national and international levels, policy support for special and IE for learners with special needs is growing, creating the need for personnel preparation at higher levels. Ghana has had the IE policy in place since 2003, intending to develop education system that is sensitive to learner diversity and ensuring that all students have the best possible learning opportunities.

According to Opong and Fobi (2020), there are 13 public and some private basic schools for the deaf in Ghana. Eleven of the schools have an average population of over three hundred students who are deaf and hard-of-hearing (DHH). They further indicate that there are two senior high schools for the deaf.

On the other hand, there are six senior high schools which admit students with visual impairment in Ghana. Some progress has been made in integrating blind students into the normal school system, as per policy. As a result, a number of schools receive special assistance for this reason (GSS, 2014).

This education of persons with sensory impairment has not caught on very well in CoEs. The piloting of IE was more in Basic and Senior High Schools and the universities where various provisions were made with various studies on them. With the CoEs, IE of the sensory impaired has been with the three colleges; Presbyterian College of Education (PCE), Nusrat Jahan Ahmadiyya (NJA) College of Education and Wesley College of Education (WESCO).

These colleges (PCE, NJA and WESCO) have been very influential in managing TTSI in Ghana. They prepare the prospective student teachers for the basic schools. Studies on their success and challenges specifically on their satisfaction, persistence and academic performance have not been found to help identify the strengths to improve upon them and also their challenges to find remedies to them. Based on the variables and the reviewed literature, a conceptual framework was developed.

Conceptual Framework

The study conceptualised that IE has a relationship with satisfaction, persistence and academic performance of TTSI in Ghanaian CoEs. Again, it depicts the moderating role of self-efficacy in the relationship that exists between inclusive education experience and satisfaction, persistence and academic performance. Moderation indicates an interaction effect, where presenting a

moderating variable changes the direction or magnitude, or both, of the relationship between variables A and B of the relationship between two variables. Hence the moderation effect of self-efficacy could enhance (where an increase in self-efficacy would increase the effect of inclusive education experience on student satisfaction, persistence and academic performance); buffer (where an increase in self-efficacy would decrease the effect of inclusive education experience on student satisfaction, persistence and academic performance); or antagonise (where an increase in self-efficacy would reverse the effect of inclusive education experience on student satisfaction, persistence and academic performance). The conceptual framework reflects six hypotheses (H4-H9) which were on relationships (H4-H6) and moderating roles (H7-H9), but hypotheses H1-H3 examined differences which is usually not put on conceptual frameworks. A conceptual framework is often expressed as a visual model for relationships (Creswell, 2012). This is pictorially presented in Figure 6.

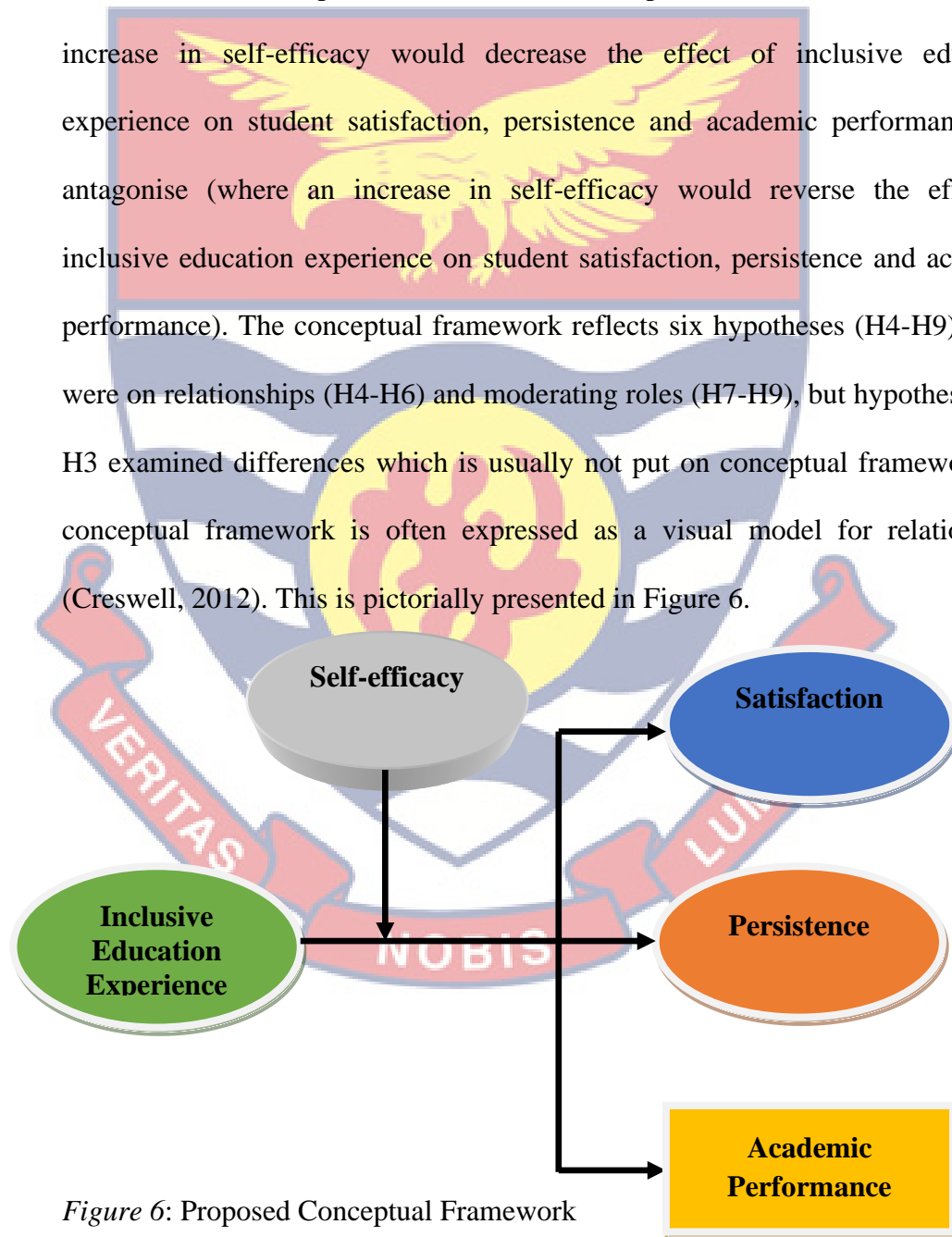


Figure 6: Proposed Conceptual Framework

Source: Researcher’s own construct

Empirical Review

Many empirical investigations are discussed in this review that is relevant to this research. This study's research questions and hypotheses were the focus of the empirical review. This study's conclusions can be better understood and discussed if one understands the viewpoints of other researchers.

Inclusive education experiences of teacher-trainees with sensory impairment (TTSI)

Some studies have concentrated on the sensory impaired (visual and hearing impairment) in comprehensive education environments. Strnadová, Hájková, and Kvtoová (2015) published a study titled “Voices of university students with disabilities: accessible education on the tertiary level—a fact or a distant dream?” It was the goal of the research to learn more about the challenges and resources experienced by Czech university students with disabilities, particularly in the areas of academics, social assistance, and employment opportunities. Interviews were conducted with twenty-four (24) impaired university students in the Czech Republic. The average age of the participants was 25, according to the data. The majority of the attendees (15 of them) were special needs school children. Eighteen out of the twenty-eight students were single; just three (3) were married with children and two (2) had a companion. The interviews were evaluated based on the grounded theory technique. Results show that students with disabilities face a wide range of hurdles, including those that are specific to their impairment. Students also cited family support, peer support, and assistance from assistants as sources of assistance. The participants also discussed

how they dealt with the obstacles they encountered. Assertiveness, self-determination, metacognition, attempts to 'fit in,' optimism, and career preparation were the top five.

Again, Bamu, De Schauwer, Verstraete, and Hove (2017) stated that while some programs are in place in Cameroon to educate students with hearing impairments in regular schools, difficulties remain in their education. Academic help, classroom placement, and the way sign language interpreters operate were also identified as major initiatives and obstacles in the education of students with HI in regular schools, according to their findings. They discovered that sufficient changes had not been made within the schools to address the needs of students with HI, raising concerns about their inclusion in regular school.

Satisfaction levels of TTSI in inclusive Institutions

Inclusive education has gained acceptance over the years, as such studies have attempted to examine the satisfaction level of TTSI concerning inclusive education. Jordan (2015) investigated the satisfaction of 13 students with VI in different inclusive education school settings in the United States of America. Participants answered various questions related to satisfaction, including questions related to self-concept, friendships, and questions related to their future aspirations. Content analysis was used in analysing extracts gathered from the interviews. The finding from the study revealed that students from the special education setting and mainstream settings expressed high levels of satisfaction with their school setting, as well as their relationships. This indicated that students with impairments are content with the kind of treatment they receive from their

schools. The researcher concluded that to make the education system profitable for students with special needs, there is the need to ensure that students are satisfied with the kind of services they receive in the mainstream and inclusive settings.

In another study, Asamoah, Ofori-Dua, Cudjoe, Abdullah, and Nyarko (2018) used a qualitative technique to evaluate how non-visually impaired and visually impaired students in Ghana perceive and feel about inclusive education.

Fifty students (23 with visual impairments and 27 without) and 19 teachers were involved in the study. Face-to-face in-depth interviews were conducted from January to May of 2016 to collect data. Students were interviewed in their classes after school hours. The conversations were taped and then verbatim transcribed. To answer the study's research questions, thematic analysis was used. It appears that pupils with visual impairments and certain teachers are in favour of inclusion, while some students without disabilities are against it. With regard to the inclusive education services they receive, visually impaired students expressed moderate satisfaction. Teachers in inclusive classrooms were shown to have certain difficulties in dealing with students with disabilities. In the end, the researchers concluded that teachers should have the necessary skills to provide appropriate services to students with special needs, as this enhances their overall happiness with inclusive education.

An even more recent study focused on students with and without disabilities at Bangladeshi universities and found that students in both private and public institutions were equally satisfied with their educational experiences. Using

a sample of 182 pupils, the researchers employed a quantitative approach to the research. Participants came from a variety of Bangladeshi universities, both public and private, and included students with special needs. Students were asked to fill out a survey to gauge their level of satisfaction with the course. In order to accommodate the study's visually impaired participants, the questionnaire was also made available in Braille. Multiple regression and other methods were used to determine the many factors that contributed to the research participants' happiness. Students in general were happy with the numerous services they received, according to the results of the study. Further research found that females were less content than guys. In private universities, students reported more satisfaction than those in public institutions. Students with disabilities reported feeling dissatisfied in the study. Researchers discovered that students with disabilities had no complaints about their capacity to use libraries and other resources, eat well, or interact with their classmates. There was some dissatisfaction, however, with the quality of instruction and the lack of a personal connection between students and their professors. Students with and without disabilities can benefit from educational institutions' efforts to better understand what makes them happy, according to the findings of the study's authors.

Gathering from the studies reviewed, it is obvious that very few studies have examined the level of satisfaction of students with impairments. Although the studies reviewed outline very significant findings, the work of Jordan (2015) focused on both students with visual and hearing impairments. Furthermore, although the study by Asamoah et al. (2018) was in Ghana, it did not include

students with hearing impairments. Not much attention has been given to satisfaction of students with sensory impairment, especially in the Ghanaian context. This implies a significant gap in the literature that needs investigation.

Persistence in TTSI in inclusive settings

The persistence of students with sensory impairment in education has been a topic of concern over the years and thus has convinced researchers to conduct studies in order to establish and/or confirm that fact. For example, Breslow (2007) researched the factors that affect university students with learning disabilities' academic achievement and persistence to graduation. The goal of the study was to look at and understand exactly the factors that affect academic performance for college students with learning disabilities (SLD). The data collected reflected the experiences of juniors and seniors who were making good academic progress toward graduation soon. Three (3) in-depth interviews were conducted with individuals who self-identified as having at least one form of reported learning disability and were obtaining accommodations at Iowa State University for the said learning disabilities. Four students were selected as participants: two male students and two female students, all of whom were Caucasian, though the race was not a determining factor in who was chosen. Many of the participants were typical college students, with two of them switching from a community college to a four-year university. Internal sources of inspiration for perseverance toward graduation, according to the researcher, were bolstered by family help. As a result, a student's degree of perseverance is innate, and it is often boosted by the

individual's family. As a result, individuals who have their families' help in all endeavours have a higher degree of persistence.

Schuck, Wall-Emerson, Kim, and Nelson (2019) conducted another study on college attendance and persistence predictors among visually impaired and blind students. The study aimed to investigate latent constructs and other variables that could be linked to post-secondary education outcomes for blind or visually impaired youth. The samples were taken from the National Longitudinal Transition Study 2, a 10-year longitudinal study of youth with disabilities. The first study's sample included 420 young people who had completed the direct evaluation reported in the dataset. The findings revealed that youth who are blind or visually impaired are more likely to enrol in two- or four-year schools (80.6%). Parents who wanted their children to attend college were more than eight times more likely to do so. Students with higher high school grade point averages were almost twice as likely to participate. Higher social skills were associated with a lower odds ratio of 1.2 times more likely attendance. The third study looked at variables like rehabilitation agency and academic support that were measured during college to see if they were predictors of college persistence. Just 52.6% of the remaining 200 youth in the sample earned 30 credits or sophomore status during the study period. Students who sought academic assistance outside of the college's facilities were four times more likely to persist, according to the findings. Students who read in large print were 3.6 times more likely to finish the course. The findings suggest that despite demographic disparities such as low

income, blind/VI youth attend college and persist at rates comparable to the general population.

As a part of his research, Coleman (2015) looked into TRIO's Student Support Services programme, which aims to help students stay on track for graduation. It was the goal of this study to discover how the TRIO Student Support Services (SSS) programme has influenced students' decisions to pursue a bachelor's degree. Participating students included those with disabilities (hearing, vision, and many others) who were also enrolled in TRIO's Student Support Services (SSS) programme. Students with hearing and visual disabilities are more likely to persist in their academic goals if they have access to the services listed above, which include therapy, financial assistance, and other forms of academic support. Students' persistence in school is dependent on a variety of factors, and this study confirms that students' access to academic counselling, financial assistance, and a variety of other forms of assistance varies. Conclusively, all the studies reviewed above revealed different results about the persistent level of students with visual and hearing impairment. The persistent level differed based on the available support that was provided by the families of the students.

Academic performance of TTSI

Academic performance is the hallmark of every student and institution regardless of the type of education and or students that are enrolled in that institution. Due to the relevance of academic performance by students, researchers have taken it upon themselves to investigate the academic performance of TTSI.

Jorgensen et al. (2005), for example, conducted an archival analysis to examine the academic success of college students with and without disabilities.

The study aimed to compare the academic performance of students with disabilities like visual and hearing disability to that of students without disabilities. In total, 653 students with disabilities were enrolled in the study (315 women and 338 men). 475 were enrolled in pre-university programs (275 of which were in social science), 74 in employment programmes, 50 in preparatory sessions, and 54 in continuing education programmes. There were 41,357 students without disabilities who met the eligibility requirements but did not register with the Centre for Students with Disabilities (21,587 women and 19,770 men). There were 25,157 students enrolled in pre-university programmes (14,161 in social science), 4,689 in career programmes, 2,352 in preparatory sessions, and 9,159 in continuing education. Students with disabilities at the college had graduation results that were almost equal to those of students without disabilities, according to the findings. The biggest difference was that students with disabilities took one semester longer to graduate on average. According to average grades and course pass rates, students with disabilities performed at least as well as, and in some cases significantly better than, students without disabilities. When students with disabilities were split into two classes, learning disabilities/ADD and all other disabilities, the overall pattern was for students with learning disabilities/ADD to have comparable academic outcomes to students without disabilities (grades, course pass rates, graduation rates), and students with all other disabilities to have equal (graduation rates) (grades, course pass rates). In some instances, students

with disabilities outperformed their peers, despite their poor high school grades. Lombardi, Murray, and Gerdes (2012) have researched the academic success of first-generation college students with disabilities. The study aimed to look at the academic success of disabled students who were also first-generation college students. Respondents were disabled undergraduate students at a four-year public university in the Pacific Northwest. The study looked at 521 undergraduate students who had self-disclosed disabilities and were eligible for Disability Services Office assistance. The research included 197 students or 38 per cent of the university's students with self-disclosed disabilities. Males made up 47% of the participants, while students of colour made up 22%. There were students from both the “high” (77%) and “low” (48%) prevalence disability groups represented (24% of students were diagnosed with more than one disability and, if appropriate, were considered both high and low prevalence). Students with LD or ADHD were classified as having a high prevalence, whereas those with other disabilities were classified as having a low prevalence. Extended exam time was the most widely used accommodation among the study, with 85 per cent reporting that they qualified for it, 60 per cent reporting that they had used it at some point during college, and 34 per cent reporting that they are currently using it. Many variables were calculated, but the study's emphasis would be on the Grade Point Average, which reflects the students' academic success. College GPA was gathered from student records. According to the findings, first-generation students with disabilities had lower GPAs, less family and peer help, and more financial stress. Furthermore, the results of regression analysis corroborated these findings,

emphasizing the significant impact of the first-generation status on academic success.

Lastly, Migehe (2014) analysed the academic progress of Tanzanian secondary school pupils who are deaf and hard of hearing. It used both qualitative and quantitative methodologies in the study. Three (3) secondary schools from the Njombe and Iringa regions were randomly selected. The survey has a total of 90 participants from a variety of demographics. Several factors were found to be contributing to the poor academic performance of many students with hearing impairments, including the scarcity of well-trained educators, a lack of common communication tools, inadequate learning resources and equipment for these students, and a lack of support and encouragement for teachers of students with hearing impairments. Researchers believe that the government should adopt a policy on the use of sign language and analyse the current teacher education programme for students with hearing impairments to incorporate it into the content of Sign Language skills. Secondary school funding is expected to be provided by the government. For the benefit of students with hearing impairments in the classroom and for the empowerment of special education teachers, this is intended to aid them in their work.

In conclusion, all the articles reviewed above shows inconsistencies in their results in the sense that, whilst some supports the claim that students with hearing and visual impairment have low academic performance, others say otherwise. Those who refuted the claim might be as a result of other unforeseen variables. Thus longitudinal research should be conducted in different parts of the

world to boldly assert the academic performance and or achievements of students with visual and or hearing impairment.

Differences in the levels of satisfaction among TTSI

Diaz, Hoag, Shasteen, Schade, and Larwin (2016) researched the perspectives of students with visual impairments on their educational experiences. The study aimed to look at the experiences of students with visual impairments and their parents to assess how satisfied they are with the education they are getting. A nationally representative sample of 180 tenth grade students and their parents participated in the parent and student surveys. These were collected from the Add Health National Database. 164 individuals said they did not have a visual disability. Ten people said they were visually impaired. Students' feelings about the school, parents' feelings about school, students' difficulty in school, students' feelings about treatment from others, and existing core grade point average are among the factors examined in this report. When comparing students with visual impairments to students without a visual disability, the results of the variables about Feelings about School, Difficulty in School, Parents Feelings about School, Feeling Cared For, and current GPA showed no substantial differences between the two classes. This means that students with vision impairments earn the same grades as students without vision impairments. Students with visual impairment should not have any more difficulties in school than students who do not have a visual disability. In conclusion, the findings pointed out that students with hearing and visual impairment - were satisfied with the way the school operates and thus there were no significant differences in their level of satisfaction.

A cross-institutional analysis of perceived satisfaction with accessibility enforcement and services was another study undertaken by Roberts, Crittenden, and Crittenden (2011). It was the goal of this study to see if students with disabilities enrolled in online classes, certificates, and degree programmes were satisfied with their institutions' accessibility and enforcement services, as well as their capacity to achieve in an online setting. These institutions were selected because of their national prominence as leaders in online education. All 54,476 of these institutions' students (n=2366) were the study's target demographic, and a 4 percent response rate (n=2366) was expected because of the study's focus on geographical diversity and The Best Colleges rankings. More over 58% of the 2366 survey participants were between the ages of 18 and 25, and the majority of them were female (65%). There were more than 52% of respondents who took at least one online class, and 28% of those who took at least one online degree programme. The SDOL (Students with Disabilities and Online Learning) survey was employed in the study. Descriptive statistics, such as frequency, mean, and standard deviation, were used to examine the data. Descriptive analyses were also performed to determine the number of students who classified themselves as having disability and how many were enrolled in online classes during the fall 2009 semester. Findings from the study show that students with disabilities believe their impairments have a negative impact on their ability to participate in online classes, but the majority of students say that their demands for accommodations were met and they were extremely satisfied with their inclusive education.

A study on self-esteem and self-concept in visually impaired children and young people was also published by Augestad (2017). The study's goal was to combine the most recent information on how children and adolescents with visual disabilities perceive themselves and how confident they feel about themselves. To begin, he searched the databases Psychology and Behavioural Sciences Collection, PsycNET, PubMed, Eric, Google Scholar, Web of Science, and MEDLINE for published works on self-esteem and self-concept among children with VI. Search terms included: VI, blind, low vision, self-esteem, self-concept, and self-worth; and psychosocial growth. Second, he conducted a manual search of the publications' reference lists. Children and young people aged 5 to 25 who had been diagnosed with VI were among the subjects of his research. In light of the fact that many visually impaired students take longer to complete high school than their sighted peers, he established the upper age limit at 25 years. On a four-point scale with a maximum score of 42, we used the version of the QATSDD with 14 items relevant to quantitative investigations. Studies discovered that age and degree of vision loss influenced perceived self-esteem, which in turn influences level of satisfaction because each person has a different view of satisfaction and so it is not the same for everyone. There was some satisfaction, but there was also some dissatisfaction. However, the overall satisfaction score shows that people with impairments as a whole have normal levels of contentment.

The studies reviewed above are inconsistent in the sense that, the results regarding whether the students were satisfied and or not satisfied was different in

each case. Also, the researchers could not state it points blank that all students with disabilities, specifically those with visual and hearing impairment were not satisfied with their way of living at the school and how the school operates in general. This the studies even though laid down some answers, yet is not enough to make conclusions based on their findings.

Differences in the level of persistence among TTSI

Researchers have studied the perseverance of students with disabilities including hearing and vision loss, and their findings have always been noteworthy. Garaigordobil and Bernarás (2009), for example, evaluated the persistence, self-concept, self-esteem, personality features, and psychopathological symptoms of teenagers who were both visually impaired and visually unimpaired (specifically students). The 60 visually impaired students were selected from a census of middle and high school students. CRI for visually impaired students in each of the ACBC's 3 major cities were used to describe the sample. These centres' teachers collaborated to exchange documents with parents and make it easier for pupils to come to school. Participants included students from public, private, and cooperative colleges and universities. No one in the study had been diagnosed with a mental condition, regardless of whether they had visual impairment or not. According to ANOVA results, teenagers with visual impairment were substantially more likely to suffer from a variety of psychopathological symptoms, as well as to be capable of selfless acts. When it came to self-esteem and psychopathological symptoms, women with visual

impairments had a lower self-esteem than their peers. Individual pupils with disabilities have the same level of perseverance, as shown by the findings.

Mamiseishvili and Koch (2012) investigated the persistence of students with disabilities in postsecondary institutions in the United States from their first to the second year. The data collection used in their research was the Beginning Postsecondary Students Longitudinal Study. The data collection contains a nationally representative sample of students, including transfers, dropouts, and vocational completers. The researchers chose a group of students with disabilities who first enrolled in postsecondary institutions in the fall of 2003 for their research. There were 1,910 people (10.2% of the total number of survey respondents) who reported having any form of long-term disability or illness that lasted 6 months or longer among fall 2003 beginners, including (a) some sensory deficiency. The researchers used a researcher-designed persistence instrument to collect data on students' persistence. The data were analysed using Chi-square and logistic regression analysis. The results indicated that irrespective of the impairment of the students, their level of persistence was the same. Based on the findings above, we can explicitly say that the persistence level of students with disabilities depend solely on the individual and thus varies from every individual since the persistence levels depends on factors that are not constant in every student, and is not affected by the type of impairment the student suffer.

Schuck, Wall-Emerson, Kim, and Nelson conducted a more current study on the topic of college enrolment and perseverance among students with visual impairments (2019). Using data from the second National Longitudinal

Transformation Study, the researchers conducted their study (NLTS2). Over the course of 10 years, the same participants (parents or youth) were asked to respond to a set of questions on the youth's features and experiences in order to gather data. The study enlisted the help of more than 10,000 pupils. Results showed that the willingness of students to seek outside academic help was the most closely associated to finishing at least 30 credits other than university-provided resources. Four times as many students completed 30 credits when they said they sought assistance outside of the university's programmes. The persistence level of students was also due to certain variables in the research.

It included aid finding and social support, allowing one to thoroughly claim that the persistence level of students with visual and/or hearing impairment varies. Conclusively, the literature reviewed above depicts a higher level of inconsistencies with the sole reason that, the level of persistence was not explicitly stated and thus the main focus of the studies was on a different topic other than the persistence levels.

Differences in the academic performance of students with visual impairment and those with hearing impairment

In the Barramullah district of Pakistan, Ahmad, Hamid, and Ganaie (2012) conducted a secondary school study on the self-concept, degree of desire, and academic achievement of physically challenged and typical pupils. Students with and without physical disabilities were compared in terms of their perceptions of themselves, their aspirations, and their academic performance. Three hundred secondary school pupils were recruited for the study, 150 of whom were “normal”

and the remaining 300 were “physically disabled.” They used an inventory developed by Sagar and Sharma, a degree of ambition scale devised by Mahesh Bhargava, and an aspiration scale devised by Shah to gather the data. Mean and standard deviation, as well as a t-test, were used to analyse the data. The study's findings reveal that ordinary secondary school students had a greater sense of self, aspiration, and academic accomplishment than kids with physical limitations. In contrast, physically challenged pupils were shown to have a greater ideal self-compared to the general population. To determine a student's overall academic performance, the grades they received in eighth and ninth grades were combined. The results show that students with physical disabilities fare less well academically than their peers. As a result, whether due to hearing or vision impairment, there were some significant gaps in their academic accomplishment rate.

Students with visual disabilities in Oyo State, Nigeria, were studied by Eguavoen and Eniola (2016) to determine the impact of their self-concept and social acceptance on their academic success. Due to the study's findings, self-esteem and social acceptance among pupils with visual disabilities in Oyo State were examined. Student self-concept and academic accomplishment in Oyo state ($r = 0.21, p=.05$) and social acceptance and academic achievement of students with visual impairment in Oyo state ($r = 0.36, p=.05$) were linked. Studies show that academic performance varies even among physically challenged students, and more work has to be done in this area. To help their children's self-esteem and academic performance, parents of visually impaired children should treat their

children in the same way as their peers who do not have visual impairments. Methodological assistance for special educators working with visually impaired students should be provided along the educational process.

Naz (2017) conducted quantitative research on the academic performance of hearing-impaired, visually-impaired, and orthopedically-impaired higher secondary school students in Kashmir, J & K. The study aimed to compare the academic performance of hearing disabled, visually impaired, and orthopedically impaired higher secondary school students in Kashmir, J & K. According to the data, high school students who are hearing impaired have the lowest academic achievement, with 92.5% having below-average academic achievement, followed by students with orthopaedic conditions with 81.25 per cent having below-average academic achievement. 8.75% of visually impaired students achieve above-average academic achievement, 28.75% achieve average academic achievement, and 62.5 % achieve below-average academic achievement.

From all the studies reviewed above, in as much as some of the findings are consistent and inconsistent at the same time, much of the research was conducted in Asia, Europe, America and other parts of the continent, with little literature from Africa, specifically, Ghana and thus much work need to be done in order to fill that literature gap.

Relationship between inclusive education experience and satisfaction of TTSI

Several studies have been undertaken to examine the relationship between TTSI satisfaction and inclusive education experience, and they all provided

interesting results. For example, a study by Sachs and Schreuer (2011) examined how students with disabilities fared academically and socially in higher education. A total of 326 Israeli university and college students (six institutions and 22 colleges) participated in the research. There was a correlation between the amount of time students with impairments spent studying and the amount of time they spent engaging in extracurricular activities. Student happiness was found to have a favourable correlation with the quality of their educational experiences. Furthermore, according to the study, higher education institutions need to do a better job at accommodating students with impairments and bridging the gap in social fairness. For example, kids with disabilities such as hearing and vision impairment have a high level of experience, which helps them succeed in school since they are content with it.

Furthermore, Safder, Akhtar, Fatima, and Malik (2012) researched at the university level to recognise challenges faced by students with hearing disability in inclusive education. The research was conducted qualitatively. The study's sample included all four deaf students at the University of Punjab's Department of Special Education in Lahore, Pakistan. The issues of students with hearing impairment were investigated using a standardized interview with open-ended questions, while data on student satisfaction and sense of belongingness was collected using a questionnaire. The data was analysed by transcribing and coding the comments made by the deaf participants. It was discovered that students with hearing impairment faced multiple challenges. They describe their experiences in the classroom, including the style of instruction used by the teachers, the lack of

sign language interpreters, and the teachers' (inability to use) sign language during instruction, indicating a low level of satisfaction in the school environment. It was also discovered that students with hearing impairments had little trouble (socializing) with their hearing peers. The quantitative findings showed a non-significant relationship between student satisfaction and belongingness ($r=.39$, $p>.02$). According to the researchers, students with hearing impairments will have fewer issues if sufficient arrangements are made to meet their needs in an inclusive classroom.

Jessup, Bundy, Broom, and Hancock (2017) investigated the social interactions of high school students with visual impairments in a more recent study. The purpose of the study was to explore the social experiences in high school of students with visual impairments. Results indicated that the students felt included. The results further reveal a significant relation between students experience and their satisfaction ($r= .51$, $p< .01$) as well as sense of inclusion ($r= .37$, $p< .01$). Literature on the relationship between experience and satisfaction of students with visual and hearing impairment was limited. The studies reviewed did not speak much to the heading in question, yet it provided a relevant guide to examine how students experience affected their level of satisfaction. The lack of empirical evidence offers an opportunity to examine this relationship and add up to existing research.

Relationship between inclusive education experience and persistence of TTSI

Morelle (2016) investigated the difficulties faced by visually impaired students in two Klerksdorp primary schools. The main goal of this research was to

look at the problems faced by students with visual impairment in two Klerksdorp public schools. The goal was to explain the problems faced by the students and how they are genuinely integrated into the mainstream school curriculum. It also explored the influence of students' experiences on the engagement of the visually impaired in mainstream schools. Using a mixed study approach, Morelle intentionally selected the participants and collected data through semi-structured interviews and questionnaires. Two schools in the Dr Kenneth Kaunda District were among the participants. According to the findings, even though students with visual impairment were physically incorporated into mainstream classes, they were not fully included. The researcher discovered that the teaching methods and materials were insufficiently suited for them and that the physical environment inside the classrooms and on the school grounds was not yet fully available to them. Furthermore, students' experience was found to be strongly linked to their engagement ($r=.66$, $p=.05$) in the study. According to Morelle (2016), the school requires resources and a shift in teachers' attitudes; teachers do not understand the reasoning behind inclusive education, and students' interactions are beneficial to students because they influence their attitudes toward learning.

A study conducted by Brydges and Mkandawire in Lagos, Nigeria, examined the expectations and concerns of students with visual impairments about inclusive education. In July 2013, students with visual impairments in Lagos, Nigeria, were interviewed in depth to learn about their thoughts on inclusive education. The data was analysed using a combination of snowball and

purposeful sampling. Discrimination and a lack of instructional support for students with disabilities in Nigeria continue to result in a bad educational experience and lower levels of persistence, according to the study's findings. They also discovered that students' persistence is influenced by their educational experience. According to the researchers, inclusive education programming in Nigeria can focus on school environments as well as the neighbourhoods where these children live.

Asamoah et al (2018) in their study again found out that IE helps students with disabilities to get more experience. They pointed out that IE set the standard for SWD to compete and at the same time be persistent until graduating. From the perspective of the researchers, they believed that the experiences of students have a great effect on their behaviour, attitude towards academic work, and overall persistence. Thus, students are likely to suffer severe consequences when their experiences are negative.

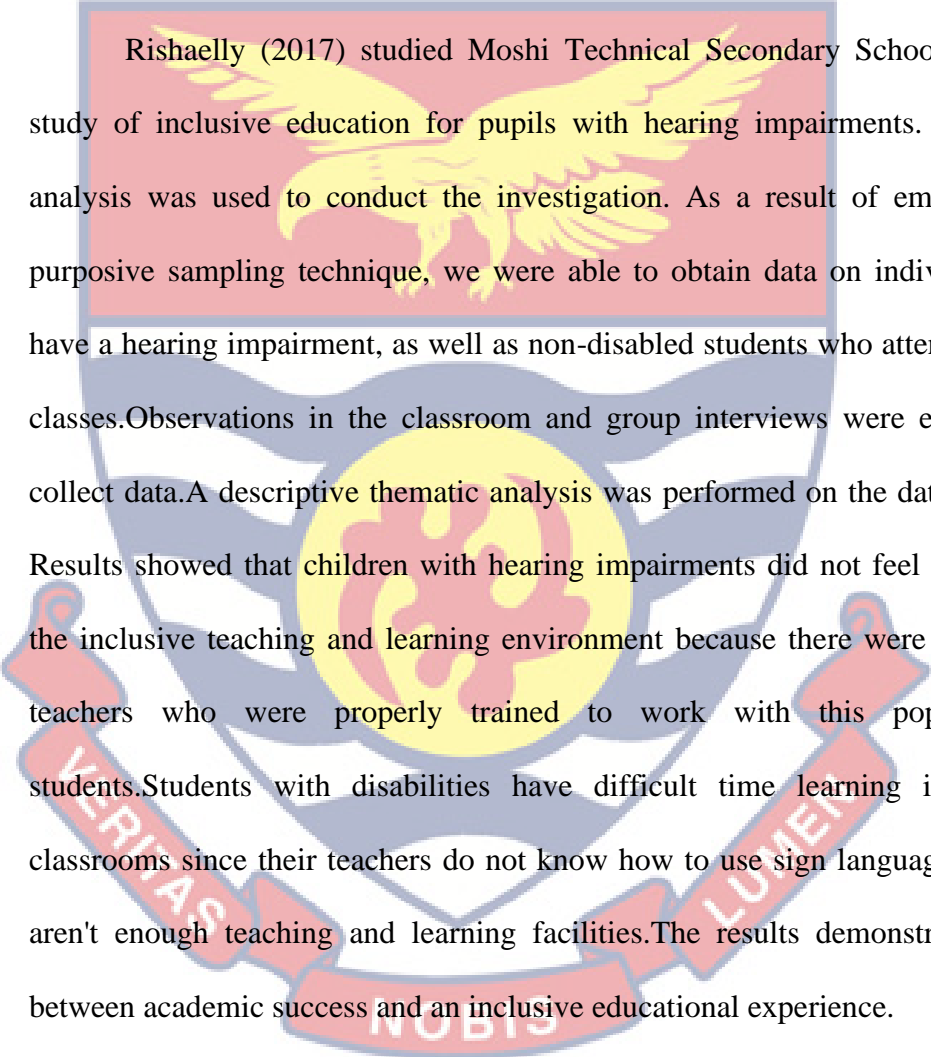
In conclusion, in as much as the heading in question is concerned, the articles reviewed said little about the relationship and thus made it difficult to establish a relationship between the two variables, that is, inclusive education experience and persistence level. Also, the results from those studies were inconsistent, since they all failed to exclusively declare the relationship that existed between students with visual and hearing impairment level of experience and persistence level since they were not the main motive and or purpose of those studies.

Relationship between inclusive education experience and academic performance of TTSI

Over the decades, researchers have taken it upon themselves to find the relation that exists between inclusive education experience and academic performance of students with visual and or hearing impairment. Kuyini and Mangope (2011), for example, looked at the perceptions and concerns of student teachers in Ghana and Botswana regarding inclusive education. The findings revealed that the student teachers' attitudes were mixed; they had reservations regarding inclusive education, citing a variety of problems, including funding, and their responses were affected by some context variables. From the results, there was a positive educational experience for both students and teachers. Thus, enhanced students' academic performance, positive student's teacher attitude was seen to be important factors in the academic excellence of every individual.

In Poland, Papuda-Doliska (2017) examined variations in social and academic functioning among children with visual impairment in special, integrated, and inclusive educational settings. The study aimed at the differences in social functioning (status in the peer group, child satisfaction with peer relationships) and educational functioning (teacher challenges, child satisfaction with academic performance) of students with visual disability and their teachers in three different types of school settings: unique, integrated, and inclusive. The results showed that there were non-significant differences among the three groups that are children in special who were impaired combined and inclusive educational environments in Poland regarding their subjective opinions of school satisfaction and thus their

academic comparison was if not hyperbolically the same and it, therefore, states a positive and or strong relation between inclusive education experience and academic performance. The author also found that the socio-metric status of children with visual impairment in integrated and inclusive classrooms implies a small number of popular positions.

The logo of the University of Cape Coast is a watermark in the background. It features a shield with a yellow eagle with spread wings at the top. Below the eagle is a yellow circle containing a red stylized figure. The shield is flanked by two red banners with white text: 'VERITAS' on the left and 'LUMEN' on the right. At the bottom of the shield is a red banner with white text: 'NOBIS'.

Rishaelly (2017) studied Moshi Technical Secondary School as a case study of inclusive education for pupils with hearing impairments. Case study analysis was used to conduct the investigation. As a result of employing the purposive sampling technique, we were able to obtain data on individuals who have a hearing impairment, as well as non-disabled students who attend inclusive classes. Observations in the classroom and group interviews were employed to collect data. A descriptive thematic analysis was performed on the data collected. Results showed that children with hearing impairments did not feel welcome in the inclusive teaching and learning environment because there were not enough teachers who were properly trained to work with this population of students. Students with disabilities have difficult time learning in inclusive classrooms since their teachers do not know how to use sign language and there aren't enough teaching and learning facilities. The results demonstrated a link between academic success and an inclusive educational experience.

Based on the findings, the author recommended that the government hire and post more specially qualified teachers for hearing impaired students, as well as provide sufficient teaching and learning resources to schools so that students with hearing impairments can learn easily and safely, gain valuable experience,

and succeed academically. It can be seen from the articles reviewed that student's experience in the inclusive education setting had a positive relationship with their academic performance even though it wasn't explicitly or emphatically stated. It is therefore essential for more studies that establish the relationship to be conducted in other to generalize the claim.

Moderating role of self-efficacy in the relationship between inclusive education experience and satisfaction in TTSI

Several types of research have been published over the years to investigate the role of self-efficacy in the association between inclusive education experience and satisfaction in students with visual and/or hearing disability, and all of them have yielded some fascinating results. Dahlbeck and Lightsey (2008), for example, research on generalised self-efficacy, coping, and self-esteem as predictors of psychological change in children with disabilities or chronic illnesses. Many variables were measured, but for the study, only those that mattered for the heading for this study were considered. For the level of satisfaction, the Student's Life Satisfaction Scale (SLSS) was used. The SLSS is a seven-item self-report test that has been used to assess life satisfaction in children aged 8 to 18. It is described as one of the most well-established measures of general wellness and positive functioning.

Respondents were asked to score their life satisfaction based on a broad assessment of the quality of their lives rather than make satisfaction judgments based on particular domains such as family or friends. Life satisfaction was predicted by emotion-oriented coping and self-esteem; anxiety was predicted by

distance coping, self-efficacy, and self-esteem; and self-esteem mediated the relationship between self-efficacy and anxiety. It can be seen from the results that, self-efficacy played a mediation role in life satisfaction, thus the majority of the students who were disabled that is, some with visual and hearing impairment and in inclusive education setting was satisfied with the experience they get.

Gutierrez (2014) also did a study to examine self-efficacy and satisfaction in Hispanic/Latino vocational with learning disabilities participation in rehabilitation. The purpose of the study was to examine the association between self-efficacy and satisfaction in Hispanic/Latino participants with Learning Disabilities (LDs) of which an underlying factor may be as a result of hearing and or visual impairment enrolled in the Vocational Rehabilitation (VR). An ordinal logistic regression analysis revealed a statistically significant positive relationship between self-efficacy and satisfaction, a form of satisfaction that is unaffected by post-secondary education level. It can be seen that there is an association (that is moderating effect) that self-efficacy has with satisfaction, being satisfaction or any other form of satisfaction have with regular students' experience. The results were significant because they raised state VR counsellors' understanding of the role of self-efficacy in population satisfaction and stressed the value of self-efficacy in the workplace, according to the researcher.

Again, UmmiHabibah (2018) did a study on the topic: Relationship between cognitive ability, personality, psychological well-being and self-esteem among students with hearing impairment: the moderating role of emotional intelligence which was positively related to self-efficacy. The study aimed to look

at hearing-impaired students' levels of cognitive ability, personality traits, psychological well-being, emotional intelligence, and self-esteem, as well as the disparities in cognitive ability, personality traits, psychological well-being, emotional intelligence, and self-esteem. The study's findings revealed that there were important relationships between the variables studied. Self-esteem and extraversion, agreeableness, and conscientiousness all had important relationships. The research also discovered connections between self-esteem and emotional intelligence (interpersonal and general mood) as well as psychological well-being dimensions. All variables that quantify both satisfaction and experience levels in students are influenced by their level of self-efficacy. The findings revealed that self-efficacy moderates the satisfaction and experience level of students in inclusive education settings. In conclusion, it was observed that all the articles reviewed though have some adage of establishing the moderating effect that self-efficacy has with students inclusive education experience and satisfaction yet the evidence is not concrete and justifiable because it wasn't the focus of the study and there is not much literature that speaks to the above.

Moderating role of self-efficacy in the relationship between inclusive education experience and persistence in TTSI

Some investigations to identify the moderation role of self-efficacy in the relationship between inclusive education experience and persistence of students with hearing and visual impairment, and all have resulted in some fascinating results. For illustration, Jenson, Petri, Day, Truman and Duffy (2011) did a study

on perceptions of self-efficacy among Science, Technology, Engineering and Mathematics (STEM) students with disabilities. Since self-efficacy is inherent and differs in every individual, it was, therefore, reasonable to make the aforementioned justification, because it can increase, decrease, and reverse and or weakens the relationship between the two variables. They concluded that the results from the study offer insight into designing support services and measuring self-efficacy with the population.

Also, Dehghan, Kaboudi, Alizadeh, and Heidarisharaf (2020) researched the relationship between emotional intelligence and mental health with social anxiety in deaf and blind children. The study aimed to see if there was a connection between emotional intelligence (self-efficacy) and mental health in Kermanshah's Exceptional Centers and Public Schools. The findings revealed that, in terms of emotional intelligence and/or self-efficacy, students' satisfaction and educational experiences in inclusive education would differ, since self-efficacy is not constant and/or the same in every person, and thus has an impact on the variables.

Memis (2020) also researched the relationship between middle school students' use of learning methods, self-efficacy, and math achievement: measure growth and structural model. The study also looked at the connection between self-efficacy for self-regulated learning, the use of learning strategies, and math achievement. The results of the structural model indicated that learning strategy use had a direct impact on Mathematics achievement. Also, self-efficacy for self-regulated had a direct effect on Mathematics achievement, as well as an indirect

effect on Mathematics achievement mediated by learning strategy use. From the results above, it can be seen that self-efficacy is associated with both education experience and level of satisfaction, with the sole reason that, students learning strategies which is an indication of a good experience and a well-satisfied student in an educational setting being inclusive, was found to be related.

The articles reviewed speak little to the heading under review and thus more and the results are not all that consistent. Also, the study focus was not on the heading which made it difficult to stick to the claim made by the researchers concerning the topic in question.

Moderating role of self-efficacy in the relationship between inclusive education experience and academic performance of TTSI

All of the studies that looked at the role of students' self-efficacy in mediating their relationship between inclusive education experiences and academic achievement for those with visual and auditory impairments found some interesting results. To give one example, Hampton and Mason (2003) conducted research on high school students' self-efficacy beliefs, their ability to learn differently due to gender and other factors. Bandura's self-efficacy theory was used as a framework for this study, which examined the impact of gender and learning disability status on self-efficacy beliefs and academic performance. The findings showed that LD status had an indirect impact on self-efficacy through the source variable; gender had no direct or indirect impact on self-efficacy; and sources of efficacy had a direct impact on self-efficacy, which predicted academic achievement. More than half of the difference in academic performance might be

attributed to the structural model. As a result, self-efficacy either raised or lowered academic accomplishment, and as a result, it moderates it.

Leyser, Zeiger, and Romi (2011) published another study on prospective special and general education teachers' self-efficacy, with consequences for inclusive education. The effect of three variables on the self-efficacy of 992 pre-service teachers in general and special education was investigated. The results showed a key impact on the number of years of pre-service schooling and the academic degree major. Only effectiveness for social connections was found to be the main influence for years of pre-service schooling. On all four variables, the key impact for degree major showed that special education majors scored significantly higher than regular education majors. There was also a significant main impact for experience and major. On two variables, students with a lot and some experience scored substantially higher than students with no experience. Self-efficacy was linked to the intensity of preparation. On all four variables, students who received some training outperformed students who received no training. The results depicted that, students that teachers instil a higher level of self-efficacy in were bound to obtain higher marks than those that the teachers did not impact the same level of self-efficacy in them.

Additionally, Shahed, Ilyas, and Hashmi (2016) researched Academic success, self-efficacy, and perceived social support of students who were visually impaired. The study looked into the relationship between students' academic success, self-efficacy, and perceived social support. Academic success, self-efficacy, and perceived social support were found to have a strong association,

according to the findings. Thus, we can clearly say that self-efficacy moderates both variables, that is, students that have inclusive education experience and their academic performance. Also, gender differences were found in academic achievement. Visually impaired students will make substantial educational gains if they are given help, according to the researchers. This, in turn, would boost their self-efficacy, potentially leading to even greater success. To encourage higher achievement and self-reliance in visually impaired students, educational institutions must plan and develop support networks involving faculty and students. The studies reviewed confirmed that self-efficacy plays a role in both the academic achievement and inclusive education experience of students with visual and hearing impairment and thus exhibit consistency in their results. Notwithstanding that, the majority of the studies were conducted in other parts of the world and not Africa and specifically Ghana hence, there is the need to bridge that literature gap.

Using a goal-efficacy model, Klomegah (2007) investigated how well index scores of student self-efficacy, personal goals, class-assigned objectives, and academic competence (four model variables) might predict university students' academic achievement. Student self-efficacy was found to be a major predictor of academic achievement in both bivariate and multivariate studies. Self-efficacy was the most influential of the four variables in the goal-efficacy model. In comparison to the goal-efficacy paradigm, a student's high school GPA is a better indicator of future success in college-level coursework.

Summary of Literature Review

The literature review suggests that inclusive experiences promote satisfaction, persistence and academic performance. Despite these, the moderating role of self-efficacy influences how TTSI overcome challenges to succeed. It further points out that TTSI can achieve academically if they are satisfied with the academic and non-academic experiences. Persistence therefore looks for goal and institutional commitment. Wolfe and Kay (2011) found that academic and social involvement were both significantly linked to a commitment to stay in college, indicating that there could be a mediation impact of commitment to social and academic integration rather than a direct connection, in which commitment to stay in college predicted retention. The various models and theories as reviewed in the study shows that it is essential to consider the needs of the students taking into consideration the ecosystemic model which tries to blend the medical and social models in disability issues. This blend denotes that, the individuals within factors, be it the strengths and weaknesses should be considered and guided as well as the need to promote an environment that is welcoming to the individual. Tinto and Beans theories point to the fact that, depending on what the students encounter, it will determine their persistence to remain or drop out. Thus, the need for systems to be put in place to help retain the sensory impaired in the colleges. In this current dispensation where IE is being promoted and implemented, students are expected to be educated in their immediate environments and institutions of their choice. They are not to be denied access to institutions they prefer as a result of their disabilities. It was reviewed that, in the Ghanaian perspective, prospective

students into CoEs can only have access to three colleges. These as already indicated are the PCE at Akwapim Akropong in the Eastern Region, WESCO at Kumasi in the Ashanti Region and NJA at Wa in the Upper West Region. There is the need therefore to examine how TTSI are coping in the inclusive colleges in Ghana, considering the variables satisfaction, persistence and academic performance and the moderating role of self-efficacy.



CHAPTER THREE

RESEARCH METHODS

Introduction

This study investigated IE experiences on satisfaction, persistence and academic performance of TTSI in CoEs in Ghana and the moderating role of self-efficacy. This chapter outlines the study's research methods, which are organised according to the research paradigm, defining the study's theory, research design, and population, as well as the sample and sampling process. It goes on to discuss the ethical implications. Also, the data collection instrumentation is discussed. The pilot testing and validation of instruments are also discussed. The data collection method, data processing and analysis are also presented in this chapter.

Research Paradigm

This study sought to investigate the inclusive experiences of TTSI in CoEs in Ghana. Research studies are best understood when the philosophy upon which it is based is easily understood. Various paradigms have developed to evaluate the standards for selecting and describing problems for investigation. According to Kivunja and Kuyini (2017), researchers have suggested a large number of paradigms, all of which can be divided into one of three taxonomies: Positivist, Interpretivist, or Critical paradigms. Other scholars, such as Tashakkori and Teddlie (2010), suggest a fourth taxonomy, the Pragmatic paradigm, which incorporates elements from all three.

Positivism is a philosophical position that stresses empirical evidence and scientific methods in general (Cohen, Manion, & Morrison, 2007). This tradition holds that the universe is made up of regularities, that these regularities can be observed, and that by studying the real world, the researcher can infer knowledge about it. The researcher should be more concerned with describing general principles than specific ones. The researcher is located outside of the test site and is in charge of the research process. The interpretive paradigm is the second research paradigm and it emphasizes the importance of the researcher's subjectivity in the hermeneutic phase of interpretation and has emphasized its progressive growth as a key part of the inquiry process, thus contributing to interpretive research's emergent and reflective nature (Taylor & Medina, 2013). The critical research model encourages the researcher to participate in what is known as "deep democracy" (Kincheloe & McLaren, 2011), which includes recognizing and reforming socially unequal social systems, policies, values, and practices. Critical inquiry, when applied to education, seeks to increase educators' understanding of the principles and convictions that underpin their natural teacher-centred classroom positions (Taylor, 2008).

The philosophy of pragmatism, on which this thesis is focused, focuses on behaviour rather than metaphysical underpinnings (Fraenkel et al, 2012). It is also associated with mixed methods research and focuses on the outcomes of research, the primary significance of the question posed rather than the methods, and the use of various data collection methods to notify the problem(s) under investigation (Creswell & Clark, 2018).

Due to the variety of models and approaches that both accommodate, a mixed-methods study is linked to the pragmatic paradigm. In mixed-methods analysis, quantitative and qualitative data are obtained and combined, resulting in a “more comprehensive picture of a research issue than either methodology alone,” according to Creswell (2014, p.4). Pragmatism was used as the philosophical foundation of this study to enable me to highlight the situational nature of the problem under study (Ansell, 2011; Ansell & Boin, 2019). Martela (2015) indicates that pragmatism gives better tools to assess the value of a new practise or habit to deal with a situation than would positivist methods that rely on truth as correspondence or interpretive/hermeneutic approaches that favour pluralism over relation with reality.

Research Design

A convergent parallel mixed-method design was used in this research. This was employed to help me combine quantitative data and qualitative extracts to create a more complete view of the problem; to develop a complementary picture; to compare, verify, and triangulate results; to provide context for trends, and to analyse processes/experiences as well as outcomes (Creswell, 2013). This approach is pictorially illustrated in Figure 7.

(2007) Triangulation, complementarity, growth, initiation, and expansion are the five elements.

According to Johnson et al. triangulation is the process of finding integration and corroboration of findings from various methods investigating the same phenomenon. The research was in line with the characteristics of both research approaches whereby the weaknesses with one approach compensated for the other. Complementarity, they explain, is about elaborating, enhancing, illustrating, and clarifying the results of one process with the results of another. Growth, on the other hand, involves using the results of one process to inform the results of another. These approaches used together threw more light on where one approach may not be providing enough explanations due to what it can receive. Initiation to them involves the exploration of paradoxes and inconsistencies that contribute to the reframing and expansion of the research issue. These aim to broaden the scope and spectrum of inquiry by using a variety of methods for various inquiry components. The mixed-methods approach was chosen for this study because of triangulation, complementarity, and growth.

In the aspect of triangulation, Symonds and Gorard (2008) indicate that triangulation of epistemologies/methodologies/methods provides better quality extracts than a single approach. This study reported to the mixed methods approach to managing weaknesses in each other (qualitative and quantitative) so that the weaknesses with one approach compensated for the other. Merging quantitative data and qualitative extracts was to help me develop a more complete understanding of the impact of inclusive education experiences on satisfaction,

persistence and academic performance of teacher-trainees with sensory impairment in Colleges of Education and the moderating role of self-efficacy. It was to create a more complete picture; to compare, verify, or triangulate results; to provide illustrations of meaning for trends; and to look at processes and experiences in addition to outcomes (Creswell & Plano-Clark, 2018). Due to the respondents being sensory impaired, I made the questionnaire closed-ended demanding straight forward responses by ticking. As such there was not much opportunity for them to express their concerns on their experiences which were not captured. Complementarity, which sought to elucidate, improve, and illustrate the results of one method by comparing them to the results of the other method, became important as a result. To summarize, the aspect of creation was considered with the convergent parallel mixed methods approach adopted for the analysis, as these approaches when combined shed more light on areas where one approach may not be offering enough explanations.

This method has its own set of difficulties, such as combining two sets of very different data (e.g., one set of text and the other set of numbers) and their results in a practical way. It is preferable if researchers design their studies so that both quantitative and qualitative data explore the same concepts (Creswell & Plano-Clark, 2018). Researchers can face the dilemma of what to do if the quantitative and qualitative findings do not agree, according to Creswell and Plano-Clark. Contradictions may disclose new knowledge about a subject, but they can be difficult to overcome and can necessitate the gathering of additional data. When combining the two data sets, researchers must also consider the

implications of having different samples and sample sizes. For comprehensiveness, the use of mixed methods was used to address a wider range of questions than quantitative methods alone would allow. Focus group discussions elaborated on this, identifying the need for qualitative research to engage with the complexity of inclusive education experiences on satisfaction, persistence and academic performance, the moderating role of self-efficacy.

Population

The target population involved all 66 students with sensory (visual and hearing) impaired in the three (3) CoEs that practice IE during the 2018/19 academic year. Thus, PCE, Akropong Akwapim, WESCO, Kumasi and NJA, Wa. A pictorial representation is depicted in Figure 8 as to the research areas of the colleges practicing IE with students who are sensory impaired.

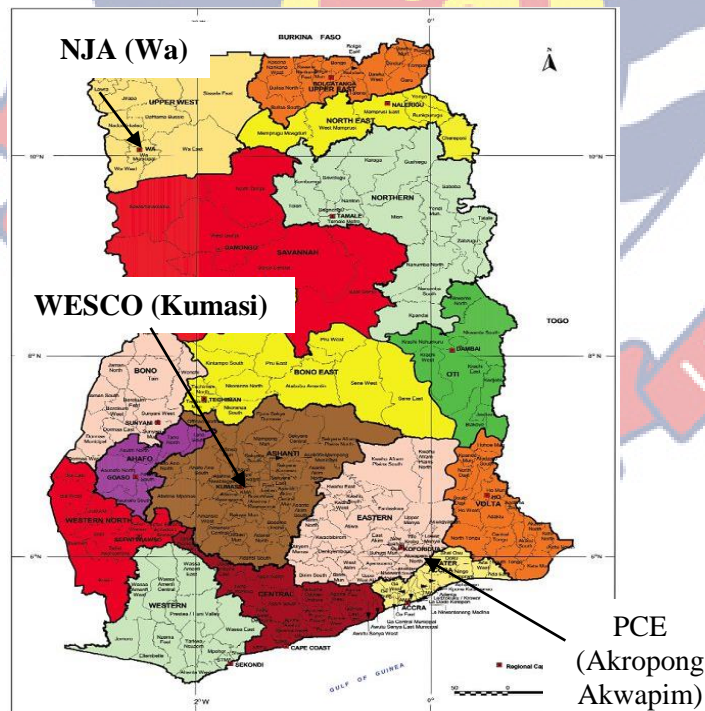


Figure 8: Map of Ghana showing Location of Inclusive Colleges of Education
 Source: Ghana Statistical Service, Geographical Information Systems (2019).

Figure 8 shows where the inclusive colleges can be located on the Ghana map. The CoEs can be found in three regions: one each in the Upper East, Ashanti and Eastern regions.

Table 1 shows the details of the target population and samples from each college during the 2018/19 academic year used for the study.

Table 1: Target Population and Sample for the Study

College	Level	Visually Impaired			Hearing Impaired			Grand Total
		Male	Female	Total	Male	Female	Total	
PCE	100	2	2	4	10	5	15	
	200	-	1	1	7	5	12	
	300	3	-	3	4	1	5	
WESCO	100	7	2	9	-	-	-	
	200	2	2	4	-	-	-	
	300	1	1	2	-	-	-	
NJA	100	2	2	4	-	-	-	
	200	2	-	2	-	-	-	
TOTAL	300	3	2	5	-	-	-	
		22	12	34	21	11	32	66

Source: Field Data (Mantey, 2019)

Sample and Sampling Procedure

Three institutions were selected using purposive sampling because they were the only CoEs in Ghana that accepted people with sensory impairment. Two of the colleges only accepted students with visual impairments, while the third

accepted students with both visual and hearing impairments. Purposive sampling is based on the premise that a researcher wants to learn and explore new items, therefore they select a sample from which they can learn the most (Yssel, Pak, & Beilke, 2016). Furthermore, according to Fraenkel et al (2012), a purposive sample is made up of people who have special qualifications or are considered representative based on prior evidence. Purposive sampling, according to Awanta and Asiedu-Addo (2008), is used when the sample is “hand-picked” for the study. They believe it is used in cases where the researcher already knows enough about specific individuals or incidents and purposely chooses specific ones because they are thought to be the most likely to yield useful results.

Since the focus of this study was solely on views of TTSI, purposive sampling seemed to be the most suitable method. Due to the size of the population to be studied, a census was adopted. A census is a count of a population's whole population (Fraenkel, et al, 2012). A census is a well-organized method for collecting, documenting, and analysing data about the population's members. It is a full and official count of the universe, in which every unit of the universe is included in the data set. Any area (city or country), a community of individuals, from which data can be obtained is referred to as the universe (Surbhi, 2016). All 66 TTSI in Ghana's CoEs that practice IE was included in this report.

Data Collection Instruments

The data collection instruments were questionnaire and guide for focus group discussion.

Quantitative Data Collection Instrument (Questionnaire)

Questionnaires are more accurate than interviews because they allow for greater honesty, according to Cohen and colleagues (2007). According to Robson (2011), the questionnaire may have several flaws, such as respondents not necessarily reporting their ideas and attitudes in a positive light. Data may also be influenced by the knowledge, experience, and motivation of those who participated in the survey. Despite this, Robson suggests that it is an effective tool. In addition, it might be used to collect data from any human population, as well. Data standardisation is another benefit of using surveys, according to him. Sections A through F of the questionnaire (appendix B) cover the following topics: Demographic data was the subject of three short items in section 'A.' Students' colleges, locations of origin, and types of sensory impairments were all evoked as a result.

Inclusive Experience measure

In section B, the focus was on providing an inclusive environment. From the 'Essential Best Practices in Inclusive Schools' by Jorgensen, et al (2012). These suggestions outline successful ways for obtaining positive outcomes for students with severe disabilities who are taught in inclusive settings (Bliss, 2017). A total of nine things were chosen from the text under four categories: high expectations and least dangerous assumption, general education class membership and full participation, curriculum and instruction, and supports (3 items).

Students Satisfaction and Persistence measures

The next set of questions, Section C gathered information on satisfaction of TTSI in CoEs. It had 10 items. Section D elicited information on the persistence of TTSI. This section had 9 items. These two sections were adapted from the College Persistence Questionnaire (CPQ) by Lindheimer III (2011). He developed his CPQ from Tinto 1993, Students' Departure Scale; Bean 2005, Students' Attrition Scale and Davidson, Beck, and Milligan, 2009 College Persistence Questionnaire. Lindheimer III (2011) used the instrument in a series of exploratory factor analyses. As a result, a six-factor solution with 36 things was created using a direct oblimin rotation. The Student Experiences Form of the CPQ was made up of these elements. Many of the variables that were held had eigen values greater than 1.4. The result was statistically important, with NagelkerkeR2 =.19, and 66 per cent of respondents were correctly identified when the cut-off point of .43 was used. The following factor labels were assigned with the number of items selected from it for my instrument: Academic Integration (4 items), Social Integration (6 items), Support Services Satisfaction (1 item), Degree Commitment (2 items), Institutional Commitment (2 items), Academic Conscientiousness (2 items) and College stress (1 item). The original scale had varied options which ranged from Very satisfied to not applicable, Somewhat favourable, Very favourable, Very supportive and Very comfortable, all ended with not applicable. For ease of analysis in my study, I reworded the statements to have one range of options. This was from Strongly agree (SA), Agree (A), Indecisive (I), Disagree (D) and Strongly disagree (SD). For example, the original

question had its item 13 as: “In general, how satisfied are you with the quality of instruction you are receiving here?” with the options: Very satisfied, Somewhat satisfied, Neutral, Somewhat dissatisfied, Very dissatisfied and Not applicable. This was adapted to read “In general, I am satisfied with the quality of instruction I am receiving in this College”. With a scale from Strongly Agree to Strongly disagree.

Item 17 from the original questionnaire also read: “At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?” with the options: Very strong, Somewhat strong, Neutral, Somewhat weak, Very weak, and Not applicable. This was also adapted to read: “My commitment to earning a college diploma, in my College here is very strong”. With a scale from Strongly Agree to Strongly disagree.

Self-efficacy measure

The items for this segment, self-efficacy, were adapted from Kubischta's (2014) Motivated Strategies to Learning Questionnaire (MSLQ), which was created by Pintrich and De Groot in 1990. In its original form, this portion of the questionnaire consisted of six factors totalling 44 items. There were 9 items in the factors under self-efficacy, which was the subject of this review. The MSLQ's self-efficacy variables had a Cronbach alpha of 0.89. Intrinsic meaning (9 items), test anxiety (4 items), cognitive technique use (13 items), and self-regulation were the other variables (9 items). I added the first item “I am sure I can cope with being in an inclusive environment to study” to make the items 10 in the section. All the nine items under the self-efficacy of Kubischta's questionnaire were used

with minimal modifications of five items. For example, an item “I’m certain I can understand the ideas related to the project” was modified to fit my study as “I’m certain I can understand the ideas taught in College”. With the other four items, “project” was changed to “programme” while “subject” was changed to “course learnt”.

Academic Performance measure

The last section (Section F) considered respondents academic performance based on the grading system of the affiliate University (University of Cape Coast). It elicited information on respondents’ cumulative grade point average (CGPA) based on standardised assessment from the university that is cumulated each semester. The CGPA makes it a mean score for each student (respondent). It was organised in ranges from 3.6 and above, 3.0 – 3.5, 2.5 – 2.9, 2.0 – 2.4 and less than 2.0 for the respondent to tick the range in which they belong as at their latest results. As at the time the data was being collected, the respondents in level 100 had one semester’s result while those in level 200 had three results and level 300 have had five semesters results cumulated.

Qualitative Data Collection Instrument (Focus Group Discussion Guide)

The qualitative data was gathered using a semi-structured focus group discussion guide. Several participants are assembled for an interview on a particular subject in focus group discussions. Participants in focus groups may come up with a common interpretation or perception of the topics that the researcher is interested in (Bryman, 2008). Focus groups are meetings in which participants are invited to listen and provide knowledge that will assist the

researcher in recognizing trends and patterns (Krueger & Casey, 2000). This technique can also be used to elicit consensus, or “group think”. A focus group discussion guide (see appendix C) was used for the discussion. The guide had 14 items. The items were key questions from the questionnaire items which called for more insight into students’ views on inclusive education experiences, satisfaction, persistence and academic performance. It ended by finding out if respondents had any recommendation(s) for effective implementation of IE in the Colleges. Following that, they were allowed to ask any questions they had or make suggestions for future IE research.

Pre-testing of Instruments

Pre-testing a questionnaire or interview survey is a process in which a researcher makes adjustments to an instrument based on input from a specific group of people who complete and review it (Creswell, 2012). After I had my approval from the IRB of UCC (see appendix F), I conducted the pre-testing of the instruments with the 2017/18 Level 300 students of PCE at Akropong who were having their internship programmes in the communities around. They were final year students in their internship who ended their programme in July 2018. They were not part of the main study but had characteristics similar to the group to be used for the study. They had both students with hearing and visual impairment practising IE. The test was to help me refine the instrument for the original data collection. In support of the above, Fraenkel et al (2012) note that removing uncertainty by pre-testing a draft of the questionnaire with a small group of students is crucial. They involved six students with HI and four with VI

who were involved in the pre-testing of the instruments. The questionnaire's validity and reliability were determined using Cronbach's Alpha coefficient of reliability. The trustworthiness for the focus group discussion guide was employed by checking for its credibility, transferability, dependability and confirmability.

Validity and Reliability of Instruments

Questionnaire

Using test results as the basis for our decisions and actions, Johnson and Christensen (2004, p.140) define validity as the appropriateness of our decisions and actions based on those test scores. According to the experts, we must verify that our tests are accurate and that the interpretations based on our test scores are correct in order to assure their validity. Reliability, on the other hand, refers to the correctness or consistency of test results (Gay, Mills, & Airasian, 2009). This means that the evaluation method must produce the same or nearly the same results every time it is used on the same person or community. Cronbach's alpha, according to Creswell (2012), is a measure of reliability and, more precisely, internal consistency. He considers a coefficient of .93 to be a high coefficient, with a level of .6 considered suitable for deciding if the scale is internally consistent. He goes on to state that the scores' reliability is adequate, with a .72 reliability coefficient. The general result from the pre-testing of the original questionnaire of 44 items recorded a Cronbach's alpha of .72. Two items had zero variance and were removed from the scale. They were under section B and D. Under Section B (inclusive experience) the item "The college is physically accessible and/or

accommodations are arranged so that students and other individuals with mobility challenges have full access to all opportunities within the college building” was removed. In the same way, under Section D (persistence) the item “If you had the opportunity of stopping your education here (perhaps transferring to another college, going to work, or leaving for other reasons) you would have done so” was also deleted to improve upon the reliability of the instrument. The final instrument had 42 items with an overall Cronbach’s alpha of .806. This implied that generally, the scale had a high internal consistency and was reliable. Except for Section A (demographic data) and Section F (CGPA- academic performance), the individual sections had the following reliability coefficients (see appendix D): Section B, inclusive education experiences obtained a Cronbach’s alpha of .705. This represents a high internal consistency of the instrument. Section C (satisfaction of TTSI) had .827. This represented a high internal consistency of the instrument. The reliability coefficient on persistence (Section D) was .618. This to Creswell (2012) was acceptable. Ritter (2010) on the other hand suggest that a Cronbach’s alpha coefficient of .60 to 1.00 is considered as a good measure of internal consistency. Thus, it can be assumed that the items on persistence had a good measure and so were reliable. That of the items on self-efficacy (Section E) was .934, thus implying that the scale had a high internal consistency and reliability as well.

Results from the Factor Analysis

Confirmatory factor analysis was done on 40-items of the inclusive education experience on satisfaction, persistence and academic performance using

all 66 TTSI in Ghanaian CoEs. This was conducted to confirm whether the instruments met the requirements expected of it since the sample size for the pilot test was not significant to be used for factor analysis. Principal component analysis (PCA) was performed on the 40 items using Statistical Product and Service Solutions (SPSS) version 23. The data was checked to see whether it met the criteria for factor analysis. The Kaiser-Meyer-Oklin (KMO) value was .676 above the minimum threshold of .6 (Pallant, 2010) (see appendix I). Mayers (2013) maintained that .512 and above were considered appropriate. Kline (2011) states that KMO levels between 0.5 and 1.0 are deemed high, hence this study's KMO value was based on that assumption. In the Bartlett's Test of Sphericity, a significant value of .000 was obtained, which is less than the required threshold of .05 (Pallant, 2010). The correlation matrix must be factorable if these conditions are met.

In examining the results produced, 11 principal components were identified to possess eigenvalues greater than 1, explaining 21.28%, 14.68%, 7.46%, 1.98%, 1.66%, 1.57%, 1.36%, 1.25%, 1.20% and 1.08% of the variance separately. The examination of the Scree plot gave clear view of the third component. Using the scree test, it was advisable to retain three components for further analysis. The three components explained 43.42% of the variance, where component 1 produced 21.28% of the variance, component 2 produced 14.68% of the variance and component 3 produced 7.46% of the variance.

Oblimin rotation testing was used to aid in the interpretation of the three components, and the rotated solution revealed a straightforward structure with

strong factor loadings on all three components. The results of this analysis support the use of the instrument on the effect of inclusive education experiences on satisfaction, persistence and academic performance of TTSI in Ghanaian CoEs and the moderating role of self-efficacy.

Focus Group Discussions Guide (FGDG)

Based on comments by my supervisors and the results from pre-testing of the instrument with the students, the final FGDG was reached. For example a question, “Could you observe as to the general preparedness of your College for inclusive education in terms of educational materials?” was challenging for the respondents to respond to so was reworded as “Generally, how prepared do you see your College for inclusive education in terms of educational materials”? Also, a question “Tell me a story of a/some challenges you have ever faced on campus and how you were able to overcome it (persist) and not stop pursuing the programme” was deleted since almost all the respondents for the pre-test had nothing to say.

Qualitative research, according to Pekeberg (2012), can be assessed based on the fulfilment of several requirements. Credibility, transferability, dependability, and confirmability are among the criteria she mentions. The study's credibility is measured by whether or not these conditions are met. Before leaving their schools, I introduced my excerpts, debate, and conclusion to a few participants for their input. Transferability is a qualitative analysis criterion that is similar to external validity. This criterion pertains to the generalisability of results. In comparison to quantitative research, qualitative research focuses on

detailed descriptions of a few cases and/or contexts rather than broad generalisations (Bryman, 2008). My findings reflected the reality of IE in Ghanaian educational institutions. The results, on the other hand, could provide insight into what the situation was like at the time of the analysis. The ability to pass results from the three colleges to others was critical in this case. The degree to which a study is accurate is referred to as reliability. To ensure the reliability of this study, complete records of the research extracts and process have been kept and can be made available to others who may need them for future studies. According to Bryman (2008), maintaining such records often allows another individual to verify whether one's extracts were appropriate and whether one's interpretations and conclusions were congruent with the extracts. When it comes to confirmability, which explains objectivity, it's possible to say that absolute objectivity is impossible to achieve when studying social phenomena. Nevertheless, as a qualitative researcher, my own beliefs, feelings, and expectations needed not to impede the presentation and interpretation of the extracted data. It was essential that I only show the participants' voices and nothing else.

Recruitment and training of field assistants

Data from the students with hearing impairment needed sign language interpreters. Upon discussing with the resource tutor, two students who served as research assistants from PCE were recruited and taken through the instruments. One day was used for the training. I discussed with them the objectives of the study and their role to help in the data collection. The research assistants were

given the instruments to read through for some time. The instruments were discussed for clarification of items. They were then to sign individually for the other and the resource tutor to assess if the statements were signed effectively. They were asked to be as frank as possible in their interpretations, not trying to polish what was said. The assistants selected enabled me to get a fair interpretation of what was said by the students with hearing impairment. The Tutor sat back to observe as they interpreted. This made me confident I received accurate information.

Data Collection Procedure

The authorisation was acquired from the Colleges to undertake the study. A letter of introduction was obtained from the Department of Education and Psychology, UCC (see appendix G). An ethical Clearance letter from the UCC-RIB (see appendix F) to respect the rights of the respondents was collected. Copies of the introduction letters were submitted to the College Principals to enable me to conduct the study in their institutions. Three weeks were spent on the data collection, one week at each College. A period ranging from three to five days was spent in each College for the data collection. While seeking for validation between the quantitative and qualitative (focus groups and individual interviews) results. I first administered the questionnaire to the respondents for the quantitative data. In the qualitative phase, focus group discussions were conducted as semi-structured interviews which were facilitated by me and the research assistants (sign language interpreters) for the students with hearing impairment.

A minimum of one hour was used for the discussion as such not more than two groups could be met in a day. PCE which had the largest number of students (40) used five days for it. Two days for the questionnaire administration and three days for the focus group discussion. I moderated the focus group discussions while the sign language interpreters helped with the HI who had four separate groups meeting in two days, two groups in a day. Due to the sign language interpretation, the groups spent around 1 hour 30 minutes to 1 hour 50 minutes. In all, there were 10 focus groups which were labelled group 1 to 10. There was a 100% return rate of the instrument administered as respondents came to their resource centres. Details of the data collection for the quantitative and qualitative approaches are discussed in the ensuing paragraphs.

Quantitative Data Collection

The administration of the questionnaire was done in the resource rooms of the Colleges. The respondents with hearing impairment at PCE (32) could read and write without support as such after the sign language interpreters had communicated to them to take their time to read and tick the spaces appropriately, they attended to their questionnaires by themselves. The respondents from WESCO (15), NJA (11) and eight from PCE were visually impaired. For this reason, they had the questionnaire read to them individually and their responses checked for them by me. A Braille version could have been produced for them to respond to. I considered the challenges to go through; brailleing the questions and after responding to them, each had to be transcribed again before it could be analysed. Since the instrument was a Likert type and

could be easily responded to by ticking for them, without distorting their responses, I decided to personally take them through it in turns. The same process was followed for all. After completion, all the questionnaires were collected and sealed in an envelope.

Qualitative Data Collection

The focus group discussions were tape-recorded with some notes also taken. Respondents in WESCO and NJA were put into two groups each. Those on campus had their group discussion conducted in the resource room on campus. The other members who could not make it to campus were interviewed through phone and were considered as a group. The respondents in PCE with HI were put into four groups of eight. The sign language interpreters recruited supported in their focus group discussions. Focus groups ranging from five to eight members in a group with the same impairment (VI or HI) were organised. Researchers propose that focus groups may consist of between 6 and 12 participants (Baumgartner, Strong & Hensley, 2002; Johnson & Christensen, 2004; Krueger & Casey, 2000; Langford, Schoenfeld & Izzo, 2002). The reason for this variety of focus group sizes emerges from the goal of getting enough participants to provide diversity in the information given, but not too many since large groups can create an atmosphere where participants do not feel confident expressing their views, opinions, values, and experiences (Onwuegbuzie, Dickinson, Leech & Zoran, 2009). As a convergent parallel mixed-methods design, excerpts collected from these sessions were now pulled together with that of the responses from the

quantitative data to arrive at the results as it gave room for triangulation, complementarity and development.

Data Processing and Analysis

Data analysis, according to Chapman (2018), is the method of reviewing, rearranging, changing, and transforming data to obtain useful information. It is also important to ensure that the data analysis is performed responsibly. Again, entails “organizing the data, performing a preliminary read-through of the database, coding and organizing themes, representing the data, and formulating an explanation” (Creswell & Poth, 2018 p. 248). These measures, according to Creswell and Poth, are interconnected and form a spiral of activities all related to data analysis and representation.

The research involved the compilation and analysis of both quantitative and qualitative data. These were gathered using a questionnaire and a discussion guide for focus groups. This was considered in deciding on the data analysis. How the data collected were analysed is discussed separately in the next paragraphs.

Quantitative Data Analysis Procedure

The questionnaires completed by the respondents were numbered serially for easy identification. The various items were also coded for input into the Statistical Product and Service Solutions (SPSS) version 23 software for analysis. There were 66 questionnaires from 32 and 34 respondents with visual and hearing impairments respectively. Items on the demographic extracts were coded based on the number of items. The colleges the respondent belonged to were coded 1 to 3. Regions, where respondents came from, were coded from 1 to 16. The

dichotomous item, type of impairment, was coded 1 and 2. That is Visual Impairment and Hearing Impairment. The Likert type scale items for sections “B” to “F” were coded from 5 to 1, for Strongly Agree to Strongly Disagree. Shearman and Petocz (2012) indicate that combining several Likert scale items may allow the combined scale to be treated as quantitative. He adds that the combined scale suggests that the difference in response to the unit and items may be a stronger factor than the differences created by the individual response categories. For the straightforwardness of my analysis, those who strongly agree and agree were combined into one group (agree - A) and the respondents who disagree and strongly disagree were merged into another group (disagree - D). The neutral or indecisive (I) group remained the same. The section “F” on respondents CGPA was coded from 5 to 1, to correspond with “3.6 and above” to “less than 2.0” respectively.

Research questions 1 and 5 were analysed using means and standard deviations. Research questions 2 and 3 were analysed using frequency counts, percentages, means and standard deviations while frequency counts and percentages were used for research question 4. Research hypotheses 1, 2 and 3 were tested using independent samples t-test to determine whether differences existed in respondents’ satisfaction, persistence and academic performance about the type of sensory impairment (visual impairment and hearing impairment). Independent samples t-test is a parametric test used for analysing numerical data and for comparing mean differences in two mutually exclusive groups (Pallant, 2010). Hypothesis 4, 5 and 6 were tested using the Correlation matrix, Pearson’s

(r). Pearson product-moment correlation coefficient was used to determine the relationship between inclusive education experiences of students with VI and HI's levels of satisfaction, persistence, and academic performance. Moderation analysis was done using Hayes' PROCESS macro to test hypothesis 7, 8 and 9. PROCESS macro is a tool that examines path analysis and interaction between and among variables (Hayes, 2013). Unlike the traditional regression models used in moderation analysis, the Hayes PROCESS macro provides added information as to the nature of the moderation effect. Thus whether the moderator enhances, buffers or antagonises the effect of the moderator on the moderating variables.

As stated by Hayes (2012), PROCESS is a free SPSS and SAS computational tool for behavioural scientists interested in doing a mediation, moderation, or conditional process analysis. According to him, the PROCESS macro has a number of complex regression routes that SEM programmes do not have (for example two moderators simultaneously, moderated moderation analysis). Since the moderator variable has a wide range of values, it is presumed that not all moderating effects are important (continuous). As a technique of visualising the interaction effect, PROCESS macro offers the Johnson Neyman method of generating series of plots that can be put into a diagram or graph. The diagram shows how X (the focal predictor) affects Y (the dependent variable) as a function of M (the independent variable) (moderator variable). A technique known as the Johnson-Neyman technique is used to examine the moderating effects (Hayes, 2013).

PROCESS cannot do everything a researcher might want to do. If the specific independent variable has multiple dimensions (SERVQUAL, MARKOR and so on) it could not analyse all at once. Only one exogenous variable can be entered in a single analysis. The use of a structural equation modelling programme may be more appropriate in some cases. However, most users will find that PROCESS eliminates the need to switch from a familiar computing environment like SPSS or SAS. In addition, statistics teachers will find PROCESS a useful teaching aid, making it simple to show both old and current approaches to mediation and moderation analysis (Hayes, 2012). For the moderation analysis, 5,000 bootstrap samples were used as a baseline. Analytical bootstrapping relies on random sampling with replacement. It is a common metric in statistical analysis. Bootstrapping can be used to improve the accuracy of research results by applying accuracy metrics to sample estimates (such as bias and variance as well as the confidence intervals and prediction error, amongst others) (Efron, 2014).

Qualitative Extracts Analysis Procedure

The quantitative excerpts were inputted into tables for careful consideration and interpretation. It was also used for vertical analysis on participants' responses to the focus group discussion with a comparative horizontal analysis to look for common patterns and differences across respondents. This helped me group the qualitative extracts collected into themes that were coded, analysed and interpreted. Braun and Clarke's (2019) reflexive thematic approach to qualitative data processing was adapted for use in this study. According to Brulé and Finnigan (2020), reflexive thematic analysis is a method

of evaluating qualitative extracts to address large or narrow research questions regarding people's experiences, views and opinions, and representations of a phenomenon. It is technically adaptable: it can be motivated by principles from a wide range of fields and applied to a variety of research methods (inductive, deductive, semantic and so on). It does not claim to be objective: the researcher or researchers control any aspect of the study. The research generates a theme that describes people's experiences, beliefs, opinions, or representations of a particular subject.

Reflexive thematic analysis, according to Braun and Clarke (2019), is a tool for “identifying, analysing, and reporting trends (themes) within the data.” It organizes and explains the data collection in (rich) detail at the very least (p. 79). Themes are repeated coded words, concepts, and expressions that are important for the definition of a phenomenon and are related to specific research questions through datasets. The themes are then used to categorize the data for the study (Braun & Clarke, 2019; Creswell, 2012). The qualitative extracts were subjected to a reflexive thematic analysis using Braun and Clarke's six-phase coding technique. These were: Familiarisation with the data, Coding, Generating initial themes, Reviewing themes, Defining and naming themes and Writing up. Excerpts collected from the focus group discussions were transcribed verbatim by two different research assistants from the University of Cape Coast Library for the analysis. With familiarisation with the extracts as the first phase, the recordings from the focus group discussions were played back listened to and the points jotted read over and over to become immersed and closely familiar with its

content. The second stage, Coding, involved creating concise labels (codes!) that identified significant features of the extracts that were appropriate to answering the research questions. It involved coding the full dataset, after which we collated all the codes and all relevant extracts, together for later stages of the analysis. The third phase was all about coming up with initial themes. The codes and extracted extracts were analyzed in this process to see if there were any important wider trends of meaning (potential themes). It entailed gathering appropriate extracts for each candidate theme to work on it with the extracts. As a result, each candidate theme's viability was evaluated.

The candidate themes were tested against the dataset in the fourth step of the process to see if they told a compelling tale of the excerpts and answered the research questions. Themes were usually refined in this process, which involved splitting, combining, or discarding them. Defining and naming themes was the fifth step. There was a thorough study of each theme, as well as determining the nature and emphasis of each theme, as well as determining the 'story' of each. It also entailed coming up with a catchy name for each style. The writing up process involved putting the analytic narrative and excerpts together, as well as contextualizing the work about the literature examined.

Here, I incorporated verbatim expressions from some group members which have been presented in italics in this report. The participants' answers were not modified in any way. As a result, all of the participants' answers' grammatical errors stayed unchanged. However, to preserve the big ideas, I made a few insertions to complete some of the responses for clarity of context. The

quantitative data and that from the coded themes of the qualitative extracts were merged for the discussion. This was to satisfy the convergence mixed-method approach for the study (Creswell, 2013).

Ethical Considerations

An introductory letter was collected from the Department of Education and Psychology, UCC (see appendix E) to request Ethical clearance for this study. It was submitted with my proposal and instrument to the University of Cape Coast Institutional Review Board (UCC-IRB). Ethical clearance was provided by UCC-IRB before the commencement of the data collection (see appendix F). It indicated the confidentiality to be accorded to the report received from respondents, not to infringe on the rights of the respondents and their institutions to provide trustworthiness of the study. Consent forms (see appendix A) were provided filled by TTSI to indicate their willingness to participate in the study. It also indicated that they were at liberty to opt-out of the study. The anonymity of the respondents was emphasised as names were not to be written on instruments. Pseudonyms were used in the analysis rather than actual names (Creswell, 2012). Voice recordings and filled questionnaires will continue to be kept safe by the researcher for three years before discarding as approved by UCC-IRB.

Chapter Summary

This chapter discussed the research methodology of the study. It described the philosophy upon which the study was conducted, research design, population, sample, data-collection instrument, ethical considerations, data collection and the data analysis procedure. There was a 100% return rate of the instrument

administered. Chapter four, which is the next chapter covers the results and discussions.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

The study explored the impact of inclusive education experiences on satisfaction, persistence and academic performance of teacher-trainees with sensory impairment and the moderating role of self-efficacy. The study was guided by five research questions and nine hypotheses. The results in this chapter are presented in three Sections. Section “A” presents the results of the demographics, section “B”, the quantitative data which considered the results of the analyses of the five research questions and the nine hypotheses tested and section “C” looked at the results from the qualitative excerpts gathered from the focus group discussion and interviews. This was analysed under five themes based on research questions one to four. The findings from the results are converged and then discussed with the empirical literature reviewed in the second chapter of this report.

Section A: Demographics

This section presents the background characteristics of the respondents. The colleges and type of impairment of respondents for the 2018/19 academic year used for the study is provided in Table 2.

Table 2: Colleges and Type of Impairment

COLL.	Visually Impaired			Hearing Impaired			Total	%
	M	F	Total	M	F	Total		
PCE	5	3	8	21	11	32	40	60.6
WESCO	10	5	15	-	-	-	15	22.7
NJA	7	4	11	-	-	-	11	16.7
Total	22	12	34 (51.5%)	21	11	32 (48.5%)	66	100

Source: Field survey (2019) M- Male F- Female

From Table 2, PCE, had 40 respondents, eight of which are visually impaired and 32 hearing impaired. WESCO and NJA had 15 and 11 students respectively who were all visually impaired.

Section B: Quantitative Data Analysis

The results of the data analysis on the research questions and the analysis of the research hypotheses that motivated the study were divided into two sub-sections in this section.

Analysis of data on research questions

This section presents the analysis of data on the five research question that guided the objectives of this study. Answering the research questions helped in achieving the overall purpose of the study.

Research Question 1: What are the inclusive education (IE) experiences of TTSI in the CoEs in Ghana?

Research question 1 investigated the inclusive experiences students with visual and hearing impairment were experiencing in the CoEs in Ghana. A grand

mean of 2.64 was established for the set of responses. For this study, a lower mean from the grand mean implied that most of the respondents agreed to specific statements while a higher mean from the grand mean implied that most of the respondents disagreed with the specific statement(s). The results on IE experiences of TTSI in Ghanaian CoEs can be found in Table 3.

Table 3: Inclusive education experiences of TTSI in CoEs

Statement	VI		HI	
	Mean	SD	Mean	SD
1. All students are competent to communicate and learn in Inclusive Classes	1.44	.504	2.31	1.091
2. Students attend the school of choice if not of disability	2.12	1.250	3.13	1.362
3. Students receive accessible prints as peers without disabilities	4.06	1.071	2.38	1.238
4. Emotional support systems for students are good	2.44	1.021	2.44	1.190
5. Sensory, physical support and health care needs for students are effective	3.38	1.101	2.56	1.105
6. Students participate in class activities as all others	1.74	.828	2.66	1.285
7. There are assistive technology supports for students with disabilities.	3.56	1.375	2.50	1.414
8. Instructional support using diverse resources reflects the learning styles.	3.35	1.228	2.41	.946
9. Peer support is available and reciprocal	1.91	.933	2.00	.880

Source: Field survey (2019) N = 66 Grand mean = 2.64

SD= Standard deviation **VI**=Visually Impaired, **HI**=Hearing Impaired

Table 3 shows that TTSI generally agreed to items 1, 4 and 9. In Item one, the VI and HI agree that “all students are competent to communicate and learn in inclusive classes”, VI (M=1.44, SD=.504) and HI (M=2.31, SD=1.091). Again, “emotional support systems for TTSI is good” had VI (M=2.44, SD=1.021) and HI (M=2.44, SD= 1.190). It can also be noted that “peer support is available and reciprocal for TTSI”, had VI (M=1.91, SD=.933) and HI (M= 2.00, SD= .880) was also agreed upon.

For the rest of the items in Table 3, the TTSI had varied responses. The respondents with VI disagreed with items 3, 5, 7 and 8 while the respondents with HI agreed to the items. For example, the respondents with VI disagreed (M=4.06, SD=1.071) with the statement that “Students receive accessible prints as peers without disabilities”. They also disagreed (M=3.56, SD=1.228) with the statement: “There are assistive technology supports for students with disabilities”.

On the other hand, the respondents with HI disagreed with items 2 and 6 while the respondents with VI agreed to the statements. The respondents with HI disagreed (M=3.13, SD=1.362) that “Students attend the school of choice if not of disability”. They again disagreed (M=2.66, SD=1.285) with item 6 that “students participate in class activities as all others”.

Research Question 2: How satisfied are TTSI with their IE experiences in the CoEs?

Research question 2 examined the satisfaction TTSI were experiencing in the CoEs in Ghana. Frequencies and percentages were used to analyse the data. The results of the analysis of the responses on satisfaction of TTSI in Ghanaian

CoEs can be found in Table 4. In the analysis, strongly agree and agree were merged to represent agree (A), indecisive (I) remained as it was while strongly disagree and disagree were fused together as disagree (D).



Table 4: Satisfaction of students with hearing and visual impairment in CoEs

Statement	Hearing impairment						Visual impairment					
	D		I		A		D		I		A	
	F	%	F	%	F	%	F	%	F	%	F	%
1. My interactions with other students here has impacted on my personal growth, attitudes and values	2	6.2	7	21.9	23	71.9	-	-	5	14.7	29	85.3
2. I am satisfied with my sense of connectedness with others (students, staff) on this campus	3	9.4	11	34.4	18	56.2	3	8.8	2	5.9	27	79.3
3. When I think about my overall social life here (friends, extracurricular activities, and so on), I am very satisfied	5	15.5	7	21.9	20	62.6	-	-	5	14.7	29	85.3
4. I am satisfied with the way the college communicate important information to students	1	3.1	5	15.6	26	81.3	5	14.7	13	38.2	16	47.1
5. I have been able to make new friends when I came to this college	-	-	6	18.8	26	81.2	-	-	3	8.8	31	91.2

A- Agree I- Indecisive D- Disagree Hearing Impairment (N) = 32 Visual Impairment (N) = 34

Table 4: Satisfaction of students with hearing and visual impairment in CoEs (Continues)

Statement	Hearing impairment						Visual impairment					
	D		I		A		D		I		A	
	F	%	F	%	F	%	F	%	F	%	F	%
6. In general, I am satisfied with the quality of instruction I am receiving in this college	3	9.4	6	18.8	23	71.8	6	17.6	5	14.7	23	67.7
7. I am satisfied with the academic advising I receive in college	5	15.6	7	21.9	20	62.5	2	5.9	2	5.9	30	88.2
8. I am satisfied with the extent of my intellectual growth	4	12.5	9	28.1	19	59.4	-	-	4	11.8	30	88.2
9. I am satisfied with the interactions with other students in college as it impact on my intellectual growth	4	12.5	8	25.0	20	62.5	2	5.9	2	5.9	30	88.2
10. I am satisfied that this is the right college for me	2	6.2	8	25.0	22	68.8	3	8.8	3	8.8	28	82.4
Source: Field survey (2019)	A- Agree		I- Indecisive		D- Disagree							
	Hearing Impairment (N) = 32						Visual Impairment (N) = 34					

In Table 4, items 1 to 5 touched on TTSI academic satisfaction. The results show that in all the cases, both student teachers with HI and VI agreed that they were satisfied in their Colleges. Specifically, items 2 and 4 in Table 4 had a number of respondents agreeing to the statements.

Items 6 to 10 of Table 4 considered respondents social satisfaction. Table 4 shows that, the respondents agreed with most of the issues especially with item 10 where 26 (81.2%) of the HI and 31(91.2%) of the VI agreed on making new friends in the colleges. None of the respondents disagreed to this statement. This notwithstanding, with item 7, there were 11(34.4%) of the HI and 2(5.9%) of the VI who were indecisive with three respondents from each category disagreeing with the statement that they are “satisfied with their sense of connectedness with others on campus”.

The level of satisfaction was also examined among student teachers with VI and HI. Level of satisfaction was determined with means and standard deviations. A standard mean of 30.0 was set by the researcher, as a result of the reverse coding; an observed mean above 30.0 was interpreted as having low satisfaction while observed means below 30.0 was explained as higher satisfaction. Level of satisfaction of TTSI is shown in Table 5.

Table 5: Level of Satisfaction among TTSI

	Type of Sensory Impairment	Mean	Std. Deviation
Satisfaction	Hearing Impairment	21.88	6.020
	Visual Impairment	19.62	4.991

Source: Field survey (2019)

Hearing Impaired (N) = 32 Visual Impaired (N) = 34 Standard Mean = 30.0

Table 5 shows level of satisfaction of VI and HI in CoEs in Ghana. The results indicated that both student teachers with hearing and visual impairment had above average level of satisfaction, with means of 21.8 ($SD = 6.0$) and 19.6 ($SD = 4.9$) respectively. The level of satisfaction was considered high because the mean scores are below 30.0.

Research Question 3: What is the level of persistence of TTSI in CoEs?

This research question examined the level of persistence of student teachers with visual and hearing impairment were experiencing in the CoEs in Ghana. Frequencies and percentages were used to analyse the data with grand means to establish the level of persistence. The results on persistence of TTSI in Ghanaian CoEs can be found in Table 6.

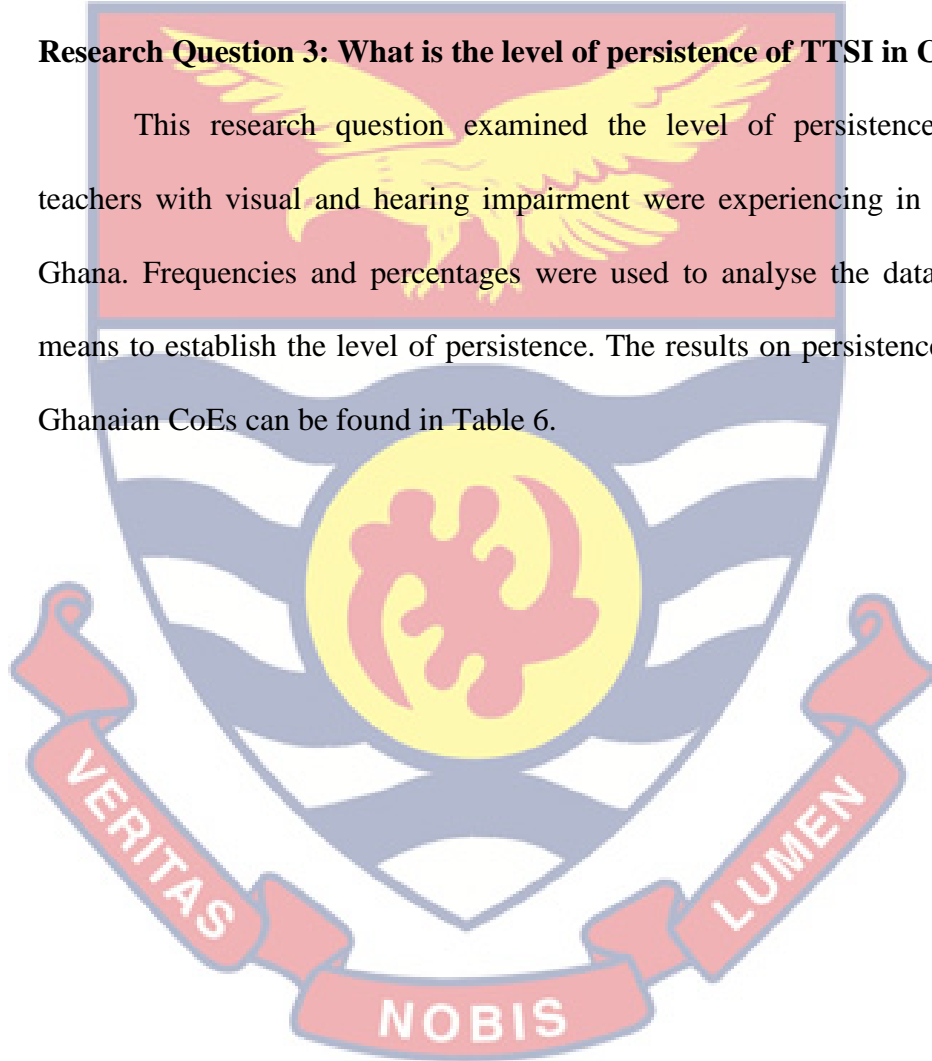


Table 6: Persistence among TTSI in CoEs

Statement	Hearing impairment						Visual impairment					
	D		I		A		D		I		A	
	F	%	F	%	F	%	F	%	F	%	F	%
1. Being educated with peers without disabilities encourages me to persist	6	18.7	8	25	18	56.3	6	17.7	1	2.9	27	79.4
2. My overall impression of the other students in my College is very favourable	2	6.2	8	25	22	68.8	7	20.6	2	5.9	25	73.5
3. My commitment to earning a college diploma, in my college here is very strong	3	9.4	8	25	21	65.6	1	2.9	1	2.9	32	94.2
4. After beginning college, I discover that a college diploma is not quite as important to me as it once was.	16	50	6	18.8	10	31.2	18	52.9	3	8.8	13	38.3
5. My intention to persist in this College in pursuit of the diploma is high.	1	3.1	7	21.7	24	75.2	2	5.9	1	2.9	31	91.2

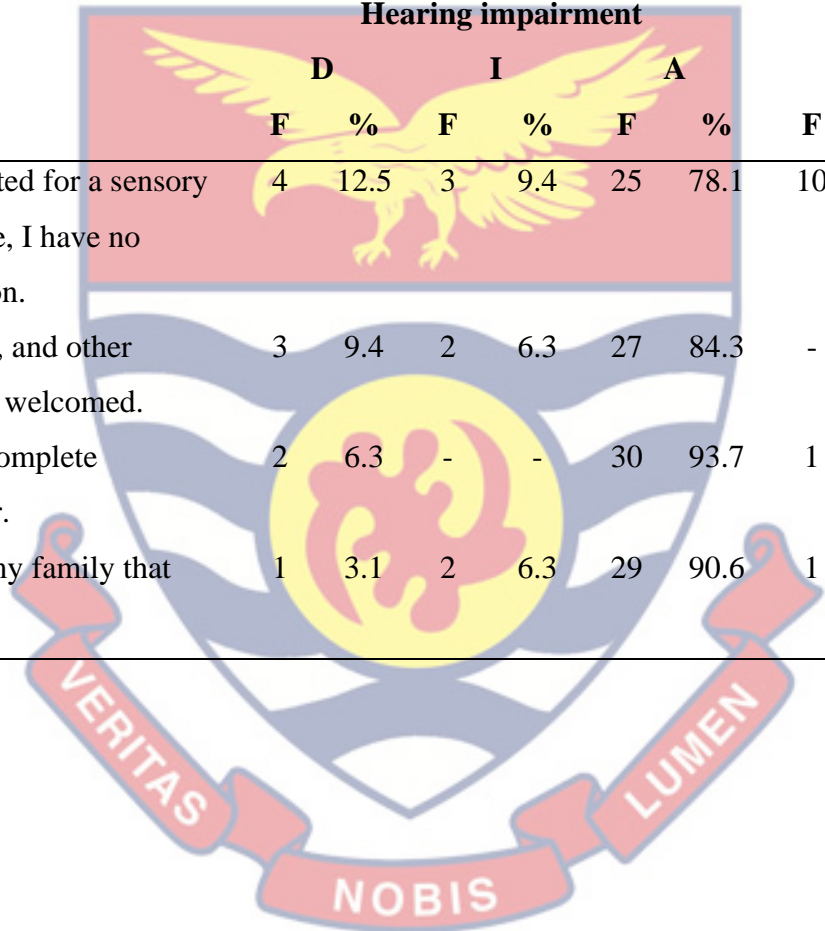
A- Agree I- Indecisive D- Disagree

Hearing Impairment (N) = 32 Visual Impairment (N) = 34

Table 6: Persistence among TTSI in CoEs (continues)

Statement	Hearing impairment						Visual impairment					
	D		I		A		D		I		A	
	F	%	F	%	F	%	F	%	F	%	F	%
6. Though things are not as expected for a sensory impaired student in this College, I have no choice than to cope and move on.	4	12.5	3	9.4	25	78.1	10	29.4	10	29.4	14	41.2
7. I often attend classes, meetings, and other college events since am always welcomed.	3	9.4	2	6.3	27	84.3	-	-	-	-	34	100
8. I have better study habits and complete assignments in a timely manner.	2	6.3	-	-	30	93.7	1	2.9	1	2.9	32	94.2
9. I get the needed support from my family that keeps me going on campus	1	3.1	2	6.3	29	90.6	1	2.9	-	-	33	97.1

Source: Field survey (2019)



From Table 6, out of the nine items, respondents agreed on eight of the statements and disagreed (item 4) with one of them. On item 4, “After beginning college, I discover that a college diploma is not quite as important to me as it once was”, the respondents disagreed to the statement. Specifically, 16 (50%) of the HI and 18 (52.6%) of the VI disagreed to it, thus a total of 34 of the respondents disagreeing to the statement. On item 6, “Though things are not as expected for a sensory impaired student in this College, I have no choice than to cope and move on”, there were 25 (78.1%) of the HI who agreed to the statement with 14 (41.2%) of the VI agreeing to it.

The level of persistence was examined among student teachers with VI and HI. Level of persistence was established using means and standard deviations. The researcher set a standard mean of 27.0; as a result of the reverse coding, an observed mean above 27.0 was interpreted as below average persistence while observed means below 27.0 were considered as above average persistence. Level of persistence of TTSI is shown in Table 7.

Table 7: Level of Persistence among TTSI

Type of Sensory Impairment	Mean	Std. Deviation
Persistence Hearing Impairment	22.81	6.208
Visual Impairment	21.12	2.772

Source: Field survey (2019) Standard Mean = 27.0

Hearing Impaired (N) = 32 Visual Impaired (N) = 34

Table 7 shows level of persistence of student teachers with visual and hearing impairment in CoEs in Ghana. The results show both student teachers with hearing and visual impairment having above average level of persistence,

with means of 22.81 ($SD = 6.2$) and 21.12 ($SD = 2.7$) respectively. The level of persistence was considered high because the means scores are below 27.0.

Research Question 4: How are TTSI performing academically in CoEs?

The aim of this question was to examine at TTSI's academic performance in the CoEs using their cumulative grade point average (CGPA) at the time the data was collected. The results of this can be found in Table 8

Table 8: Current CGPA of TTSI

CGPA	Visually Impaired		Hearing Impaired		Overall Total	
	f	%	f	%	f	%
3.6 and Above	5	14.7	2	6.3	7	10.6
3.0 - 3.5	16	47.1	6	18.8	22	33.3
2.5 - 2.9	10	29.4	17	53.1	27	40.9
2.0 - 2.4	3	8.8	5	15.6	8	12.1
Less than 2.0	-	-	2	6.3	2	3.0
Total	34	100.0	32	100.0	66	100.0

Source: Field survey (2019)

Table 8 shows that 5(14.7%) and 2(6.3%) of the respondents with VI and HI respectively had a CGPA of 3.6 and above. There were 16(47.1%) of the respondents with VI who had CGPA of 3.0 – 3.5. the larger population of the respondents with HI (17, 53.1%) had their CGPA at 2.5 – 2.9. none of the respondents with VI had a CGPA less than 2.0 but the HI had 2(6.3%) in that category.

Research Question 5: What is the self-efficacy level of TTSI in CoEs?

Research question 5 investigated the self-efficacy of student teachers with visual and hearing impairment in inclusive CoEs in Ghana. A grand mean of 1.97

was determined for the set of responses. For this study, a lower mean from the grand mean implied that most of the respondents agreed to specific statements and had high self-efficacy while a higher mean from it implied the respondents disagreed with specific statements or had low self-efficacy. The results on the self-efficacy of TTSI in the CoEs can be found in Table 9.

Table 9: Self-efficacy of TTSI in CoEs

Statement	VI		HI	
	Mean	SD	Mean	SD
1. I am sure I can cope with being in an inclusive environment to study	1.53	.615	2.09	.689
2. Compared with other students in this college I expect to do well.	1.50	.615	2.13	.660
3. I'm certain I can understand the ideas taught in College.	1.47	.615	2.28	.729
4. I expect to do very well in this class.	1.62	.604	2.34	.602
5. Compared with others in this programme, I think I'm a good student.	1.41	.500	2.34	.902
6. I am sure I can do an excellent job on the problems and tasks assigned to us in class	1.56	.613	2.53	.842
7. I think I will receive a good grade in this programme.	1.53	.615	2.25	.718
8. My study skills are excellent compared with others in this College.	1.97	.577	2.66	.602
9. Compared with other students in this College I think I know a great deal about the courses learnt.	1.82	.626	2.59	.756
10. I know that I will be able to learn the material for the various courses.	1.65	.597	1.94	.759
Mean	1.61		2.32	

Source: Field survey (2019) N = 66 Grand Mean = 1.97

The result from Table 9 shows that respondents' self-efficacy in item 10 was generally agreed upon with means less than the grand mean for each

category. The respondents with HI disagreed with all the other nine statements. With the exception of item 8 that the VI had the same mean as the grand mean (1.97) the VI agreed to all the other items. Overall, the students with VI had a mean of 1.61 with the HI have a mean of 2.32.

Test of Research Hypotheses

The study was guided by nine research hypotheses. This section presents the results from the testing of these research hypotheses.

Research Hypothesis 1

H₀: There is no significant difference in levels of satisfaction between teacher-trainees with VI and those with HI in CoEs.

H₁: There is a significant difference in levels of satisfaction between student teachers with VI and HI in CoEs.

With the aim of establishing the mean differences that exist in satisfaction in relation to the student teachers VI and HI, an independent samples t-test was conducted. The independent variable was type of sensory impairment (visually impaired and hearing impaired) while the dependent variable was level of satisfaction. Table 10 and 11 shows the group statistics and results from the independent samples t-test respectively on satisfaction of the TTSI.

Table 10: Group statistics of TTSI on satisfaction

Type of sensory impairment	N	Mean (M)	SD
Hearing impairment	32	21.88	6.020
Visual impairment	34	19.62	4.991
Total	66	20.75	5.596

Source: Field survey (2019)

Table 11: Results of Independent samples t-test of TTSI on satisfaction

Levene's test (Sig.)	t	df	Sig.(2-tailed)	MD
.310	1.662	64	.101	2.257
	1.653	60.354	.104	2.257

Source: Field survey, 2019

MD= Mean difference

Table 11 shows the result from the independent samples t-test. With equivalent variances assumed based on the Levene's test for equality of variance ($p = .310$), the results from the independent samples t-test shows that there was no significant mean difference between the level of satisfaction of student teachers with HI and those with VI (see Table 11). The result showed that there was no significant difference between the means of student teachers with hearing impairment and student teachers who are visually impaired in relation to their satisfaction, $t(64) = 1.66, p = .101$. I thus, fail to reject the null hypothesis. Hence, regardless of the type of sensory impairment, satisfaction among TTSI was the same.

Research Hypothesis 2

H₀: There is no significant difference in levels of persistence between teacher-trainees with VI and those with HI in CoEs.

H₁: There is a significant difference in levels of persistence between student teachers with VI and HI in CoEs.

This hypothesis sought to examine mean differences that exist in persistence of student teachers in relation to type of sensory impairment. To test this hypothesis, an independent sample t-test was conducted. The independent variable was type of sensory impairment (visually impaired and hearing impaired) while the dependent variable was level of persistence. Table 12 and 13 shows the group statistics and results from the independent samples t-test respectively on the TTSI on persistence.

Table 12: Group statistics of TTSI on persistence

Type of sensory impairment	N	Mean (M)	SD
Hearing impairment	32	22.81	6.208
Visual impairment	34	21.12	2.772
Total	66	21.96	4.496

Source: Field survey (2019)

Table 13: Results of Independent samples t-test of TTSI on persistence

Levene's test (Sig.)	t	df	Sig.(2-tailed)	MD
.000	1.447	64	.153	1.695
	1.417	42.323	.164	1.695

Source: Field survey (2019)

Table 13 shows the result from the independent sample t test. With equal variances not assumed based on the Levene's test for equality of variance ($p=.000$) the results from the independent t-test tables showed that there was no significant difference between the level of persistence of student teachers with hearing impairment and those with visual impairment $t(42.3) = 1.42, p=.164$. The result showed that there was no statistically significant difference between the means of students with hearing impairment and students with visual impairment in relation to their persistence. Thus, fail to reject the null hypothesis. For this reason, among TTSI persistence was the same regardless of the type of impairment.

Research Hypothesis 3

H₀: There is no significant difference between the academic performance of teacher-trainees with VI and those with HI in CoE.

H₁: There is a significant difference between CoEs student teachers with VI and HI in academic performance.

Hypothesis three sought to examine mean differences that existed in academic performance of student teachers in relation to the type of sensory impairment. An independent samples t-test was conducted to this hypothesis. The independent variable was type of sensory impairment (visually impaired and hearing impaired) while the dependent variable was the academic performance of student teachers (CGPA). Table 14 and 15 shows the group statistics and results from the independent samples t-test of TTSI on their academic performance respectively.

Table 14: Group statistics of TTSI on academic performance

Type of sensory impairment	N	Mean (M)	SD
Hearing impairment	32	2.769	.479
Visual impairment	34	3.079	.474
Total	66	2.924	.476

Source: Field survey (2019)

Table 15: Results of Independent samples t-test on TTSI academic performance

Levene's test (Sig.)	t	df	Sig.(2-tailed)	MD
.214	-2.64	64	.010	-3.097
	-2.64	63.657	.010	-3.097

Source: Field survey, 2019 MD = Mean difference

Table 15 shows the result from the independent samples t-test. With equal variances assumed based on the Levene's test for equality of variance ($p = .214$) the results from the independent samples t-test shows that there was a significant difference between the academic performance of student teachers with VI and those with HI (see Table 14). From Table 15, $t(64) = -2.64, p < .05$. Since $p < .05$, it shows that there was a statistically significant difference between the means of student teachers with HI and student teachers with VI in relation to their academic performance. With $p < .05$, the null hypothesis was rejected. Thus, student with VI have higher ($M = 3.08$) academic performance than those with HI ($M = 2.77$).

Research Hypothesis 4

H₀: There is no relationship between inclusive education experiences and levels of satisfaction of teacher-trainees in CoEs.

H₁: There is a relationship between inclusive education experience and level of satisfaction of student teachers with VI and HI in CoEs.

The purpose of this hypothesis was to establish the association between inclusive education experience and level of satisfaction of student with sensory impairment in CoEs. To test this hypothesis, the Pearson Product Moment Correlation Coefficient was used. Results from the correlation analysis are shown in Table 16.

Table 16: Relationship between IE experience and satisfaction of TTSI

	Variable	Inclusive Education Experience	Satisfaction
Correlation (r)	Inclusive Education Experience	1.000	
	Satisfaction	.398**	1.000

Source: Field survey (2019) p= .013 ** N= 66 df= 64

The results presented in Table 16 showed that there was a significant positive relationship between inclusive education experience and students satisfaction, $r(64) = .398$, $p = .013$. This implies that as score for inclusive education experience increases that of satisfaction also increases, and while scores for inclusive education experience decrease, that of satisfaction also decreases. Thus, better inclusive education experience may bring about high levels of

satisfaction among students, while poor inclusive experience might lead to low satisfaction among TTSI.

Research Hypothesis 5

H₀: There is no relationship between inclusive education experiences and persistence of teacher-trainees in CoEs.

H₁: There is a relationship between inclusive education experience and persistence of student teachers with VI and HI in CoEs.

This hypothesis was to determine the association between inclusive education experience and level of persistence of student with sensory impairment in CoEs. The Pearson Product Moment Correlation Coefficient was used test this hypothesis. Results from the correlation analysis are shown in Table 17.

Table 17: Relationship between IE experience and persistence of TTSI

Variable	Inclusive Education Experience	Persistence
Correlation (r)		
Inclusive Education Experience	1.000	
Persistence	.224	1.000
Source: Field survey (2019)	p= .071	N= 66 df= 64

Table 17 showed that there was no statistical significant relation between inclusive education experience and student teachers persistence $r(64) = .224, p = .071$. Although the results depict that as scores for inclusive education experience increase that of persistence increase, this association was not statistically

significant. Thus, inclusive education experience is not significantly related to the persistence level of student teachers with sensory impairments in CoEs.

Research Hypothesis 6

H₀: There is no relationship between inclusive education experience and academic performance of teacher-trainees in CoEs.

H₁: There is a relationship between inclusive education experiences and academic performance of teacher-trainees in CoEs.

Hypothesis six attempted to establish a correlation between inclusive education experience and academic performance of student teachers with sensory impairment in CoEs. The Pearson Product Moment Correlation Coefficient was used to test this hypothesis. Results from the correlation analysis are shown in Table 18.

Table 18: Relationship between IE experience and academic performance of TTSI

	Variable	Inclusive Education Experience	Academic performance
Correlation (r)	Inclusive Education Experience	1.000	
	Academic performance	.153	1.000

Source: Field survey (2019) p= .220 N= 66 df= 64

Table 18 showed that there was no statistical significant relation between inclusive education experience and student teachers’ academic performance $r(64)$

= .153, $p = .220$. Although the results depict a positive relationship between inclusive education experience and student teachers' academic performance: thus, as inclusive education experience increases that of academic performance increases, this association was not statistically significant. Thus, inclusive education experience was not significantly related to the academic performance of student teachers with sensory impairments in CoEs.

Research Hypothesis 7

H₀: Self-efficacy does not moderate the relationship between inclusive education experience and satisfaction of student teachers with VI and HI in CoEs.

H₁: Self-efficacy of student teachers moderates the relationship inclusive education experience and satisfaction of student teachers with VI and HI in CoEs.

This hypothesis was stated to examine the interaction effect self-efficacy has on the relationship between inclusive education experience and student teachers' satisfaction. The predictor variable was inclusive education experience, the moderator was self-efficacy, and the criterion was satisfaction. The moderation analysis was conducted using Hayes PROCESS. The moderation was done using 5,000 bootstrap samples. Results from the moderation analysis are shown in Table 19.

Table 19: Moderating Role of Self-efficacy in the relationship between IE experience and satisfaction of TTSI

		Coeff (b)	BootSE	t	BLLCI	BULCI
Constant		8.609	12.181	.706	-15.740	32.958
Inclusive education experience		.224	.448	.500	-.672	1.121
Self-efficacy		-.113	.615	-.173	-1.415	1.190
Inclusive education experience*Self-efficacy		.016	.024	.672	-.032	.065

Source: Field survey (2019) Model summary: $R^2=.528$; $F(3, 62)=8.024$, $p<.001$

Inclusive education experience*Self-efficacy: R^2 change = .005; $F(1, 62) =.451$, $p>.05$

Criterion: Satisfaction

The result in Table 19 shows that self-efficacy was not a significant moderator in the relationship between inclusive education experience and satisfaction among TTSI in CoEs, $b = 016$, $t = .672$, CI (-.32, .065). The results reflect that the presence of self-efficacy does not enhance how inclusive education experience relates to satisfaction among student teachers. Hence in this study the presence of self-efficacy in TTSI does not interact with inclusive education experiences to predict satisfaction. Since $p>.05$ thus, fail to reject the null hypothesis.

Research Hypothesis 8

H_0 : Self-efficacy does not moderate the relationship between inclusive education experience and persistence of student teachers with VI and HI in CoEs.

H₁: Self-efficacy moderates the relationship between inclusive education experience and persistence of student teachers with VI and HI in CoEs.

Hypothesis 8 sought to determine the moderating role of self-efficacy in the relationship between inclusive education experience and persistence of student teachers with sensory impairment in CoEs. Inclusive education experience was the predictor variable, self-efficacy was the moderator and student teachers' persistence was the criterion variable. Hayes PROCESS was applied in conducting moderation analysis. The moderation was done using 5,000 bootstrap samples. Results from the moderation analysis are shown in Table 20.

Table 20: Moderating Role of Self-efficacy in the relationship between IE experience and persistence of TTSI

		Coeff (b)	BootSE	t	BLLCI	BULCI
Constant		36.995	11.300	3.273	14.406	59.583
Inclusive education experience		-.676	.416	-1.625	-1.508	.155
Persistence		-1.228	.605	-2.031	-2.44	-.019
Inclusive education experience* Persistence		.052	.022	2.313	.007	.098
Conditional effect of the focal predictor at the values of the moderating						
Low self-efficacy		.004	.157	.026	-.309	.3181
Normal self-efficacy		.239	.116	2.055	.007	.472
High self-efficacy		.737	.242	3.052	.254	1.219

Source: Field survey (2019) Model summary: $R^2=.159$; $F(3, 62) = 3.903$, $p < .05$

Inclusive education experience*Persistence R^2 change= .073; $F(1, 62)= 5.35$, $p < .05$

Criterion: Persistence

The result in Table 20 showed that self-efficacy was a significant moderator in the relationship between inclusive education experience and persistence among TTSI in CoEs, $b = .052$, $t = 2.313$, $CI (.007, .098)$. Further analysis shows that an increase in self-efficacy enhances the positive effect inclusive education experience has on student teacher's persistence $b = .737$, $CI (.254, 1.219)$. The results imply that when self-efficacy among TTSI is high, the positive impact of student's inclusive education experience on the persistence level of students is enhanced. Since self-efficacy enhances the positive relationship between inclusive experience and persistence, the null hypothesis was rejected. The moderating role of self-efficacy in the relationship between inclusive education experience and persistence is depicted in Figure 9.

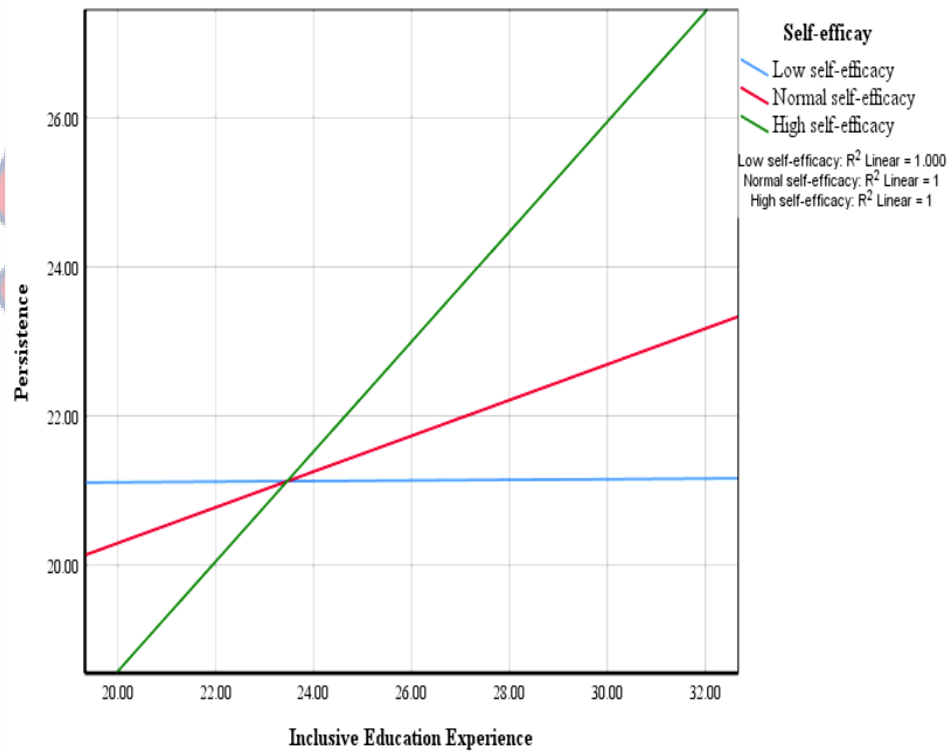


Figure 9: Moderating role of self-efficacy in the relationship between inclusive education experience and persistence

From Figure 9, it could be realised that self-efficacy was high in moderating between inclusive education experiences and persistence as depicted by the green line.

Research Hypothesis 9

H₀: Self-efficacy does not moderate the relationship between inclusive education experience and academic performance of student teachers with VI and HI in CoEs.

H₁: Self-efficacy moderates the relationship between inclusive education experience and academic performance of student teachers with VI and HI in CoEs.

Hypothesis 9 was stated with the aim of examining the moderating effect of self-efficacy in the association between inclusive education experience and student teachers' academic performance. The predictor variable was inclusive education experience; the moderator was self-efficacy while the criterion was academic performance. The moderation analysis was conducted using Hayes PROCESS. The moderation was done using 5,000 bootstrap samples. Results from the moderation analysis are shown in Table 22.

Table 21: Moderating Role of Self-efficacy in the relationship between IE experience and academic performance of TTSI

	Coeff (b)	BootSE	t	BLLCI	BULCI
Constant	4.319	1.211	3.565	1.897	6.740
Inclusive education experience	-.037	.044	-.832	-.126	.052
Academic performance	-.094	.064	-1.455	-.223	.035
Inclusive education experience* Academic performance	.003	.002	1.154	-.002	.008

Source: Field survey (2019)

Model summary: $R^2 = .320$; $F(3, 62) = 8.024$, $p > .05$

Inclusive education experience*Academic performance: R^2 change = .019; $F(1, 62) = 1.332$, $p > .05$

Criterion: Academic performance

The result in Table 22 showed that self-efficacy was not a significant moderator in the relationship between inclusive education experience and academic performance among TTSI in CoEs, $b = .003$, $t = 1.154$, CI (-.002, .008). The results reflected that the presence of self-efficacy does not enhance how inclusive education experience relates to academic performance of TTSI since $p > .05$. Thus, fail to reject the null hypothesis. Hence in this study the presence of self-efficacy in TTSI does not interact with inclusive education experiences to predict academic performance.

Section C: Analysis of Qualitative Extracts

Study two presents the results and findings from the qualitative extracts gathered. The results from the qualitative extracts gathered have been organised in themes. From the summaries of the discussions from the Colleges, it can be concluded that, the respondents gave some similar responses. In the ensuing sections, the analysis of the focus group discussions is presented thematically based on their responses during the discussions (see appendix J). Six themes emerged from the coded extracts. The first four themes were based on research questions 1 to 4. The last two themes (5-6) were other findings identified. The themes are:

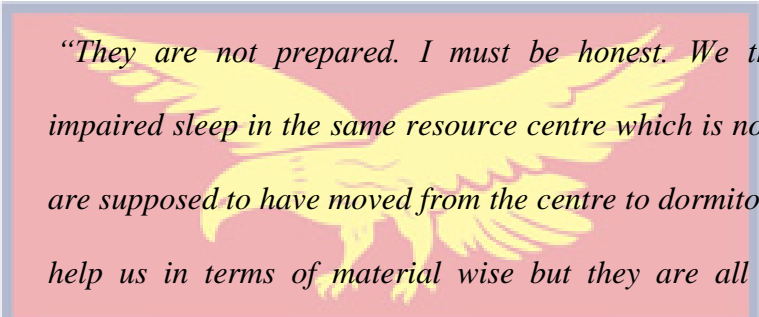
- 1 Preparedness of the Colleges towards inclusive education
- 2 Satisfaction with educational facilities
- 3 Persistence of student in the Colleges
- 4 Academic performance of TTSI in CoEs
- 5 Challenges facing the TTSI in the CoEs
- 6 Recommendations made by TTSI

Inclusive Education Experiences in Colleges

The first research question attempted to find out the IE experiences TTSI were experiencing in the Colleges. Out of the focus group discussions from the three Colleges on how prepared the CoEs were practising IE, majority of the participants said the Colleges are not ready. The views of the respondents were organised into three sub-themes: general preparedness, infrastructure and human resource.

General preparation

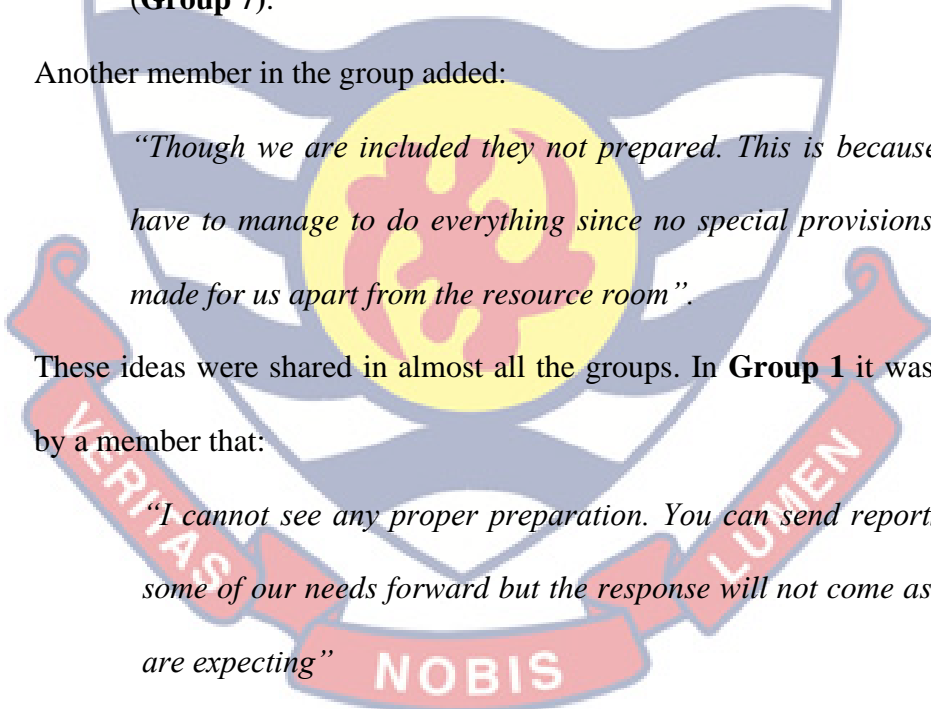
As part of the discussions, TTSI looked at the general preparedness of their Colleges as inclusive environments. It came out during the discussions that the Colleges seem not to be prepared for including TTSI. For example, some indicated that:



“They are not prepared. I must be honest. We the visually impaired sleep in the same resource centre which is not good. We are supposed to have moved from the centre to dormitory and also help us in terms of material wise but they are all not there”

(Group 7).

Another member in the group added:



“Though we are included they not prepared. This is because we have to manage to do everything since no special provisions are made for us apart from the resource room”.

These ideas were shared in almost all the groups. In **Group 1** it was indicted by a member that:

“I cannot see any proper preparation. You can send reports on some of our needs forward but the response will not come as you are expecting”

Student teachers in the focus group discussion felt there were more to make their Colleges inclusive oriented where all their needs were to be met as such their views that the Colleges were not prepared for inclusive education.

Infrastructure

The student teachers recognised the need for IE and knew it will help them in so many ways; however, there were issues with infrastructural development in the Colleges they find themselves now. There is no doubt about infrastructure development been an important indicator of how prepared the Colleges are in welcoming inclusive education. But when student teachers in the focus group discussion were questioned with regards to infrastructural expansion and making it disability friendly, one had this to say in a group:

“...as for the infrastructure, there are many problems with that because even in the dormitories we are sleeping in the rooms at the down floors and when we go for assembly, we sit at the down and not at the top because there is no easy access for us” (Group 5).

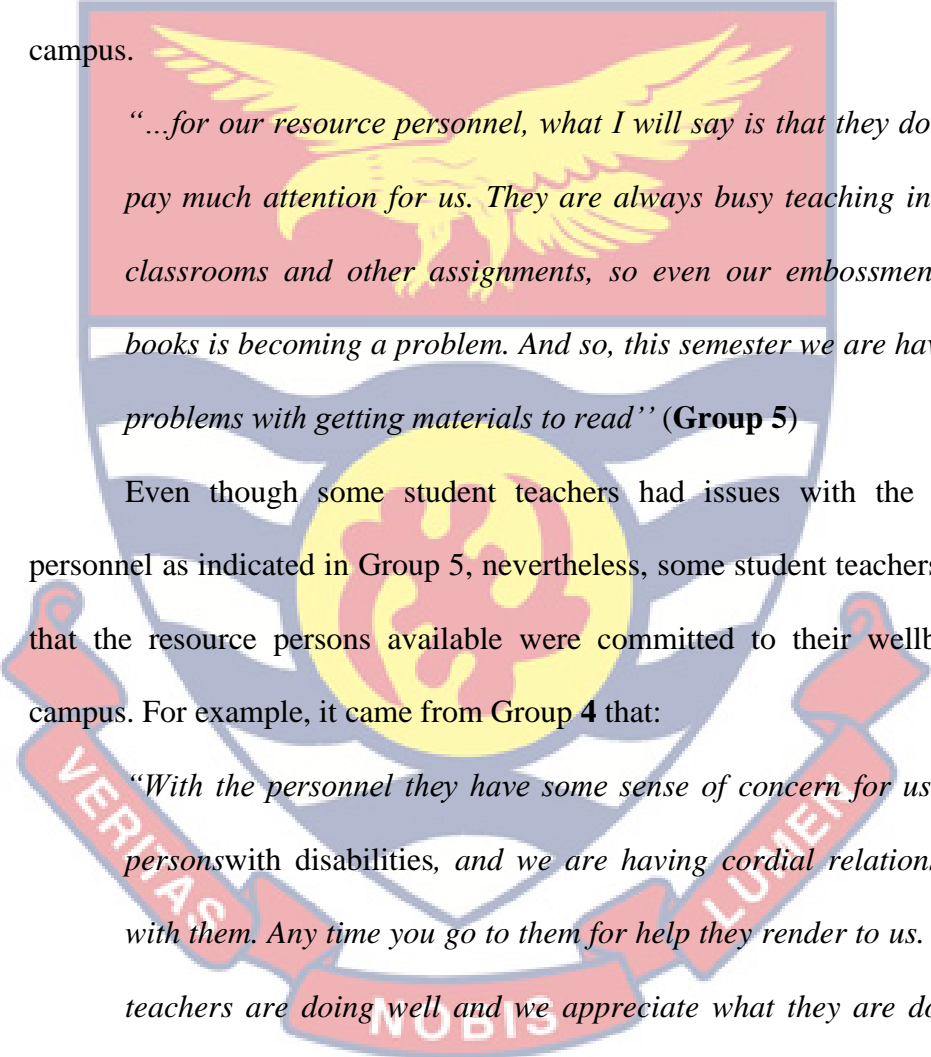
A student talked about the College not having Information Communication Technology (ICT) laboratory which is friendly to the disabled. For example **Group 9** came out that:

“We do not have any ICT facilities for the visually impaired. Which means if you do not have the knowledge of ICT from Junior High School and Senior High School, forget it”.

This was generally accepted by the group members indicating that not much has been put in place for the sensory impaired to indicate the preparedness of the Colleges

Human resource

Human resource is an important element in every facet of life and so are the human resource capacities of Colleges under consideration of practising inclusive education. Student teachers had a lot to say with regards to resource persons who assist TTSI in their academic work and social life on campus.



“...for our resource personnel, what I will say is that they do not pay much attention for us. They are always busy teaching in the classrooms and other assignments, so even our embossment of books is becoming a problem. And so, this semester we are having problems with getting materials to read” (Group 5)

Even though some student teachers had issues with the resource personnel as indicated in Group 5, nevertheless, some student teachers believe that the resource persons available were committed to their wellbeing on campus. For example, it came from Group 4 that:

“With the personnel they have some sense of concern for us the persons with disabilities, and we are having cordial relationship with them. Any time you go to them for help they render to us. The teachers are doing well and we appreciate what they are doing but there is more room for improvement” (Group 4).

A special reference was made to a Principal of one of the Colleges for displaying a lot of enthusiasm in seeing to the welfare of TTSI. Excerpts from two groups from that college on this were:

“The principal also cares for us. Sometimes, we are entreated to some entertainment programme that is specifically designed for us. Just recently, there was an important celebration on campus and we were the only people who were invited to attend and for me, this made me feel very important in this College. Sometimes too, the Principal gives us some monies to motivate us to learn, but with the teachers, it is only some of us but not all” (Group 3)

Another group confirmed what Group 3 said with regards to the Principal of one of the CoEs that.

‘The principal is lenient because some of our colleagues could not pay school fees on time but they were allowed to register’ (Group 8)

It can be deduced from the above that from the infrastructure, personnel and material wise pertaining to Colleges preparedness to practising IE in Ghana, TTSI believed that there is still a lot more to be done by the Colleges for effective inclusive education.

Satisfaction in inclusive Colleges

The second research question elicited views of TTSI on their satisfaction in the Colleges. Their responses revealed that they were satisfied in some circumstances but had some challenges which made them dissatisfied. Their dissatisfaction among others was classified as challenges under other findings in the study.

On their satisfaction, their views were classified under three sub-themes: general satisfaction, facilities, and support from teachers and resource persons.

General satisfaction

On respondent's satisfaction, respondents agreed that being offered admission alone for them to be in school makes them satisfied. They had this to say:

“What promotes the satisfaction is that first of all, we have been allowed to come in to have our education”.

Another added that:

“we are satisfied because they have included us so whatever we can do to achieve success we are doing it. In this regard, any way that we can go through the system, we are doing it and that way we are satisfied”.

Again, a student in one of the groups indicated that:

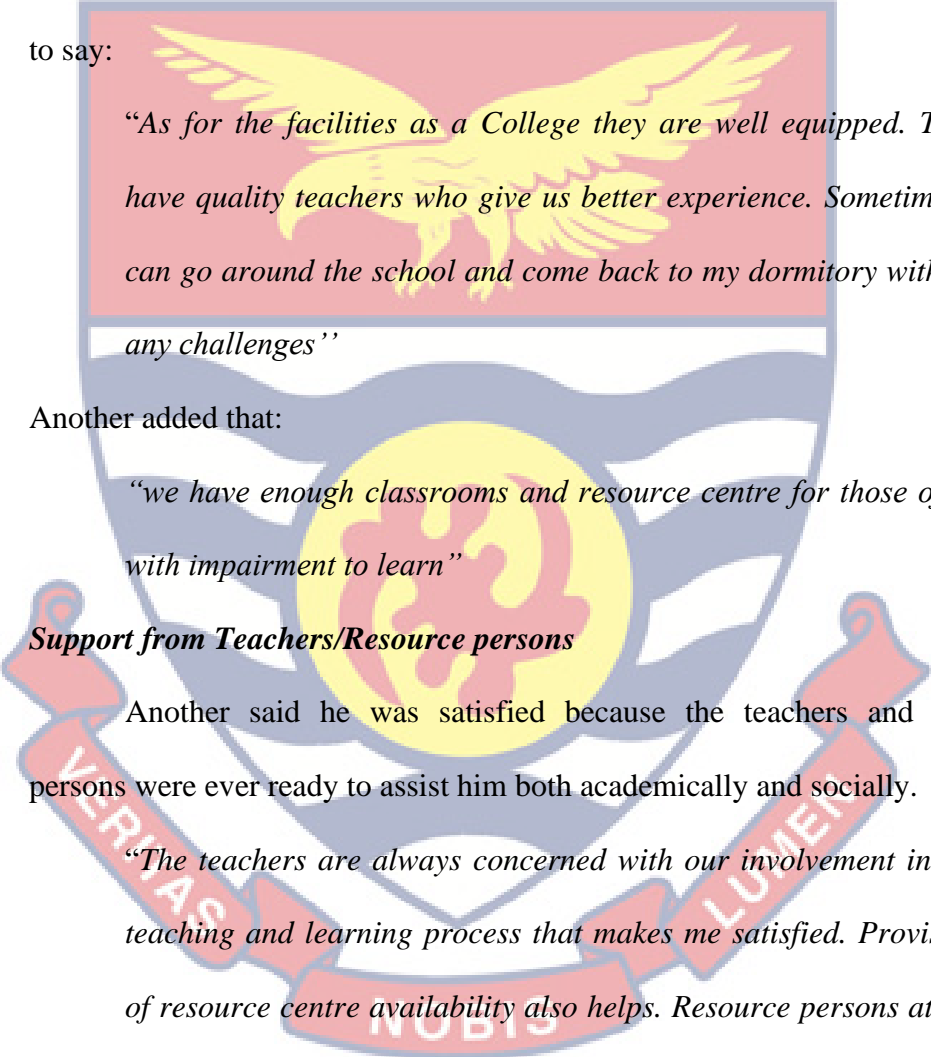
“I'm satisfied a bit because of how they accommodate us. They support us. We also get equal punishment if we go wrong. That makes us feel that we belong”.

The participants were satisfied for being offered admission into the Colleges no matter their impairments and also see themselves to belong to the group, not being left out. They see themselves being treated equally as their peers without disabilities even in punishment. That is

their impairment is not used to save them from punishment when they go wrong.

Facilities

Some TTSI were of the view that their Colleges were in good shape and had all that it takes to facilitate their academic pursuit. **Group 10** had this to say:



“As for the facilities as a College they are well equipped. They have quality teachers who give us better experience. Sometimes I can go around the school and come back to my dormitory without any challenges”

Another added that:

“we have enough classrooms and resource centre for those of us with impairment to learn”

Support from Teachers/Resource persons

Another said he was satisfied because the teachers and resource persons were ever ready to assist him both academically and socially.

“The teachers are always concerned with our involvement in the teaching and learning process that makes me satisfied. Provision of resource centre availability also helps. Resource persons at the centre are ready to help” (Group 9).

In addition, one other indicated that:

“All the teachers have made up their mind to support me as a person with a disability and they do not treat me as any other

person. In other words, I am treated equally just as my colleagues who are not disabled”.

These were indications that TTSI were satisfied with the experiences.

Persistence of TTSI in the Colleges

The third research question elicited information on the persistence of TTSI. It is said that motivation is the key factor to success of any task. Looking at the series of challenges that TTSI are confronted with ranging from infrastructure to material as well as human resource in the various Colleges, it was imperative to find out what motivates the TTSI to pursue their academic ambitions. TTSI gave varying views as to what made them persist in the Colleges to pursue their education. Their views were classified under four sub-themes: faith in God, academic achievement, support from friends and future economic independence.

Faith in God

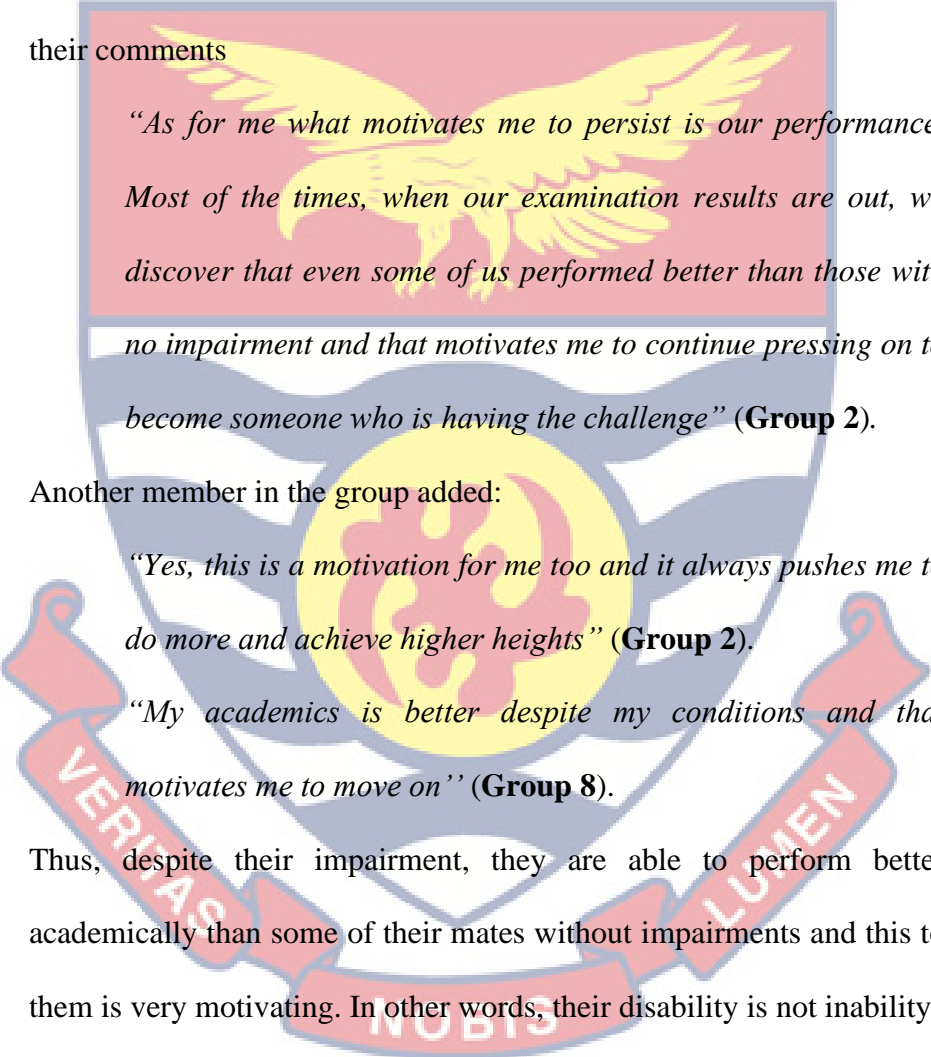
Participants were of the view that their motivation come from the faith they had in God. A member from Group 5 clarified that he was not the first person to find himself in this situation and that should not deter him from pursuing his dream. Below is his verbatim statement:

“I only motivate myself with the word of God and I believe that the faith that I have in God will make me successful. I may not be the first person to be in this situation before going on with my education and that has become my personal history to motivate me”

Other participants in the group responded “yes, yes”, indicating their confirmation of his point on faith in God.

Academic performance

Members of Group 2 and 8 respectively were for the view that their academic performance was their motivating factor. Below are the excerpts of their comments



“As for me what motivates me to persist is our performance. Most of the times, when our examination results are out, we discover that even some of us performed better than those with no impairment and that motivates me to continue pressing on to become someone who is having the challenge” (Group 2).

Another member in the group added:

“Yes, this is a motivation for me too and it always pushes me to do more and achieve higher heights” (Group 2).

“My academics is better despite my conditions and that motivates me to move on” (Group 8).

Thus, despite their impairment, they are able to perform better academically than some of their mates without impairments and this to them is very motivating. In other words, their disability is not inability.

Support from friends

A statement made by a participant showed that the reason why she has persisted on campus for her academic work is the fact that she gets support

from her friends. Her friends around her were her only source of motivation. The student's comment pertaining to this is provided below:

"I am motivated to study because of the support I get from friends" (Group 6).

Another member also indicated that:

"The discussions I have been having with friends also motivate me to persist" (Group 6).

These points to the fact that the peer support they receive is one of the reasons for their persistence.

Future Economic Independence

Again, a student said he has seen his colleagues with disabilities working and earning a living from it and that motivates him to pursue his academics.

"I have seen my colleagues who are working and earning their salaries and living comfortably so I'm also motivated. They advise us to work hard" (Group 8).

Another participant in Group 8 shared her views on what motivates her to persist in her academics despite her disability. Her response is captured below:

"How I was going to take care of my family motivated me to go to school no matter my challenges so that I can take care of my family in future".

The issue of future economic independence can be said to be a critical factor that is naturally seen as the students who persist with their academics.

Upon completion of their education they can get employed and earn salary which will enable them to cater for themselves and their family and this will make them economically independence.

From the responses outlined, it can be concluded that respondents' faith in God, academic achievement, support from friends and their quest for future economic independence helped them persist in pursuit of their ambitions.

Academic Performance

Research question four elicited information on academic performance of TTSI in the CoE. Though the respondents saw their academic performance as a motivating factor to persist, there were mixed feelings when they were asked about their academic capabilities, some had this to say:

“With this, I will say that it varies. When I came, I learnt that two visually impaired students had first class in the 2012. This means that they were able to move with the sighted people or learn equally and perform equally with them. So that depends on the individual and how you want to achieve what you want to achieve and how you put in your best. If you struggle and you try hard, you can be equal with your colleagues even though you may have some disabilities” (Group 6).

The extracts from the discussion were coded under two themes; peers without disabilities perform better academically and misconceptions on academic potentials of TTSI

Peers without disabilities perform better academically

Some of the respondents were of the view that their peers without disabilities performed better than them. A participant indicated that:

“the regular students are better than those with disabilities because in the recent graduation only two students with disabilities out of twelve had first class and all the rest were students without disabilities” (Group 8).

Others in the group felt they were doing well and indicated that:

“It is quite competitive, despite the lack of materials, we are still doing well. Although our colleagues are ahead of us but we are doing better. We do not have materials. You have to depend on others for help. We record when teachers are teaching” (Group 8).

From the above it can be deduced that some of the teacher-trainees in the discussions were of the view that if a student with disability put in his/her best then they will perform academically as their peers without disability. Others were of the view that those without sight problems perform better than they do but the basis of this comparison is flawed. The TTSI pointed out that only two out of the twelve student teachers who had first class were TTSI. The issue is, in the first place the ratio of TTSI and those without disability are not proportional so such a comparison cannot be made. Also, if two out of their limited number can get first class then they have done extremely well. Other

TTSI also pointed out the fact that they lack materials. Implying that they have challenges yet they are performing better.

Misconceptions on academic potentials of TTSI

Respondents also touched on some misconceptions on the education of persons with disabilities. A member from the HI group had this to say:

“Sometimes too the hearing may think that the hearing impaired has low academic levels but getting close to them they realise that we are so special in certain ways” (Group 3)

In support to this, a member from a VI group had this to say:

“when our sighted friends see our results, they at times say that the teachers dash us some of the scores because of our impairment. But this is not true” (Group 7).

From these views, the TTSI tried to make their point that they can perform academically. They indicated that if they had access to some assistive technology, they could have performed much better, even without it, they see themselves performing effectively.

Other Findings

As a result of the discussions, other important issues were addressed which were not under the research questions. These other findings were classified under challenges and recommendations.

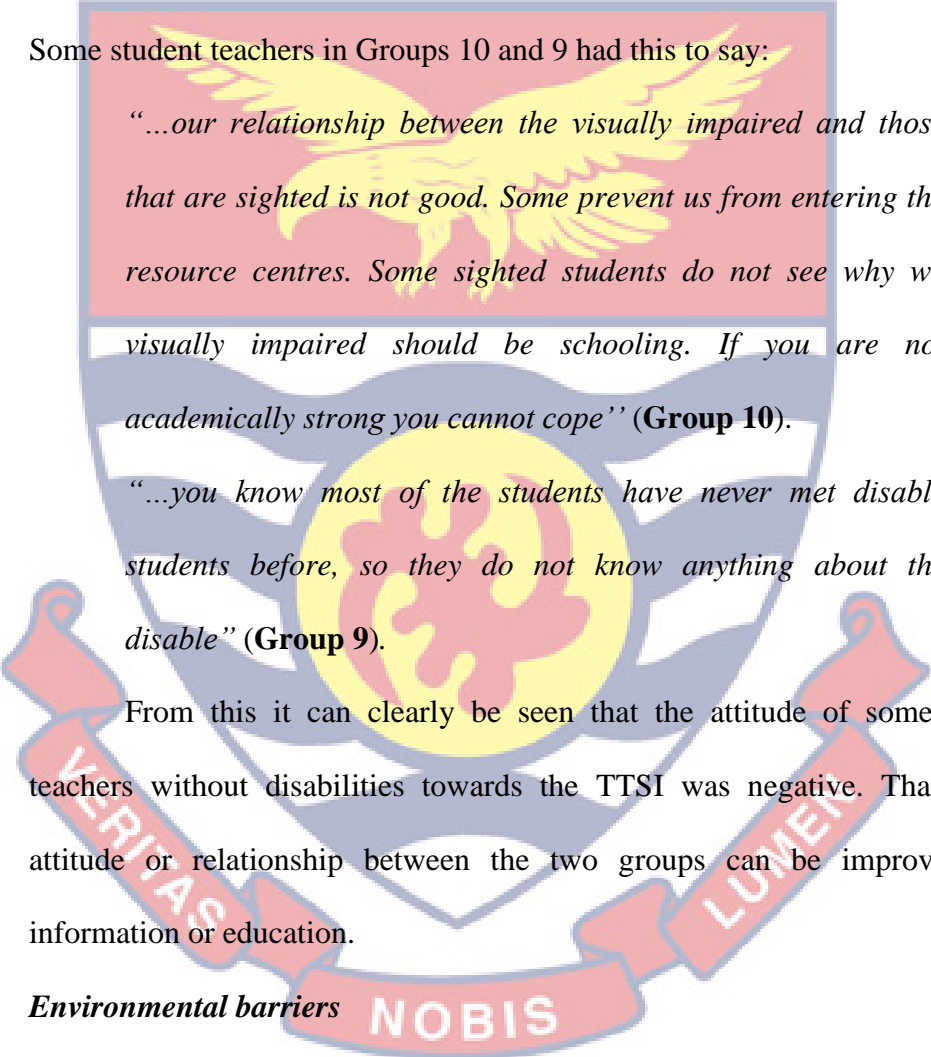
Challenges facing TTSI in Colleges of Education

Challenges confronting TTSI range from poor relationship, facilities to lack of teaching and learning materials.

Poor relationship between TTSI and those without disabilities,

A student pointed out that her challenge in the College had to do with some of their peers without disabilities. She said such student teachers did not see why those with VI should be schooling. That is, they have negative perception about them and this had been her biggest challenge in the College.

Some student teachers in Groups 10 and 9 had this to say:



“...our relationship between the visually impaired and those that are sighted is not good. Some prevent us from entering the resource centres. Some sighted students do not see why we visually impaired should be schooling. If you are not academically strong you cannot cope” (Group 10).

“...you know most of the students have never met disable students before, so they do not know anything about the disable” (Group 9).

From this it can clearly be seen that the attitude of some student teachers without disabilities towards the TTSI was negative. That is, the attitude or relationship between the two groups can be improved with information or education.

Environmental barriers NOBIS

A participant was also of the view that since he is visually impaired, he thinks construction of ramps would have been of great help. Open gutters served as threat to their movement. He indicated this by saying:

“... I will say they should make ramps for schools and open gutters should be also be closed to aid movement”.

Members in Group 7 confirmed this adding that some usually fall into gutters.

“Speed ramps are not there. There are open gutters. So, if you are a Fresher then you are in danger” (Group 7).

Lack of technological devices,

In terms of educational materials, student teachers lamented that they had serious challenge with embossers and Braille to help their academic pursuit.

For example, in **Group 8** a respondent said:

“Embossers, Braille books as well as talking computers should be brought to our schools. The lack of these materials hinders our academic work a lot”

Another student in addition to their challenge stated that:

I am trying my best to remain at the second class upper. If I had a laptop and other materials I could have probably done better. We could have challenged the sighted but because we do not have learning materials we are at where we are, but those who are sighted even have pass, third class and so on”.

Teaching and Learning Strategies

Student teachers with HI had a challenge and indicated that the teaching and learning process was difficult for them. The groups were of the view that:

“...when the teacher is there teaching, it will only be words which is understandable to the hearers but not with the deaf, there is an interpreter doing the interpretation, he or she is not able to break things down to our understanding and so sometimes, we miss some words since interpretation deals with about four things before communication is realised” (Group

3).

I tried probing further on the statement “four things before communication is realised” and they responded that they were: idea, encoding, route and decoding. They explained idea as the intended information that is meant to be conveyed to another person in the communication process. With encoding they indicated that it is about explanation of the intended message by the sender. Route on the other hand was explained as the channel in which the information is conveyed and decoding is about the interpretation of the message by the receiver. So, where the interpreter misses any of these, he/she may give the student with HI faulty information in the interpretations.

A member indicated that:

“Talking of the lessons that go on in the classroom, they are not satisfactory enough, this is because when the teacher is teaching, I feel that the interpreter does not say everything”

(Group 1).

The respondents with HI had another peculiar challenge they touched on. They indicated that they only learn in class where they have their teachers

and interpreters which is not the same with their hearing counterparts. It was indicated and generally agreed upon by the members in the group that:

“Hearers are not new to certain words and information simply because they are always on radio, if not their own radio, even as they move in town, they can hear someone’s radio saying something to learn from it, so they hear other important things that supports their learning. But with us, unless we read or the teacher comes to class and teach us, we don’t get new words or information from outside” (Group 2).

The statements by the respondents show that there are numerous challenges facing them in the CoEs. They displayed this by the responses that they gave. The challenges included: poor relationship between TTSI and those without disabilities, environmental barriers, lack of technological devices, and teaching and learning strategies of teachers.

Recommendations made by student teachers

Respondents were asked to provide some recommendations to improve on the inclusive experiences in the Colleges. Their contributions were classified into: Colleges be made inclusive, special education course to be taught during the first semester of the first year, the training of more sign language interpreters and provision of material and financial support for TTSI

Colleges be made inclusive

Respondents recommended that if it is possible each of the 16 regions in Ghana should have an inclusive College of Education to cut the challenges

TTSI go through travelling long distances to have access to CoEs. For example, members in the group had this to say:

“...all the colleges in Ghana should admit persons with disabilities. And even if not all, at least every region should have a college with disabled people there and that is, the government should train more interpreters and provide the facilities that they need for them to admit persons with disabilities” (Group 2).

“We wish all the colleges go inclusive to cater for the students with visual impairment that complete Senior High School and also want to be teachers” (Group 8).

Another member in Group 4 indicated that:

“...because there are no Colleges of Education in the North which admit us (HI). Sometimes when school breaks for like three weeks and where everybody is going, I cannot go because of the distance and so I have to stay here” (Group 4).

In relation to this, a member from Group 6 also had this to say:

“For instance, we the blind, it is not easy to travel. Most of us face challenges on our way to school, so having Colleges close to us will be helpful”.

The TTSI generally felt it would be beneficial to them if most CoEs are made inclusive. This will reduce the challenges they go through in accessing

their Colleges and also for all prospective students with disabilities who wish teachers to find it easy enrolling.

Special education course to be taught during the first semester of the first year

The members in the Group 9 had this suggestion to curb the challenge of poor relationship between TTSI and those without disabilities that:

“There is a course called Special needs. We think it should be taught at the first year so that the students can appreciate disable students. Because some of them the way they treat us is not good at all. After going through that course some of them regretted that what they did to us was not good” (Group 9)

Hence, the suggestion for the course, “Educating the individual with diverse learning needs” to be taught during the first semester of the first year of their enrolment to College.

Training of more Sign language interpreters

The student teachers with HI recommended that there should be more sign language interpreters in the colleges to facilitate their academic work.

They had this to say:

“...so, if IE should be introduced, the only facility that would be needed are sign language interpreters” (Group 3).

“After the interpreter, there is nothing else that is more important than that because for the visually impaired for

instance, they can hear whatever the teacher is teaching”

(Group 4).

Material and financial support

A respondent's concern was that inadequate materials and financial constraints were his major challenge and therefore recommended that as student teachers with visual impairment, they needed help from the government in terms of materials and financial support. From **Group 7** a member reiterated that:

“if the government and the school can support us financially that will be better. Sometimes too when you owe the school, how they address you can affect your academic work. They single us out. If they will say all of us owe, that would not have been a problem but they do not”

It could be concluded from the above suggestions and recommendations made by the respondents that all CoEs in Ghana should be well resourced to practice IE, a number of sign language interpreters should also be made available in the Colleges and government should also support TTSI financially.

Observed conceptual model based on the results of the study

The model in Figure 10 depicts the observed conceptual framework after based on the results and findings of the study. Though the initial result of the study depicted none significant relationship between inclusive education experiences and persistence, the presence of self-efficacy in this relationship

results in an antagonising effect thus resulting in a significant relationship between inclusive education experience and persistence. The model addresses the issue that self-efficacy moderate the relationship between inclusive education experience and persistence. Also Figure 10 depicts a significant relationship between inclusive education experience and satisfaction of student with visual and hearing impairment in the Colleges of Education in Ghana. However, there was no statistically significant relationship between inclusive education experiences and academic achievement and so depicted with a broken arrow (Shields & Rangarajan, 2013) in Figure 10.

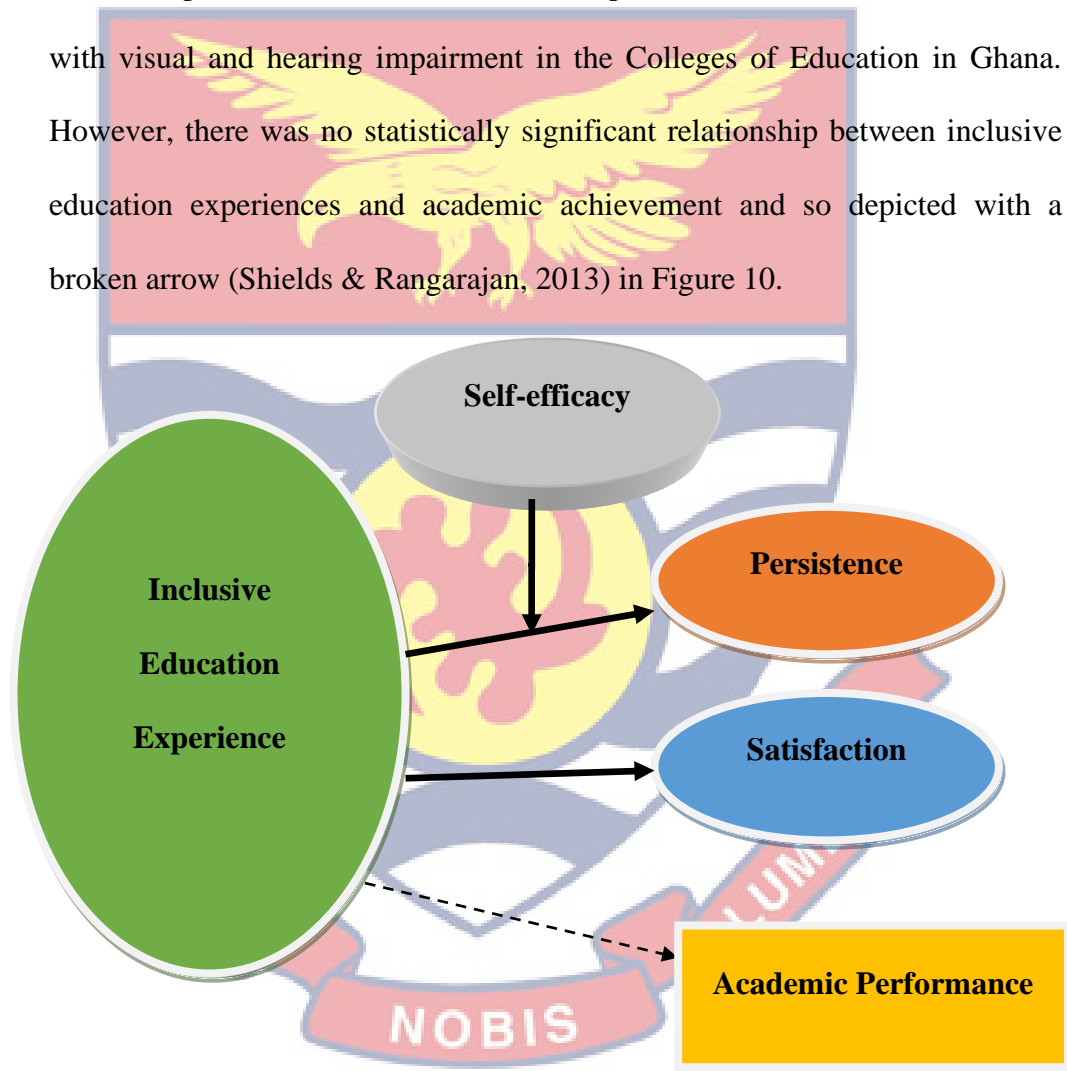


Figure 10: Observed Model of Inclusive Education in CoE

Source: Researcher's own construct

Discussion of Findings

The discussion is made up of the quantitative and qualitative extracts analysed which is considered with the reviewed literature. The study explored the impact of inclusive experiences on TTSI in the three CoEs in Ghana that practice IE. The researcher assessed three areas of student inclusive experiences which were their satisfaction, persistence and academic performance and the moderating role of self-efficacy on these experiences.

Inclusive education experience of teacher-trainees with sensory impairment in CoEs

The first research question elicited the inclusive experiences of TTSI in the CoEs. Two striking results were recorded from the participant's responses on items on inclusive experiences. It consists of what they all agreed on and those that they had contradicting views. From the quantitative data in this section, the TTSI generally agreed on three items: that all students are competent to communicate and learn in inclusive classes, that there are good emotional support systems and peer support is available and reciprocal. This had some contradictions in the qualitative extracts as some students had challenges with peer support. Some students in confirmation of the support received reported that:

“All the teachers have made up their mind to support me as a person with disability and they do not treat me as any other person. In other words, I am treated equally just as my colleagues who are not disabled” (Group 1).

“They support us. We also get equal punishment if we go wrong. That makes us feel that we belong” (Group 10).

On the other hand, there was this challenge also stated:

“...our relationship between the visually impaired and those that are sighted is not good. Some prevent us from entering the resource centres. Some sighted students do not see why we visually impaired should be schooling. If you are not academically strong you cannot cope” (Group 10).

It could mean that depending on individual differences, some people may support persons with disabilities while some shy away or look down on them. People with disabilities in Ghana continue to face prejudice and social isolation (Ocran, 2018), even though the country has the inclusive education policy providing anti-discrimination laws to protect their rights (MoE, 2015).

With the choice of institutions, the students with HI disagreed on attending the school of choice if not for their disability. From the study, out of the 46 Colleges of Education in Ghana, only one College (PCE) admitted students with HI. Thus, students have no choice but to attend PCE if they want to attend a College of Education. They again disagreed with the statement that “Students participate in class activities as all others”. This experience can be challenging since the HI will need an interpreter to be able to participate in class activities like all others. According to Bamu et al. (2017), appropriate changes within the schools to address the needs of students with HI had not been made. As such the onus, therefore, lies on the College authorities to see

to the provision of the needed support systems in the various Colleges for the students with HI to have access to more Colleges to feel included.

The respondents also reported the problem of accessibility to health care and the physical environment of the College to meet mobility problems and access to assistive technology. The design of products and environments to be used by all citizens to the fullest degree possible without the need for adaptation or specialist design (National Disability Authority, 2020) is known as universal design. Universal design aims to make life easier for everyone by making goods, connectivity, and the built environment more accessible to everyone at a low or no cost. It is primarily driven by disability, and it employs building codes, rules, and guidelines to create designs and features that are accessible to people with disabilities. However, there have been several reports of unfriendly building architecture that impairs accessibility and mobility needs of the learners who are disabled in Ghana (Ashigbi, Torgbenu, & Danso, 2018). The CoEs, as shown in the present study are not an exception. Students in substantiation of the physical challenges in the CoEs campuses reported that:

“We have some storey buildings but they do not allow visually impaired to go to the top. We do not have any ICT facilities for the VI. Which means if you do not have the knowledge of ICT from JHS and SHS forget it?”

The International Institute for Sustainable Development ([ISSD], 2013) reports of the UN Secretary General’s recommendation that accessibility

should be a vital consideration in the post-2015 development agenda and considered as a critical investment for sustainable development advancing accessibility and the progressive removal of obstacles to the physical environment, transportation and information and communications, incorporating the principle of universal design.

In Ghana, the inclusive education policy's principles and recommendations support the spirit of a barrier-free learning atmosphere for all students in both public and private schools (MoE, 2015). To encourage easy contact with the community, institutions are required to have walkways, paths, roads, stairs, houses, doors and doorways, stairways, handrails, water closets and toilet compartments, as well as grab bars, according to item 4.0 Standard 1 of the guidelines. According to the findings of this report, this call appears to have received little attention in Ghana's CoEs climate.

The importance of open, safe, and well-designed built environments for optimal health and education is becoming increasingly recognized (Jackson & Kochtitzky, 2001; Koplan & Fleming, 2000). This is because the social and physical environments in which people live are likely to affect their independence, and people will encounter a variety of circumstances as they move in and out of different environments during their lives (Sampson, Morenoff & Gannon-Rowley, 2002). Some built environment features that create obstacles for outdoor mobility, such as discontinuous and unstable sidewalks, heavy human traffic, and inaccessible public transportation, may have spill-over effects on a person's ability to work independently in a given

neighbourhood (e.g. access supermarkets, lecture halls, dormitories and hospitals). Such accessibility problems as expressed by respondents in the present study appear to impede their satisfaction on campus. For example, members in Group 2 had these to say:

“since we have the blind and the hearing impaired over here, the place was not well structured for the blind and so moving from the resource centre to the place where they will go and sleep, there is no smooth road and so I suggest that the path that we pass to the resource centre and where we have been sleeping should be made short and smooth, so that it will make their movement easy”.

Others added that:

“There is the need for a pavement to make it stable is appropriate because erosion keeps on veering them off and we have challenges with cars. With the blind, when a car is coming, they hear but find it challenging to know where it is coming from until it gets close. Also, with the hearing impaired too, there is the need for something to give them an indication that there is a car coming and so something should be done for them to know that there is a car coming from their back. So, if all those places could be made pavements in such a way that when we are going, we will just follow that path it will save us”

(Group 3).

The limitations on mobility and access imposed by a poorly built environment, on the other hand, are more visible and even more frustrating than systemic discrimination in the lives of people with disabilities (Barnes & Mercer, 2005). The mobility challenges expressed by respondents' herein may have a significant impact on their satisfaction, persistence and ability to survive in the Colleges. Therefore, Colleges have to see to the implementation of the IE policy standards and guidelines whereby the needed facilities and infrastructure would be put in place to promote mobility and access.

Satisfaction among teacher-trainees with sensory impairment in CoEs

The second research question examined the extent to which SWD was satisfied with their IE experiences in the CoEs. The ingredients of satisfaction included herein bordered on the dynamics of instruction and social interactions. From the results presented in Table 5, a greater percentage of the respondents declared that they were satisfied with the quality of instruction they receive in the Colleges and the academic advice they were provided with. Perhaps these reasons contributed to the greater affirmative response to the statement that students were overall happy with their intellectual growth in the Colleges. The survey responses were supported by the focus group discussion where a majority of the respondents discussed their satisfaction with the school's instruction. Some of the comments of the respondents during the focus group discussions varied. While some had challenges with the teaching-learning process, others also were satisfied with the teachers and had this to say:

“The teachers are always concern with our welfare and that makes me satisfied. Provision of resource centre availability also helps. Resource persons at the centre are ready to help”

(Group 9).

A resource centre having good resource persons ensured that TTSI are assisted in their studies. This made their academic work a lot easier.

The quality of instruction expressed by respondents stressed the constructive roles played by tutors during instructional sessions to ensure the participation of students with disabilities. They indicated how teachers can call their names to prompt them and sometimes direct specific questions to them to get their full participation during lessons.

Stevens and Wurf (2018) explored the perspectives of children with disabilities and their parents on inclusive schools in a related report. While parents of typically developing children reported greater satisfaction with IE, all respondents agreed that it benefits their children, and satisfaction with IE scores was comparable (the difference was not significant). In Steven and Wurf’s study, the parents felt that teachers were not well prepared to support the diverse range of SWD in inclusive classrooms, yet the students and the parents were satisfied with the overall education provided. In the present study, not only did SWD report that they receive the necessary attention from teachers during instruction, the school themselves are prepared for inclusive teaching because they have well-resourced rooms to cater for students’ needs after regular classroom instructions. Other studies (Kuh, Gonyea& Williams,

2005; Moxley, Najor-Durack, & Dumbrigue, 2001) have also reported similar satisfaction results by customers of the inclusive system. It is hypothesised from the present results that it is not just the quality of instruction that boosts the satisfaction of the disabled, the fact that they find themselves in the same classroom as their regular colleagues also offers them some forms of psychological fulfilment (such as what they can do we can also do it) that enhances their satisfaction.

Students' satisfaction with how the interactions within the school stimulated their intellectual growth has been established in other studies (for example, Kuh et al., 2005; Moxley et al., 2001) and has been associated with enhanced meaningful learning. Meaningful learning experiences are deemed vital for TTSI within the IE campus. Students become disengaged and disappointed when meaningful learning opportunities are missing from the curriculum because they see little significance in what they are learning. This is because students have few opportunities to engage in meaningful learning activities and are unable to incorporate and apply what they have learned in class (Kuh et al., 2005; Moxley et al., 2001). TTSI in Ghanaian CoEs are satisfied with their studies as they are being trained to be professional teachers which were going to help them get employed and become economically independent.

On the question of respondents' satisfaction with how their interactions with other students have impacted their intellectual growth most of them responded in the affirmative. TTSI's satisfaction with their connectedness

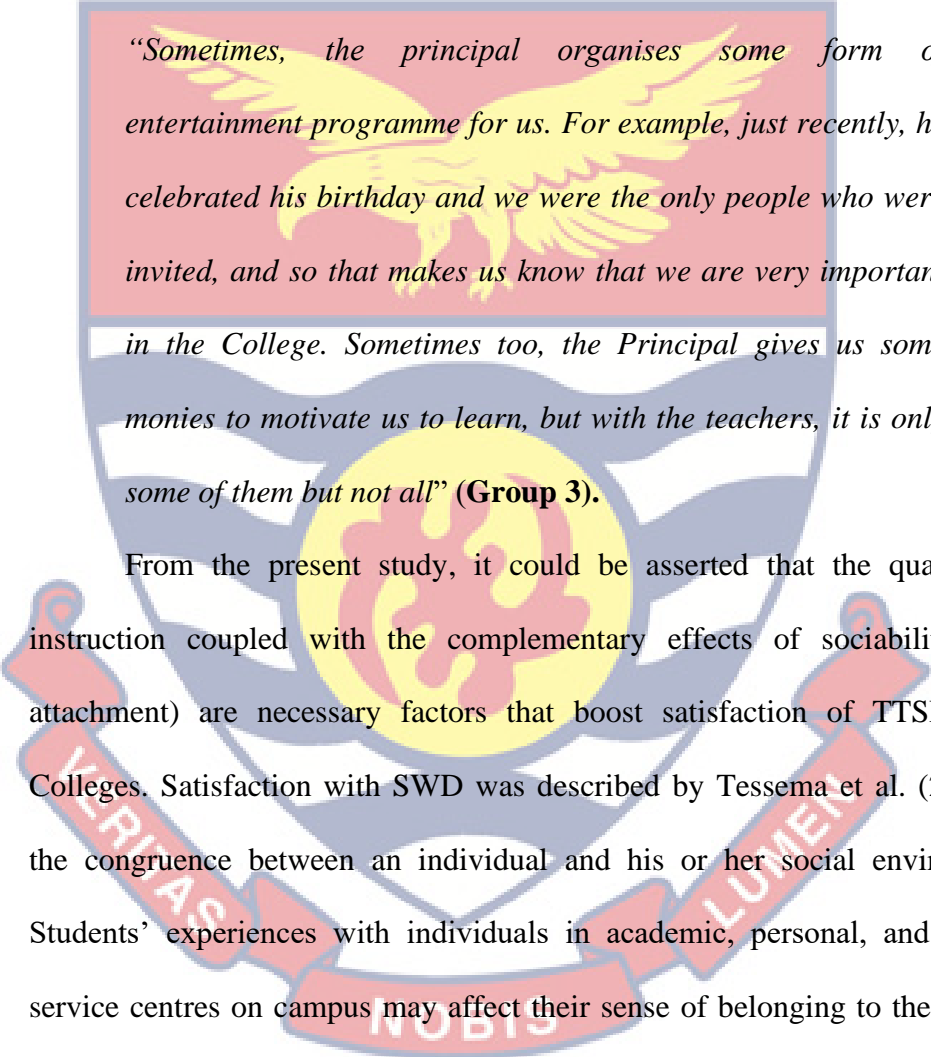
within the colleges is similar to the findings of Shogren, McCart, Lyon, and Sailor (2015). Shogren et al. investigated the experiences of students with and without disabilities in inclusive schools by recording their views of the school's community, IE, and the strategies used to serve all students. In addition to their study, they held focus groups and discovered that students felt a sense of belonging in their schools, which was followed by a highly optimistic school community. High expectations, feeling encouraged to meet those expectations, and feeling related to teachers and peers were all characteristics that characterized this positive school culture. In this regard, TTSI explained how much they enjoyed being in inclusive classrooms and how much they preferred being with their peers who did not have disabilities to being pulled out for similar programs or being in segregated classrooms. This confirms our earlier speculations that it is not only the standard of teaching that is acceptable but also the fact that they are involved with daily students.

Respondents indicated the parameters of their satisfaction as including friendship and peer support, support from tutors and the presence of the resource centre. They indicated that they felt the connection of their friends on campus as well as the tutors and staff on campus. The connection and support encouraged them and made them more satisfied to remain in the college.

“I am motivated to stay because of the support I get from friends. Apart from friends, the discussions I have been having with friends also motivate me and made me more satisfied.”

Another thing too that motivate us is the resource centre. This is the place where we come to get more knowledge and understand what was taught in the class better” (Group 6).

The principal also cares for them, which also motivates them. A student in one of the groups raised this point which was generally agreed that:



“Sometimes, the principal organises some form of entertainment programme for us. For example, just recently, he celebrated his birthday and we were the only people who were invited, and so that makes us know that we are very important in the College. Sometimes too, the Principal gives us some monies to motivate us to learn, but with the teachers, it is only some of them but not all” (Group 3).

From the present study, it could be asserted that the qualities of instruction coupled with the complementary effects of sociability (peer attachment) are necessary factors that boost satisfaction of TTSI in the Colleges. Satisfaction with SWD was described by Tessema et al. (2012) as the congruence between an individual and his or her social environment. Students’ experiences with individuals in academic, personal, and support service centres on campus may affect their sense of belonging to the College or university, as well as their ability to manage campus community, meet standards, and graduate. Students are more likely to excel in a setting where high standards are set and students are actively involved in their learning.

Seidman (2005) also pointed out that “Tinto views student departure as a longitudinal process that occurs because of the meanings individual students attribute to their interactions with the formal and informal dimensions of a given college or university” (p. 67). These encounters take place between the student and the college's academic and social structures. It is added that greater social and academic integration would increase students' commitment to their goals as well as to the institution, resulting in higher retention rates (Harper & Quaye, 2009).

It must be noted that the few respondents who claimed they were not satisfied in the Colleges, deviated from our indicators of quality of instruction and peer interaction and rather lingered on accessibility to educational facilities (already recognised as challenges in the Colleges). They reiterated that some facilities were either not available or not in a good state. They indicated that this affected their satisfaction with the education in their Colleges. Some of the critical statements of the respondents are presented below:

“With the satisfaction, there is room for improvement. There are other things which are needed urgently but they are not there. You know the road leading from our class to the hall is not good. When you come to the centre too, materials like Braille format and close circuits are not there” (Group 6).

Members from another group also added that:

“Speed ramps are not there. There are open gutters. So, if you are a Fresher then you are in danger. Mobility orientation was not well organised” (Group 7).

These findings are in line with the findings of Mungai (2015) who pointed out that lack of or inadequate resources remain a major challenge of inclusive education. Therefore, for most SWD, inadequate infrastructure makes them dissatisfied with the school environment. In a similar vein, Kuyini and Mangope (2011) revealed that limited resources and facilities act as barriers to practicing and implementing inclusive education. The dissatisfaction with the infrastructure in the Colleges makes the campus life difficult for the TTSI.

One respondent however indicated satisfaction and dissatisfaction with the college:

“We are satisfied because they have included us so whatever we can do to achieve success we are doing it. The reason for my dissatisfaction is that even though we are here, what will help us to put in all our best is not readily available. In this regard, any way that we can go through the system, we are doing it and that way we are satisfied” (Group 2).

Students view in this situation suggests that their being included alone is satisfactory enough for them as depicted by the groups. On the other hand, lack of facilities and resources make them dissatisfied.

“Dissatisfaction is based on the students who are sighted; you know most of the students have never met disable students before, so they do not know anything about the disable”

(Group 9).

In relation to their dissatisfaction, they touched on a course they offer in College which they feel must be taught in a different year and semester. They indicated that:

“There is a course called Special needs. I think it should be taught at the first year so that the students can appreciate disable students. Because some of them, the way they treat us is not good at all. After going through that course some of them regretted at what they did to us was not good. So, I’m not satisfied with that course at 2nd year. It should have even started from orientation” **(Group 9).**

Information dissemination is seen as a key element with this suggestion raised by the respondent. It has been taken for granted that people without disabilities are aware of people with disabilities and so can easily live and cope with them. Lewis and Doorlag (2011) point out that the introduction to special education courses provide teachers with skills needed to deal with the complex and often perplexing diversity that lies behind the classroom door. In the same way, the introduction to special education course, Educating the individual with diverse learning needs (EBS 215), taught in CoEs has the objective of

preparing the student teachers to be able to identify and manage pupils with disabilities in their practice as teachers. The respondents see this as a good course not only for practice as teachers, but to help their peers without disabilities to understand and realise how to accommodate and live with them even at College before they go out.

Persistence among teacher-trainees with sensory impairment in CoEs

Another objective was to examine the level of persistence of TTSI in CoEs. In reaction to this question, some key statements such as; pursuing to earn a college diploma, peer support, dropping out and others were requested. Analyses revealed that respondents' commitment to earning a college diploma in their college was very strong. This implied that most of the respondents agreed that their commitment to earning a diploma certificate in their College was strong. Overall, these findings imply that the TTSI in the selected Colleges had high levels of persistence to attain their diploma and were not likely to drop out of college.

The results from the qualitative extracts showed that the majority of the respondents were ready to and are persisting in their Colleges. Their persistence was due to varied reasons. For most of the respondents, the view of the future and the possibility of having a good life motivated them to persist in college. When they considered living a comfortable life in the future, they were encouraged to look beyond the difficulties they encounter in the school to persist in obtaining the diploma. Other research has confirmed the connection between academic capacity and community college persistence (Allen,

Robbins, Casillas, & Oh, 2008; Burton & Ramist, 2001; Mattern & Patterson, 2009; Richardson, Abraham, & Bond, 2012). Academic achievement has also been shown to predict persistence (Allen et al., 2008; Porchea, Allen, Robbins & Phelps, 2010). There is some evidence that success in college completely mediates the relationship between academic capacity and persistence beyond the first year (Westrick & Robbins, 2012). Performance has been shown to predict persistence in some situations (Porchea et al., 2010). Furthermore, newer research indicates that first-year academic success mediates the impact of many commonly studied persistence-related variables (Allen & Robbins, 2010; Allen et al., 2008; Westrick & Robbins, 2012).

The findings in this study support that of Getzel and Thoma (2008) who revealed that self-determination skills are the key attitude of SWD in persisting through their Colleges. The determination to overcome all obstacles to be able to complete their academic pursuits successfully was what aids most students with disability. Some other respondents also indicated that their desire to achieve academic excellence as well as their current performance motivated them to persist. As students perform better, they are encouraged to keep studying to keep performing. The opposite may be correct such that if students do not perform well academically, such as getting referrals in some papers and scoring low marks relative to their peers, they may give up on their education.

Expectations may also affect how students respond to their academic environment and influence their decisions on whether or not to continue in

those fields of study, or college in general, since they provide context to their learning (Bosch, et al., 2008; Kuh et al, 2005; Pike, 2006). Meaningful learning experiences are critical for student retention, and it is critical for higher education institutions to incorporate valuable and enriching learning opportunities into their academic programmes. During the focus group discussions, a member from a group pointed out that, they do not come to the college before they learn to read and write with the Braille as well as sign language in the College, but are already abreast with those skills to aid them in succeeding in their programme of study. The respondent indicated that:

“.... so, if that person has gone to the SHS and has been admitted to the College, he/she knows how to use the Braille machines and Sign language already and so it is not the College that we learn them. With us, we need interpreters to support us here” (Group 8).

From another group, it was indicated that,

“this school, there is nothing here but with the help of the interpreters we are able to do well” (Group 4).

From the views of respondents in the focus group discussions, it could be concluded that students persist in their academic pursuit, despite the numerous challenges they encountered, because of the benefits such as earning a good salary when they are employed after completing the colleges, as well as the desire to achieve excellence. The results are consistent with Martin's findings (2015). Martin conducted a quantitative analysis at North Eastern Community College and discovered that GPA and retention status had

relatively strong associations. Martin's results showed that students were more likely to persist in their academic pursuit if they had a willingness to achieve excellence. In a similar vein, it has been discovered that students with poor first-semester grade point averages (GPA) are more likely to drop out (Mamiseishvili & Koch, 2012). Since attrition implies that students drop out of school, it can be inferred that poor academic performance does not aid in the persistence of students in college. Lack of belonging, rejection, difficulty adapting to social or academic difficulties associated with college, and difficulty with appropriate college-level courses are all reasons for SWD attrition (O'Keeffe, 2013; Prevatt, Welles, Li, & Proctor, 2010). Overall, the persistence of TTSI in Colleges is connected to the extent of belongingness, involvement, and self-determination (Belch, 2004). Therefore, approaching persistence from an ecosystemic perspective, it is important to minimise obstacles and barriers for TTSI, so that they can effectively achieve academic excellence while being involved within the school system.

Academic performance of teacher-trainees with sensory impairment in CoEs

The fourth research question sought to examine the academic performance of TTSI in the CoEs using their cumulative grade point average (CGPA) at the time the data was being collected. The results on the students' academic performance as in Table 5 reveal that teacher-trainees with Visual impairment performed better than their peers with hearing impairment. A Weiner (2003) position was that academic scores for students with visual

impairment would increase with the implementation of inclusion practices. Weiner further indicates that the average academic achievement of students with hearing impairment is considerably below that of their hearing peers. Based on the results of the study, it can be observed that the students with visual impairment perform better as they can hear what is being taught first hand as so do understand concepts better than their peers with HI. As they take on secondary information through their interpreters or read materials without getting much insight into them. This turns to affect their performance and so making the results of the study accurate.

Self-efficacy among teacher-trainees with sensory impairment in CoEs

Research question five was about the self-efficacy of TTSI in CoEs. The results on the self-efficacy of TTSI in CoEs can be found in Table 10. It shows that the respondents with VI agreed on nine factors out of 10 on their self-efficacy while the HI agreed to one of the items and disagreed with nine. It could be concluded that though the respondents had some level of self-efficacy, the VI had higher self-efficacy than the HI. Since they were in inclusive environments, item 1 in Table 10, “I am sure I can cope with being in an inclusive environment to study” was agreed upon by the VI (M=1.53). The HI had a lower self-efficacy (M=2.09). In the same way also, since they were performing well in their examinations, they could not disagree with the fact that they understood the ideas taught in the college and think they will receive good grades in their programmes (item 3 and 7 of Table 10).

This is a sign of the TTSI self-efficacy being high as they know they can achieve. This is in line with the statement of Bryan et al. (2011) that self-efficacy includes judgments about one's ability to accomplish a task and one's confidence in one's skills to perform that task. In addition to this, Linnenbrink and Pintrich (2003) point out that student's personal self-efficacy belief influences their participation in school. The belief that students have in their ability to do school work impacts their involvement and perseverance in the work. From the results of this study and the respondents' comment, it turns to show that the TTSI self-efficacy should to be enhanced to help them succeed in their programme of study. With this attitude in the TTSI in the Colleges, it could help them get satisfied. This will help in promoting their desire to persist and perform academically since they may not expect so much from the institution but rather build upon what they have.

Differences in the levels of satisfaction among students with visual impairment and hearing impairment

In general, the study's results showed that there are no differences in satisfaction levels between students with VI and those with HI. Thus, regardless of the type of sensory impairment, satisfaction among teacher-trainees with sensory impairments was the same. Since the majority of students were happy with their schooling and school experience, it is understandable that their degree of satisfaction did not vary significantly depending on their form of sensory disability. Students' educational experiences, programmes, and facilities are evaluated, and satisfaction is seen

as a short-term attitude arising from that assessment (Weerasinghe & Fernando, 2017). TTSI had varied feeling on their satisfaction. The hearing impaired being made to move to only one CoE to be trained to be teachers was unsatisfactory. The visually impaired had challenges with the resources. These notwithstanding, they indicated that being offered the opportunity to be educated made them satisfied.

Diaz et al. (2016) found that students with visual impairments do not experience trouble in school and thus were satisfied with the way the school operates as well as their experiences. Roberts et al. (2011) while studying satisfaction among students with disabilities at Mississippi State University found that these students were highly satisfied with their academic work as well as their social life. The findings from this current study corroborate that of Diaz et al. (2016) and Roberts et al. (2011). The findings of this study on the other hand contradict that of Augestad (2017) who reported that satisfaction was low among students with visual and other impairments in selected high schools in Boston. Factors such as extended intellectual growth of students, the positive impact of inclusive education on the personal values and attitudes of students, improved social interactions with staff and fellow students and a sense of belonging and connectedness with others could be associated with the satisfaction of TTSI in CoEs in Ghana.

Differences in the levels of persistence in students with visual impairment and hearing impairment

According to Salisu, Hashim, Mashi, and Aliyu (2020), persistence refers to a person's ability to persevere in the face of adversity and obstacles while exerting effort and bravery to achieve their long-term goals. For students, this persistence is a driving force to help them accomplish their educational, as well as individual objectives. The notion of persistence during difficulty is frequently described as a consequence of high inspiration or motivation. This study compared persistence between students with VI and those with HI in the CoEs in Ghana. Generally, the results communicate the idea that the level of persistence in students with VI and those with HI did not differ.

No research has explicitly investigated satisfaction, persistence, or academic performance among TTSI in CoEs in Ghana or elsewhere, according to the available literature. Garaigordobil and Bernarás (2009), for example, looked at persistence, self-concept, self-esteem, personality characteristics, and psychopathological symptoms in students with and without visual disability. There were no major differences in persistence between disability forms, according to the findings. Mamiseishvili and Koch (2011) looked into the persistence of students with disabilities in postsecondary institutions in the United States from their first to the second year. They discovered that regardless of the students' disability, they all had the same degree of perseverance. Schuck et al. (2019) observed similar results when they looked

at predictors of college attendance and persistence among students with visual impairments. Schuck et al. (2019) found no difference in the persistence of students with and without impairment and further attributed persistence to some factors such as help-seeking and social support. Results and findings from some previous research confirm the findings of this study.

Various elements could also account for similarities in the level of persistence in students with VI and those with HI. These include individual traits such as student's previous experiences, demographic factors such as socio-economic background, previous knowledge and skills, planning and management of resources, psychological attributes of the students and academic outcomes among other factors. It is also possible that institutional factors such as the presence of teaching and learning resources, ease of accessibility to needed information, positive attitude of staff and institutional supports could account for the similarities in the level of persistence in students with VI and those with HI.

Differences in the academic performance of students with visual impairment and those with hearing impairment

Most studies investigated academic achievement/performances in students with disabilities in general with few specifically on TTSI (Ahmad et al. 2012; Eguavoen & Eniola, 2016; Mwanyuma, 2016; Naz, 2017). This study however investigated the academic performance of TTSI in CoEs in Ghana among other variables (satisfaction and persistence). Academic performance can be described as the degree to which students accomplish their short-term

educational goals (Abe, et al, 2014). From this study, it was found that substantial differences existed in the academic performance of students with visual impairment and those with hearing impairment. The finding of the study suggested that academically, students with visual impairment perform better than those with hearing impairment (see Table 15).

A previous study by Eguavoen and Eniola (2016) also found that the academic performance of students with VI and HI differed significantly with students with VI performing better than those with HI. A Study by Ahmad et al. (2012) also compared academic performance between students with and without impairments at secondary level in Barramullah district (India). The study revealed that the academic performance of the students with impairment was lower than their normal peers. Although Ahmad et al. (2012) did not consider the performance of students with hearing impairment, it somewhat suggests that difference exists in the academic performance of the student with those with and without impairments. Naz (2017) also contends that academic performance is low in student with hearing impairment as compared to those with other forms of impairment such as visual impairment and other physical disabilities.

This study as well as previous studies outlined the idea that students with VI perform better academically than students with HI. Students with HI likely experience certain challenges that derail their performance. Such challenges could include the problems the TTSI discussed in connection to lack of interpreters, interpreters not signing for them information completely

and their (HI) inability to chance on audio information as to their other peers without hearing problems receive. Mwanyuma, (2016) observed that some of the challenges students with HI encounter are language deficiencies, inadequate knowledge and awareness, inability to relate effectively with society and unwillingness to collaborate with other students. There are other factors outside the student such as inappropriate curriculum and instructional procedures, lack of resource and limited institutional support, which could interact with other individual factors to affect the academic performance of the student with hearing impairment negatively.

Relationship between inclusive education experience and satisfaction of students with VI and HI

Since studies that focus on the relationship between students' inclusive experience and their satisfaction is limited, this study sought to establish a connection between student's inclusive education experience and their overall level of satisfaction in CoEs. This study revealed a significant positive association between inclusive education experience and student's satisfaction (see Table 17). From the results, the inclusive education experiences have a positive impact on the satisfaction of teacher-trainees with sensory impairments in CoEs in Ghana. Thus, a better inclusive education experience leads to high levels of satisfaction among TTSI, while poor inclusive experience results in low satisfaction among TTSI.

While previous studies have not specifically looked into the relationship between inclusive experience and student satisfaction, some previous results

are consistent with the findings of this report. Sachs and Schreuer (2011), for example, looked into the satisfaction, performance, and involvement of students with disabilities in higher education, as well as the positive relationship between their experiences and their level of satisfaction. Jessup et al. (2017) in examining the social experiences of high school students with VI and their satisfaction similarly found an association between students' experience and their satisfaction as well as a sense of inclusion. The uniformities in the findings of this study and previous studies cannot be overlooked; however other studies (Jessup et al., 2017; Sachs & Schreuer, 2011) have divergent views related to the relation between inclusive education experience and satisfaction among students with impairment.

The experiences of TTSI in CoEs in Ghana differ for each student. Whereas some students may interpret their experiences to be positive, others may have a different perspective. Generally, these experiences help shape the values, attitudes and perception of students. When students evaluate their experiences as positive, they are more likely to be satisfied with their education. In the same vein, when students have a negative appraisal of their experience, they are more likely not to be satisfied with their education, and social life.

Relationship between inclusive education experience and persistence of students with VI and HI

As part of the objectives of the study, there was the need to assess the relationship between inclusive education experience and persistence of TTSI

in CoEs in Ghana. From the results of the study, it was found that there was no statistically significant relation between inclusive education experience and students' persistence (see Table 21). Thus, inclusive education experience is not significantly related to the persistence level of teacher-trainees with sensory impairments in CoEs. This means that whatever experience TTSI has does not affect the persistence of these students.

Morelle (2016) who studied the challenges experienced by learners with VI in two mainstream schools described the experiences of VI learners and how they are truly included in the mainstream school found that students experience was significantly related to their commitment to persist. Also, according to Asamoah et al. (2018) who studied inclusive education, perception of visually impaired students, students without disability, and teachers in Ghana found that the experience of students has a great effect on their behaviour, attitude towards academic work and overall persistence. Thus, students are likely to suffer severe consequences when experiences are negative. Although these findings are significant in diverse ways, this study is in contrast to the findings since it points out that students' inclusive experiences do not affect their level of persistence. This study however revealed similar findings to a study conducted by Brydges and Mkandawire (2017). They concluded that a bad educational experience has a significant negative effect on the persistence level of the students with VI studied in Lagos, Nigeria. This means that the educational experience of students affects their persistence. Although this study had similar findings to the work of

Brydges and Mkandawire, there are differences in the samples, since they did not include students with HI in their study.

The general experience of TTSI in CoEs can have a long-term effect on their academic as well as their social lives. There is the tendency that such experiences could affect the persistence of students negatively or positively. It can be argued that a high level of persistence among TTSI in CoEs can affect their academic performance positively while the lack of persistence can have negative implication on their academic performance.

Relationship between inclusive education experience and academic performance of students with VI and HI

As part of the objectives of the study, there was the need to examine the relationship between inclusive education experience and academic performance of SS in CoEs. From the findings of the study, inclusive education experience has no significant effect on the academic performance of students (see Table 15). Although the results depict a positive relationship between inclusive education experience and students' academic performance: that as scores for inclusive education experience increase that of academic performance increase, this association was not statistically significant. Thus, inclusive education experience is not significantly related to the academic performance of TTSI in CoEs.

The findings from this study contradict the work of Kuyini and Mangope (2011) who investigated students' attitudes and concerns about inclusive education and its effect on academic performance. They found that a

positive educational experience for both students and teachers enhanced students' academic performance. Also, they found that a positive student-teacher attitude was one of the most important factors in the academic excellence of every individual. Papuda-Dolińska (2017) and Rishaelly (2017) also found that inclusive experience has a significant positive effect on the academic performance of TTSI. The discrepancies in the findings of this study and other previous research can be due to the contextual differences in the research and could also be due to the lack of empirical findings in this specific area of research.

Previous literature expresses that inclusive experiences of students with disabilities can affect academic performance (Dryer, Henning, Tyson, & Shaw, 2016; Ross, et al, 2012; Wolanin& Steele, 2004). The findings depict that the inclusive education experience significantly affects the academic performance of SWD. It is worth noting that various factors also affect the academic performance of SWD. These factors could be student-related (peer support), institution related and environmental factors (facilities, resources and so on).

Moderating role of self-efficacy in the relationship between inclusive education experience and satisfaction in students with VI and HI

The study sought to examine how self-efficacy of TTSI affects the relationship between inclusive education experience and satisfaction. From the findings of this study, self-efficacy does not moderate the relationship between inclusive education experience and satisfaction of TTSI (see Table 20). It can

be deduced that the inherent competencies and confidence of students does not affect how students experience in inclusive education setting affects how satisfied they are with their education and social life. The presence of self-efficacy did not enhance or decrease the effect of inclusive education experience on satisfaction. This does not however suggest that self-efficacy is not important because self-efficacy has been proven essential in helping an individual's development (Farrand et al, 2016).

Empirical studies by Dahlbeck and Lightsey (2008) revealed that self-efficacy plays a moderating role in the satisfaction and attitudes of TTSI in selected schools in California. Gutierrez (2014) also found that there is an association (that is moderating effect) that self-efficacy has on satisfaction. Recent research by UmamiHabibah (2018) who studied the moderating role of self-efficacy in the association between personality traits and experience of students with impairments also had similar findings. UmamiHabibah found that self-esteem moderated the relationships between students experience and extraversion, agreeableness and conscientiousness personality traits. The previous studies on the moderating role of self-efficacy do explicitly examine this moderating role in the relationship between inclusive education experience and student's satisfaction but they provide some information about how self-efficacy could affect the relationship between other relevant characteristics of teacher-trainees with sensory impairments. Again, it is clear that the findings from this study do not concur with the findings of previous research on the role self-efficacy plays in the relationship between inclusive

education experiences and satisfaction in teacher-trainees with sensory impairment.

Although self-efficacy did not moderate the relationship between student's inclusive education experience and satisfaction, it is important to note that self-efficacy is vital in developing certain skills such as good work ethic and involvement that are relevant to educational success. High self-efficacy in students with impairments can have a long term effect on how they relate to others both within and outside the school environment. The findings from this study are relatively different to other research findings that examined self-efficacy among students and its role in their inclusive experiences and satisfaction. These differences are possibly due to the difference in the major variables of study as well as variations in the study settings.

Moderating role of self-efficacy in the relationship between inclusive education experience and persistence of students with VI and HI

As part of the main objective of the study, there was the need to establish the moderating role in the relationship between inclusive experiences and persistence of teacher-trainees with sensory impairments in CoEs in Ghana. The moderation analysis revealed that self-efficacy is a significant moderator in the relationship between inclusive education experience and persistence among TTSI in CoEs (see Table 21). Thus, student's level of self-efficacy has a role to play in the relationship between the inclusive education experience and persistence of students with visual and hearing impairment. It was further revealed an increase in self-efficacy enhances the positive effect

inclusive education experience has on the persistence of TTSI. This, implying that when self-efficacy among TTSI is high, the impact IE experience has on the persistence level of students is improved. Self-efficacy therefore becomes an important factor influencing student persistence (Wright et al, 2013).

There was little empirical evidence on the moderating role of self-efficacy in the relationship between student's inclusive experience and their persistence. Jenson et al. (2011) did a study on perceptions of self-efficacy among Science, Technology, Engineering and Mathematics (STEM) students with disabilities and found that students with visual and or hearing impairment have their self-efficacy playing a role in their experience in inclusive education settings. Also, Dehghan et al. (2020) found that self-efficacy is a moderating variable of concern, in the relationship between commitment and the educational experience of students in inclusive education. They further found that student's commitment varies, since the level of self-efficacy in itself is not constant and or the same in every individual and thus depicts an effect of it on the variables. Memis (2020) also indicates that self-efficacy is associated with both educational experience and level of persistence. This explains that students learning strategies are indications of experiences they may have gone through. These empirical findings communicate the idea that student's self-efficacy has a moderating role to play in the relationship between inclusive education experience and level of persistence and this is in support of the findings of this study. Although these previous studies examined different constructs among students with impairment, it reveals the

relevant role of self-efficacy in improving student's commitment, which could impact their academic work.

The moderating role of self-efficacy in the relationship between inclusive education experience and academic performance of students with HI and

VI

The final objective of the study sought to examine the interaction effect self-efficacy plays in the relationship between inclusive education experiences and academic performance of TTSI. From the findings of this study, self-efficacy does not have an interaction effect in the relationship between inclusive education experience and academic performance of TTSI (see Table 22). It can be inferred that the intrinsic capabilities and self-confidence of students does not affect the associated relationship between student's experiences in inclusive education setting which affects their overall academic performance. The presence of self-efficacy did not enhance the relationship between inclusive experiences and academic performance of TTSI. This finding nevertheless does not limit the importance of self-efficacy in promoting the academic performance of students in general.

The findings from this study have some variation with previous research. For instance, Hampton and Mason (2003) studied the role of self-efficacy and how it affected the performance of students with some form of disabilities. They found that self-efficacy either increased or decreased the level of academic performance. Leyser et al. (2011) also found that the intensity of training was associated with self-efficacy, and further revealed that

self-efficacy moderated the relationship between study habits and academic performance of students with disabilities. Shahed et al. (2016) also examined academic performance, self-efficacy and perceived social support of students with VI and found that self-efficacy moderated the relationship between social support and academic performance. The findings from these studies (Hampton & Mason, 2003; Leyser et al., 2011; Shahed et al., 2016) though focused on some other variables; established that self-efficacy had a moderating role on the academic performance of students.

It is evident that studies on the relationship and moderating role of self-efficacy among students with VI and HI are limited, thus the findings from this study are relatively different and could serve as bases for future research to be conducted. The importance of self-efficacy has been stressed that it is important to examine the role it plays in the academic performance of the TTSI to their inclusive experiences in the CoEs.

Chapter Summary

This chapter dealt with the analyses of data and presented the results and discussion of findings. The results were presented based on the objectives that guided the study. The results were presented in three sections. The first section touched on the demographic data, the second outlined the results from the quantitative data while the third section presented the results from the qualitative extracts. The findings from the quantitative data and qualitative extracts were employed to make meaningful comparisons, syntheses and

evaluation. Findings were discussed in line with the empirical literature reviewed.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the summary of the findings, conclusion and recommendations of the study. It gives a general overview of the entire thesis by recapping the various chapters. This includes the overview of the purpose of the study, the research questions and hypotheses which guided the study, the research methods that were employed and the findings. The final part of the study looks at the recommendations and implications of the study as well as some suggestions for further research.

Summary

The study looked at the impact of inclusive education interactions on teacher-trainees with sensory impairment (TTSI) and their satisfaction, persistence, and academic success in Ghanaian colleges of education (CoEs), as well as the moderating function of self-efficacy. The thesis investigated five research questions and put nine theories to the test (as stated in chapter 1, from page 18 to 20). The research was conducted using a convergent parallel mixed-methods design. To obtain a deeper understanding of the research problem, the approach included the use of both qualitative and quantitative data. The study's target population was all TTSI in Ghana's colleges of

education during the 2019 academic year. The research included a total of 66 TTSI (either visually or hearing impaired).

Data was gathered using a questionnaire and a discussion guide for focus groups. Means and standard deviations were used to analyze all of the study questions from one to five. The independent samples t-test was used to test hypotheses one through three, the correlation matrix (Pearson r) was used to test hypotheses four through six, and Hayes' PROCESS macro was used to analyze hypotheses seven through nine. Reflexive Thematic analysis was used to analyze the qualitative extracts, as described by Braun and Clarke (2019). The study's main results are summarised in the ensuing paragraphs.

Key Findings

1. The findings from the study indicated that TTSI receive good emotional support systems as well as peer support for which they appreciated as positive inclusive experiences on campus. However, the teacher-trainees with visual impairment had mobility problems with the physical accessibility of the Colleges which impeded their movement on campus.
2. The study found that TTSI's in the CoEs in Ghana are generally satisfied with the Inclusive Education Experiences in the Colleges. Most of the TTSI were satisfied with their interactions and connection with their peers and tutors which impacted their intellectual growth. The level of satisfaction of the TTSI was better on educational issues compared to social issues. However, some TTSI were not satisfied with

some things like facilities which were either not available or were not in a good state that affected their education in the Colleges.

3. Again, the study revealed that TTSI had a high level of persistence in continuing College to attain a diploma. They were willing to pursue their studies in their Colleges till they graduated. Overall, it was shown that TTSI persisted in their academic pursuit despite the numerous challenges they encountered. This was as a result of the benefits that come with having a qualified certificate. Such benefits include gaining a job and earning a good salary after graduating and the desire to achieve excellence.
4. The study revealed that the students with VI performed better academically than their colleagues with HI.
5. Another finding that emerged from the study indicated that TTSI had high self-efficacy which motivated them in their Colleges. Specifically, the students with VI show a high sense of self-efficacy compared to their counterparts with HI. The majority of TTSI had the conviction that they can succeed in their educational pursuit to come out successfully as professional teachers.
6. Besides, it was discovered that there was no substantial difference in satisfaction levels based on the type of sensory disability. TTSI were found to be pleased with their schooling and school experience.
7. Furthermore, the current study discovered that there was no substantial difference in persistence between VI and HI students.

8. It was identified in the study that there was a significant positive association between inclusive education experience and satisfaction of TTSI.
9. From the results of the study, it was found that there was no statistically significant relation between inclusive education experience and students' persistence.
10. The results depicted a positive relationship between inclusive education experience and students' academic performance: thus, as scores for inclusive education experience increased, that of academic performance also increased.
11. Finally, it came out that self-efficacy was a significant moderator in the relationship between inclusive education experience and persistence among TTSI in CoEs but it did not moderate the relationship between inclusive education experience and satisfaction as well as academic performance of TTSI.

Other Findings

The study also showed that there were some challenges TTSI went through. These included not receiving learning materials in accessible formats, and the lack of assistive technology support for TTSI. Financial challenges, bad perceptions about disabilities and the lack of material resources to aid learning were also seen as factors that obstructed inclusive education. For TTSI, these issues made their stay on IE campuses difficult. These could be

classified as some of the major barriers to inclusive education in CoEs in Ghana.

Conclusions

Effective Inclusive education experiences can be built through structured interventions. However, it is crucial for teacher-trainees with sensory impairment (TTSI) in Colleges of Education (CoE) to come out successfully in their education. The study examined the impact of inclusive experiences on satisfaction, persistence and academic performance of teacher-trainees and the moderating role of self-efficacy. It was realised that teacher-trainees had varied experiences on campus, while they felt welcomed into the inclusive institution; they also felt the Colleges were not well prepared to meet their needs. The physical environment was not conducive for the VI on campus. These notwithstanding, most of the teacher-trainees expressed satisfaction with their Colleges. Satisfaction is a major variable in the success of TTSI in CoE. The study revealed that TTSI appear satisfied especially for the fact that they feel belonged in their Colleges. Teacher-trainees also had high persistence levels, which makes them confident in pursuing their studies successfully. There was no significant difference between the persistence levels of the teacher-trainees with sensory impairment. Even though they feel satisfied and are persisting to graduate successfully, the needed educational resources such as assistive technology, interpreters and financial support to enable them to go through their studies easily. Academically, they were doing well but felt their peers without disabilities had an upper hand over them. The

teacher-trainees with visual impairment performed better academically than their peers with hearing impairment in the College. Teacher-trainees had high self-efficacy but it was realised that self-efficacy moderated inclusive experiences and the level of persistence of TTSI but not satisfaction and academic performance. For this reason, it is expedient to get better the self-efficacy of TTSI by improving upon the resources (human and material) to aid in satisfaction, persistence and academic performance in Ghanaian Colleges of Education.

Contributions to Knowledge

This section outlines the study's key contribution to awareness about IE in Ghanaian CoEs. According to Creswell (2012), any research's potential to add to information can be demonstrated in four ways. This includes coming up with a definition, thinking about the methodology, building on a previous analysis, and being able to pivot. The contribution of this study is divided into two main subsections; contributions to the literature and recommendations; under which implications for policy and educational practice and research are provided.

Contribution to Literature

This study to the best of my knowledge and research seem to be the first study in this area of IE in Ghana. Most of the studies available have been in Basic and Senior High Schools which are mostly on inclusive practices, perception and attitudes of teachers, parents and availability of facilities but not on the impact of inclusive education experiences on satisfaction, persistence

and academic performance of teacher-trainees with sensory impairment and the moderating role of self-efficacy in Colleges of Education. The instruments used can be adopted or adapted for use in further studies in the area or in similar situations.

Recommendations

Based on the study, the following recommendations are made under implications for practice and policy.

Implication for Practice:

1. College authorities should work with the MoE and agencies concerned with disability issues in the society to provide comfortable environment on College campuses for TTSI. Providing a comfortable environment should include facilities and resources needed for the TTSI to learn effectively. It also involves physical arrangement of the campus environment. The TTSI, regardless of their disabilities, should be provided with an environment where their movement, their studies, their interactions with their peers and tutors are made easier to develop satisfaction.
2. College staff should organise intermittent outreach and guidance programme aimed at encouraging TTSI to persist in the College regardless of the challenges they may face. This will increase their self-efficacy to persist to complete their programmes successfully.
3. Tutors and resource persons should transcribe or audio-record learning materials printed in readable form for teacher-trainees with VI and should be delivered on time to facilitate academic work.

4. Respondents during the focus group discussions came out with some recommendations captured under other findings which was not directly part of the study but was seen to be expedient. They recommend that curriculum developers for the Colleges should change the year and semester the Special education course is taught from second year second semester to the first semester of the first year. This is to help teacher-trainees without disabilities get to know more about those with disabilities and learn to live with them to make them welcomed and satisfied.

Implication for Policy:

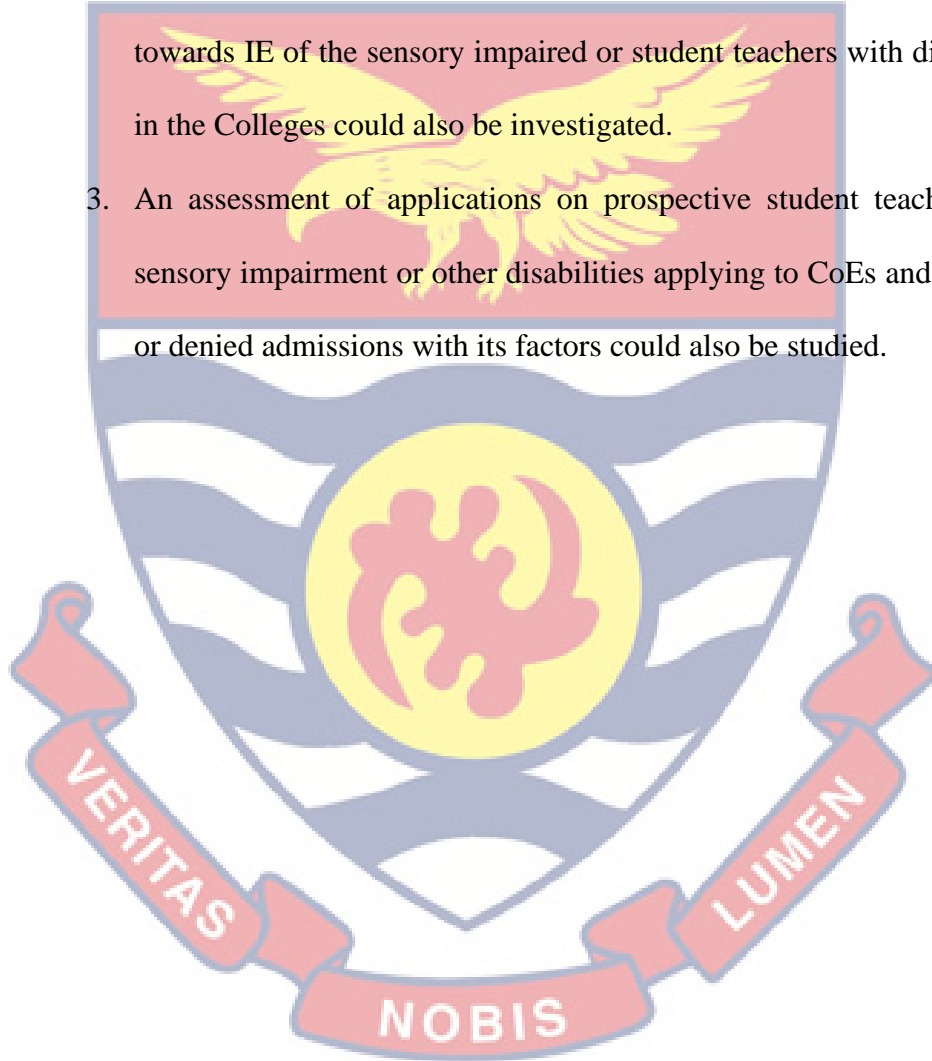
5. The Ministry of Education (MoE), the Ghana Tertiary Education Commission (GTEC) and Governing Councils of Colleges of Education would have to review their policy on CoEs to accredit if not all the Colleges, at least one in every region to enrol TTSI. This would ease some of the challenges TTSI go through with travelling to distant places to access College of Education as this came out as a major challenge for the teacher-trainees, especially those with hearing impairment.

If these recommendations are observed, it would help to minimise the challenges that TTSI face in the Colleges and subsequently improve on their satisfaction, persistence and academic performance.

Suggestions for Further Research

Based on the findings and limitations of the study, the following suggestions are made for further research:

1. The current study focused on only teacher-trainees with sensory (visual and hearing) impairment, as such future researchers can investigate the inclusive experiences of other teacher-trainees with different types of disabilities in Ghana.
2. The coping strategies of staff and student teachers without disabilities towards IE of the sensory impaired or student teachers with disabilities in the Colleges could also be investigated.
3. An assessment of applications on prospective student teachers with sensory impairment or other disabilities applying to CoEs and admitted or denied admissions with its factors could also be studied.



REFERENCES

- Abe, I. I., Ilogu, G. C., & Madueke, L. I. (2014). Effects of goal-setting on students' academic performance in English language in Enugu Nigeria. *New Approaches in Educational Research*, 3(2), 93-99.
- Abeywickrama, S. P., Jayasinghe, I. K., & Sumanasena, S. P. (2013). Excluded in inclusive schools: Experiences of children with disabilities, their families and teachers in Sri Lanka. *Disability, CBR and Inclusive Development*, 24(1), 115-129.
- Adams, D., Harris, A., & Jones, M. S. (2016). Teacher-parent collaboration for an inclusive classroom: Success for every child. *Malaysian Online Journal of Educational Sciences*, 4(3), 58-72.
- Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through College*. Washington, DC: U.S. Department of Education.
- Admission into Colleges of Education 2019/2020 academic year. (2019, March 25). *Daily Graphic*, p. 11.
- Adoyo, P. O. (2008). *Educating deaf children in an inclusive setting in Kenya: Challenges and considerations*. Nairobi: University of Kenya.
- Agyire-Tettey, M. E. E., Cobbina, M., & Hamenoo, E. S. (2017). Academic Challenges of Students with Hearing Impairment (SHIs) in Ghana. *Disability, CBR & Inclusive Development*, 28(3), 127-150. doi: <http://doi.org/10.5463/dcid.v28i3.646>.

Ahmad, P. A., Hamid, M. M., & Ganaie, M. Y. (2012). Self-concept, level of aspiration and academic achievement of physically challenged and normal students at secondary level in district Barramullah. *Research on Humanities and Social Sciences*, 2(2), 61-66.

Ainscow, M. (2005). Understanding the development of inclusive education system. *Electronic Journal of Research in Educational Psychology*, 3(3), 5-20.

Ainscow, M., Booth, T., & Dyson, A. (2004). Understanding and developing inclusive practices in schools: a collaborative action research network. *International Journal of Inclusive Education*, 8(2), 125-139.

Ainscow, M., & Miles, S. (2008). "Making education for all inclusive: Where next?" Prospects. *Quarterly Review of Comparative Education* 38(1), 15-34.

Ajuwon, P. M., & Oyinland, A. O. (2008). Educational placement for children who are blind or have low vision in residential and public schools: A national study of parents' perspectives. *Journal of Visual Impairment and Blindness*, 102(6), 325-339.

Akerman, P. L. B. (2008). *A study on work satisfaction of special education paraprofessionals based on the index of work satisfaction questionnaire*. Unpublished doctoral dissertation, West Florida: University, West Florida.

- Allen, J. D., & Robbins, S. B. (2010). Effects of interest-major congruence, motivation, and academic performance on timely degree attainment. *Journal of Counseling Psychology, 57*(1), 23–35.
- Allen, J. D., Robbins, S. B., Casillas, A., & Oh, I. S. (2008). Third-year college retention and transfer: Effects of academic performance, motivation, and social connectedness. *Research in Higher Education, 49*(4), 647–664.
- Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies, 6*(2), 1-18.
- Alquraini, T., & Gut, D. (2012). Critical components of successful inclusion of students with severe disabilities: Literature review. *International Journal of Special Education, 27*(1), 42-59.
- AlShahrani, M. M. (2014). *Saudi educators' attitudes towards deaf and hard of hearing inclusive education in Jeddah, Saudi Arabia*. Unpublished doctoral thesis, University of Exeter, England.
- Al-Sheeb, B., Hamouda, A. M., & Abdella, G. M. (2018). Investigating determinants of student satisfaction in the first year of college in a Public University in the State of Qatar. *Education Research International* Article ID 7194106
- Ametepe, L. K., & Anastasiou, D. (2015) Special and inclusive education in Ghana: Status and progress, challenges and implications. *International Journal of Educational Development, 41*(1), 143–152.

- Anastasiou, D., & Keller, C. (2014). Cross-national differences in special education coverage: An empirical analysis. *Exceptional Children*, 80(3), 353–367.
- Ansell, C. (2011). *Pragmatist democracy: Evolutionary learning as public philosophy*. New York, NY: Oxford University Press.
- Ansell, C., & Boin, A. (2019). Taming deep uncertainty: The potential of pragmatist principles for understanding and improving strategic crisis management. *Administration & Society*, 51(7), 1079-1112. DOI:10.1177 /0095399717747655
- Anthony, J. (2011). Conceptualising disability in Ghana: Implications for EFA and inclusive education, *International Journal of Inclusive Education*, 15(10), 1073-1086.
- Artiles, A. J., & Dyson, A. (2005). Inclusive education in the globalization age: The promise of comparative cultural historical analysis. In D. Mitchell (Ed.) *Contextualizing Inclusive Education* (pp. 37 - 62). London: Routledge.
- Asamoah, E., Ofori-Dua, K., Cudjoe, E., Abdullah, A., & Nyarko, J. A. (2018). Inclusive education: Perception of visually impaired students, students without disability, and teachers in Ghana. *SAGE Open Journals*, 8(4), 1-11.
- Ashigbi, E. Y. K., Torgbenu, E., & Danso, A. K. (2018). Mobility challenges of persons with disabilities in a University in Ghana. *Journal of Disability Studies*, 3(1), 12-18.

- Augestad, L. B. (2017). Self-concept and self-esteem among children and young adults with visual impairment: A systematic review. *Cogent Psychology*, 4(1), 1319652.
- Avoke, M. (2005). Inclusive education for persons with disabilities: general overview, *African Journal of special educational needs*, 4(1), 1-18.
- Awanta, E. K., & Asiedu-Addo, S. K. (2008). *Essential statistical techniques in research. For universities, colleges and research institutions*. Accra: Salt 'N' Light Publishers.
- Ayiah, E. M. (2017). "Provision of assistive technologies in academic libraries to students with visual impairment in Ghana: A case study of the University of Education, Winneba, Ghana" *Library Philosophy and Practice (e-journal)*. 1679. Retrieved from <https://digitalcommons.unl.edu/libphilprac/1679>
- Bamu, B. N., De Schauwer, E., Verstraete, S., & Hove, G. V. (2017) Inclusive education for students with hearing impairment in the regular secondary schools in the North-West Region of Cameroon: Initiatives and challenges. *International Journal of Disability Development and Education*, 64(6), 612-623. DOI: 10.1080/1034912X.2017.1313395
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.

- Barnes, C., & Mercer, G. (2005). Disability, work, and welfare: Challenging the social exclusion of disabled people. *Work Employment & Society*, 19(3), 527-545.
- Bashir, R. (2005). *Students with hearing impairment in inclusive classrooms*. In Proceedings of the 2nd International Conference on Inclusive Education: Innovations in Inclusive School Development: *Hong Kong*. Basic Education Division, Ghana Education Service. (2004). *The development of education: National report of Ghana*. Paper presented at the 47th Session of the International Conference on Education, Geneva, Switzerland.
- Baumgartner, T. A., Strong, C. H., & Hensley, L. D. (2002). *Conducting and reading research in health and human performance* (3rded.). New York: McGraw-Hill.
- Bean, J. P. (1982). Student attrition, intentions, and confidence: Interaction effects in a path model. *Research in higher education*, 17(4), 291-320.
- Bean, J. P. (2005). Nine themes of College student retention. In A. Seidman (Ed.), *College student retention: Formula for student success* (pp. 215-244). Westport, CT: Praeger.
- Bean, J. P., & Vesper, N. (1994). *Gender differences in College student satisfaction*. Paper presented at the annual meeting of the Association for the Study of Higher Education, Tucson, AZ.
- Behrman, C. (2012). *Disability and impairment. Disabling barriers-enabling environments*. London: SAGE Publications Inc.

- Belch, H. A. (2004). Retention and students with disabilities. *Journal of College Student Retention*, 6(1), 3-22.
- Berger, J. B., & Lyon, S. C. (2005). Past to present: A historical look at retention. In A. Seidman (Ed.), *College student retention: Formula for student success* (pp. 1-29). Westport, CT: Praeger Publishers.
- Bliss, C. M. (2017). *Include me: The impact of consultation dosage and strategies on the implementation of best practices in inclusive classrooms*. Unpublished doctoral thesis, University of Pittsburgh, Pennsylvania.
- Booker, Q. E., & Rebman, C. E. (2005). E-Student retention: factors affecting customer loyalty for online program success. *Issues in Information Systems* 6(1), 183–189.
- Bosch, W. C., Hester, J. L., MacEntee, V. M., MacKenzie, J. A., Morey, T. M., & Nichols, J. T. (2008). Beyond lip service: An operational definition of “learning-centered College”. *Innovative Higher Education*, 33(2), 83-98.
- Botts, B. H., & Owusu, N. A. (2013). The state of inclusive education in Ghana, West Africa. *Preventing School Failure*, 57(3), 135–143.
- Boutin, D. L. (2008). Persistence in postsecondary environments of students with hearing impairments. *Journal of Rehabilitation*, 74(1), 25-31.
- Braun, V., & Clarke, V. (2019). Reflexive thematic analysis. *Qualitative Research in Sports*, 11(1), 1-9.

- Braun, A. M. B., & Naami, A. (2019): Access to higher education in Ghana: Examining experiences through the lens of students with mobility disabilities, *International Journal of Disability, Development and Education*, 68(1), 95-115. DOI: 10.1080/1034912X.2019.1651833
- Breslow, B. R. (2007). *Exploration of experiences influencing the academic achievement of university students with learning disabilities in persistence to graduation*. Unpublished doctoral thesis, Iowa State University, Iowa, United States.
- Brulé, E., & Finnigan, S. (2020). *Thematic analysis in HCI*. <https://sociodesign.Hypotheses.org/555>
- Bryan, R. R., Glynn, S. M., & Kittleson, J. M. (2011). Motivation, achievement, and advanced placement intent of high school students learning science. *Science education*, 95(6), 1049-1065.
- Bryant, J., & Bodfish, S. (2014) “*The relationship of student satisfaction to key indicators for colleges and universities*,” Noel-Levitz, Inc., Cedar Rapids, IA, USA, 2014 National Research Report.
- Brydges, C., & Mkandawire, P. (2017). Perceptions and concerns about inclusive education among students with visual impairments in Lagos, Nigeria. *International Journal of Disability, Development and Education*, 64(2), 211-225.
- Bryman, A. (2008). *Social research methods*. England: Oxford University Press

- Bui, X., Quirk, C., Almazan, S., &Valenti, M. (2010). Inclusive education research and practice. *Maryland Coalition for Inclusive Education*, 1-14.
- Burton, N., & Ramist, L. (2001). *Predicting success in college: SAT studies of classes graduating since 1980* (Research Report No. 2001-2). New York, NY: The College Board.
- Burrus, J., & Roberts, R. D. (2012). Dropping-out of high school: Prevalence, risk factors, and remediation strategies. *R & D Connections*, 18(1), 1-9.
- Butt, B. Z., & UrRehman, K. (2010). A study examining the students satisfaction in higher education. *Procedia-Social and Behavioural Sciences*, 2(2), 5446–5450.
- Chamorro-Premuzic, T., & Furnham, A. (2008). Personality, intelligence and approaches to learning as predictors of academic performance, *Personality and Individual Differences*, 44, 7, 1596-1603
- Chapolt, P., Darla, C., Johnson, R., & Karandjeff, K. (2015). *Beyond Financial Aid*. Indianapolis, IN: Lumina Foundation Community
- Chapman, R. (2018). *What is data analysis in research and how to do it?* Retrieved from <http://limeproxies.com/>
- Chauhan, N., &Mantry. S. (2018). Inclusive education: Need of the day. *International Journal of Humanities and Social Science Invention (IJHSSI)*,7(10), II, 24-32.

Cheng, S., Zhang, L. F., & Hu, X. (2016). Thinking styles and university self-efficacy among deaf, hard-of-hearing, and hearing students. *Journal of Deaf Studies and Deaf Education*, 21(1), 44-53.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed) Canada: Routledge

Coleman, L. M. (2015). *TRIO's Student Support Services program: Participant perspectives on program components that impact student persistence toward bachelor degree attainment*. Unpublished doctoral dissertation, Capella University, Minneapolis, Minnesota.

Creswell, J. W. (2012). *Educational research, planning, conducting, and evaluating quantitative and qualitative research* (4thed). Boston: Pearson.

Creswell, J. W. (2013). Steps in Conducting a Scholarly Mixed Methods Study. *DBER Speaker Series*, 48. Retrieved from <http://digitalcommons.unl.edu/dberspeakers/48>

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed). London: SAGE Publications, Inc.

Creswell, J. W., & Plano-Clark, V. L. (2018). *Designing and conducting mixed methods research*. (3rded.). Thousand Oaks, California: SAGE Publications, Inc.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry & Research Design Choosing Among Five Approaches* (4thed.) Thousand Oaks, California: SAGE Publications, Inc.

Cummins, R., & Tomy, A. (2011). The subjective wellbeing of high-school students: validating the personal wellbeing index-school children. *Social Indicators Research*, 101(3), 405–418. doi: 10.1007/s11205-010-9668-6

Dahlbeck, D. T., & Lightsey Jr, O. R. (2008). Generalized self-efficacy, coping, and self-esteem as predictors of psychological adjustment among children with disabilities or chronic illnesses. *Children's Health Care*, 37(4), 293-315.

Dalebout S., Martinez, E. A., & Hallahan, D. P. (2014). *Hearing impairment - School programmes, teaching methods*. Retrieved from <http://www.education.StateUniversity.com2039/Hearing-Impairment.html#ixzz41Bu7EMI1>

Dakwa, F. E. (2009). *Views of children with visual impairment on the challenges of inclusion*. Retrieved from <http://www.researchgate.net/publication/272343183>

Dahlbeck, D. T., & Lightsey Jr, O. R. (2008). Generalized self-efficacy, coping, and self-esteem as predictors of psychological adjustment among children with disabilities or chronic illnesses. *Children's Health Care*, 37(4), 293-315.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development, *Applied Developmental Science*, 24(2), 97-140. DOI:10.1080/10888691.2018.1537791

- Dehghan, F., Kaboudi, M., Alizadeh, Z., & Heidarisharaf, P. (2020). The relationship between emotional intelligence and mental health with social anxiety in blind and deaf children. *Cogent Psychology*, 7(1), 1716465.
- Deku, P., Mantey, E. K. L., & Gyimah, E. K. (2013). Effects of social inclusion of children with down's syndrome on peers without disabilities in Cape Coast, Ghana. *Journal of Counselling, Education and Psychology*, 3(2), 154-171.
- Deku, P., & Vanderpuye, I. (2017). Perspectives of teachers regarding inclusive education in Ghana. *International Journal of Whole Schooling*, 13(3), 39-54.
- DeWitz, S. J., & Walsh, W. B. (2002). Self-efficacy and college student satisfaction, *Journal of Career Assessment*, 10(3), 315–326. doi: 10.1177/10672702010003003
- Dhaqane, M. K. & Afrah, N. A. (2016). Satisfaction of students and academic performance in Benadir University, *Journal of Education and Practice*, 7(24), 59–63.
- Diaz, M., Hoag, L., Shasteen, B., Schade, B. P., & Larwin, K. H. (2016). Perspectives of the educational experiences of students with visual impairments. *European Journal of Special Education Research*, 7(5), 16-28.

Disabled World (2018). News and informative articles relating to current health and disability issues in Africa and South Africa. *Disabled World*. DW#444-17.172.98-5c. Retrieved from <http://www.disabled-world.com/news/Africa/>>Africa.

Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017). Self-efficacy, satisfaction, and academic achievement: the mediator role of Students' expectancy-value beliefs. *Frontiers in Psychology*, 8, 1193-1198.

Dryer, R., Henning, M. A., Tyson, G. A., & Shaw, R. (2016) Academic Achievement Performance of University Students with Disability: Exploring the Influence of Non-academic Factors, *International Journal of Disability, Development and Education*, 63(4), 419-430.

Duthey, B. (2013). *Background paper 6.21 hearing loss*. Geneva: WHO Int.

Eckes, S., & Ochoa, T. (2005). Students with disabilities: Transitioning from high school to higher education. *American Secondary Education*, 33(3), 6-20.

Effah, P. (2011). A Ghanaian response to the study on 'widening participation in higher education in Ghana and Tanzania: Developing an equity scorecard. *Research in Comparative and International Education*, 6(4), 374 – 382.

Efron, B. (2014). Estimation and accuracy after model selection. *Journal of the American Statistical Association*, 109 (507), 991-1007.

- Eguavoan, E. O., & Eniola, M. S. (2016). Influence of self-concept and social acceptance on academic achievement of students with visual impairment in Oyo State, Nigeria. *AFRREVIJAH: An International Journal of Arts and Humanities*, 5(3), 213-230.
- Eide, A. H., & Loeb, M. E. (2005). *Data and statistics on disability in developing countries*. Report to the Disability Knowledge and Research Programme (DfID).
- Ekwueme, M. B. (2003). Problems facing the field of special education in Nigeria and the way forward. *Journal of Research in Special Educational Needs*, 6(1), 27-36.
- Elliott, K., & Healy, M. (2001). Key factors influencing student satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education*, 10(4), 1-11.
- Eriks-Brophy, A., Durieux-Smith, A., Olds, J., Fitzpatrick, E., Duquette, C., & Whittingham, J. (2006). Facilitators and barriers to the inclusion of orally educated students and youth with hearing loss in schools: Promoting partnerships to support inclusion. *The Volta Review* 106(1), 53-68.
- Evans, N. J., Forney, D. S., & Guido-DiBrito, F. (2000). Student development in college: Theory, research and practice. *The Journal of General Education* 49 (3), 231-234. DOI:10.1353/jge.2000.0018

- Farooq, A.H. Chaudhry, M. Shafiq, G. Berhanu (2011), Factors affecting students quality of academic performance, *Journal of Quality and Technology Management* 6 (2), 1-14.
- Farrand, K., Wild, T. A., & Hilson, M. P. (2016). Self-efficacy of students with visual impairments before and after participation in an inquiry-based camp, *Journal of Science Education for Students with Disabilities* 19(1), 50-60.
- Farrell, P., & Ainscow, M. (2002). *Making special education inclusive: From research to practice*. New York, NY: Routledge.
- Farrell, P., Ainscow, M., Howes, A., Frankham, J., Fox, S., & Davis, P. (2004). Inclusive education for all: Dream or reality. *Journal of International Special Needs Education*, 7(7), 1-11.
- Ferrante, C. A. (2012). *A case study of inclusion and diversity: A whole school approach using the social model of disability*. Unpublished doctoral thesis, University of Northumbria, Newcastle upon Tyne England.
- Fichten, C. S., Nguyen, M. A., Asuncion, J., Martiniello, N., Jorgensen, M., Budd, J., Amsel, R., & Libman, E. (2016). An exploratory study of college and university students with visual impairment in Canada: Grades and graduation. *British Journal of Visual Impairment* 34(1)91-100
- Flook, L., Repetti, R. L., & Ullman, J. B. (2005). Classroom Social Experiences as Predictors of Academic Performance. *Developmental Psychology*, 41(2), 319–327.

- Florian, L., Black-Hawkins, K., & Rouse, M. (2017). *Achievement and inclusion in schools* (2nded.). London: Routledge.
- Florian, L., & McLaughlin, M. J. (2008). *Disability classification in education: Issues and perspectives*. California: Corwin Press.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8thed.). New York: McGraw-Hill.
- Furnham, A., Chamorro-Premuzic, T., & McDougall, F. (2003). Personality, cognitive ability, and beliefs about intelligence as predictors of academic performance, *Learning and Individual Differences*, 14, 1, 47-64,
- Garaigordobil, M., & Bernarás, E. (2009). Self-concept, self-esteem, personality traits and psychopathological symptoms in adolescents with and without visual impairment. *The Spanish Journal of Psychology*, 12(1), 149-160.
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2009). *Educational research: Competencies for analysis and applications* (9thed). Upper Saddle River, New Jersey: Prentice Hall.
- Getzel, E. E., & Thoma, C. A. (2008). Experiences of college students with disabilities and the importance of self-determination in higher education settings. *Career Development for Exceptional Individuals*, 31(2), 77-84.

- Ghana Education Service (2003). *Increasing access to quality basic education for children with special needs: Special education project with VSO, GES* [Brochure]. Accra, Ghana: Author.
- Ghana Statistical Service (2014). *2010 population and housing census*. Accra: Ghana Statistical Service.
- Ghana Statistical Service (2019). *Geographical Information Systems*. Accra: Ghana Statistical Service.
- Gleason, P., & Dynarski, M. (2002). Do we know whom to serve? Issues in using risk factors to identify dropouts. *Journal of Education for Students Placed at Risk*, 7(1), 25-41.
- Glynn, S. M., Brickman, P., Armstrong, N., & Taasobshirazi, G. (2011). Science motivation questionnaire II: Validation with science majors and nonscience majors. *Journal of Research in Science Teaching*, 48(10), 1159-1176.
- Gore, P. A., Leuwerke, W. C., & Turley, S. E. (2005). A psychometric study of the college self-efficacy inventory. *Journal of College Student Retention: Research, Theory and Practice*, 7(3), 227-244. doi:10.2190/5CQF-F3P4-2QAC-GNVJ.
- Gyimah, E. K. (2006). *Teacher attitudes to inclusion in Ghana*. Unpublished doctoral thesis, University of Leeds, West Yorkshire, England.

Gyimah, E. K., Dankwa, J. A., & Mantey, E. K. L. (2019). *Psychology and education of exceptional individuals: An introduction to special education* (2nded.). Cape Coast: Patmo Print. ISBN: 978-9964-3-9073-4

Gyimah, E. K., Kwarteng, A. J., Anane, E., & Nkrumah, I. K. (2016). Lecturers perception on students appraisal of courses and teaching: A case of University of Cape Coast, Ghana. *International Journal of Research in Commerce, IT Management* 6(9), 21-27.

Gyimah, E. K., Sugden, D., & Pearson, S. (2008). An investigation into the emotional reactions to inclusion of Ghanaian mainstream teachers. *Support for Learning*, 23(2), 71-73.

Gupta, S. S., Henninger IV, W. R., & Vinh, M. E. (Eds) (2014). *How do children benefit from inclusion? First steps to preschool inclusion: how to jumpstart your programwide plan*, Baltimore, MD: Brookes.

Gutierrez, J. M. (2014). *Self-efficacy and job satisfaction in Hispanic/Latino vocational rehabilitation participants with learning disabilities* Unpublished doctoral dissertation, Walden University, Minneapolis, Minnesota, United States.

Hallahan, D. P., & Kauffman, J. M. (2002). *Exceptional children: Introduction to special education*. (8thed.) Boston: Alyn and Bacon.

Hampton, N. Z., & Mason, E. (2003). Learning disabilities, gender, sources of efficacy, self-efficacy beliefs, and academic achievement in high school students. *Journal of school psychology*, 41(2), 101-112.

- Harper, S. R., & Quaye, S. J. (2009). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations*. New York, NY: Routledge.
- Hassan, N., Malik, A. S., & Khan, M. M. (2013). Measuring relationship between students' satisfaction and motivation in secondary schools of Pakista Middle-East. *Journal of Scientific Research*, 18 (9), 1231-1239.
- Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling* [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Hayes, A. F. (2013). *Mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford.
- Hehir, T., Grindal, T., & Eidelman, H. (2012). *Review of special education in the Commonwealth of Massachusetts*. Boston, MA: Massachusetts Department of Elementary and Secondary Education. Retrieved from <http://www.doe.mass.edu/sped/hehir/2012-04sped.pdf>
- Heward, W. L., & Orlansky, M. D. (2009). *Exceptional learners. Introduction to special education*. Boston: Merri
- Hossain, M. E., Hoq, M. N., Sultana, I., Islam, R., & Hassan, M. Z. (2019). Determinants of students' satisfaction at higher educational institution in Bangladesh: Evidence from private and public universities. *Malaysian Online Journal of Education*, 3(1), 49-58.

- Hunt, N., & Marshall, K. (2002). *Exceptional children and youth: an introduction to special education* (3rded.) Boston: Houghton Mifflin Company.
- Huston, J. (2007). *Special education inclusion*. (Electronic version). Retrieved from http://www.weac.org/Issues_Advocacy/Resource_Pages_On_Issues_one/Special_Education/speced_links.aspx.
- Ibrahim, M. (2001). *The problems of visually impaired students in Jordanian University*. Unpublished master's dissertation. Jordan University, Amman, Jordan.
- Inclusion Ghana (2012). *Mission, vision and values*. Retrieved from <http://www.inclusion-ghana.org>.
- International Institute for Sustainable Development ([ISSD], 2013). *The way forward: A disability-inclusive agenda towards 2015 and beyond'* (A/68/95). Retrieved from <https://www.google.com/url?sa=t&source=web&rct=j&url=https://digitallibrary.un.org/record/750428%3Fin>
- Jackson, R. J. & Kochtitzky, C. S. (2001). *Creating a healthy environment: Impact of the built environment on public health. Sprawl Watch Clearing house monograph series*. Retrieved from <http://www.spawlwatch.org/healthpdf>
- James, R., Baldwin, G., Coates, H., Krause, K., & McInnis, C. (2004). *Analysis of equity groups in higher education*. Canberra: DEST. Retrieved from <http://www.cshe.unimelb.edu.au>

- Jenson, R. J., Petri, A. N., Day, A. D., Truman, K. Z., & Duffy, K. (2011). Perceptions of self-efficacy among STEM students with disabilities. *Journal of Postsecondary Education and Disability*, 24(4), 269-283.
- Jessup, G., Bundy, A. C., Broom, A., & Hancock, N. (2017). The social experiences of high school students with visual impairments. *Journal of visual impairment & blindness*, 111(1), 5-19.
- Johnson, R. B., & Christensen, L. B. (2004). *Educational research: Quantitative, qualitative, and mixed approaches*. Boston: Allyn and Bacon.
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research, *Journal of Mixed Methods Research*, 1(2), 112 -133.
- Jordan, J. (2015). *Satisfaction of students with visual impairment within different school settings*. Unpublished master's dissertation, James Madison University, Harrisonburg, Virginia.
- Jorgensen, S., Fichten, C. S., Havel, A., Lamb, D., James, C., & Barile, M. (2005). Academic performance of college students with and without disabilities: An archival study. *Canadian Journal of Counselling*, 39(2), 101-117.

- Jorgensen, C. M., McSheehan, M., Schuh, M., & Sonnenmeier, R. M. (2012). *Essential best practices in inclusive schools*. Durham, NH: National Center on Inclusive Education Institute on Disability/UCEDD, University of New Hampshire.
- Kalambouka, A., Farrell, P., Dyson, A., & Kaplan, I. (2007). The impact of placing pupils with special educational needs in mainstream schools on the achievement of their peers, *Educational Research*, 49(4), 365-382.
- Kavale, A. K., & Forness, S. R. (2000). History, rhetoric, and reality: Analysis of the inclusion debate. *Remedial and Special Education*, 21(5), 279-296.
- Kincheloe, J. L., & McLaren, P. (2011). "Rethinking critical theory and qualitative research." In K. Hayes, S. R. Steinberg & K. Tobin (Eds.) *Key Works in Critical Pedagogy. Bold Visions in Educational Research* 32. (pp. 285-326). Rotterdam: Sense Publishers.
- Kirk, S. A., Gallagher, J. J., & Anastasiow, N. J. (2006). *Educating exceptional children* (11thed.) New York: Houghton Mifflin Company.
- Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in education. *International Journal of Higher Education*, 6(5), 26-41.
- Kline, R. B. (2011). *Principles and practice of structural equation modelling*(3rded.). New York: A Division of Guilford Publications, Inc.

- Klomegah, R. Y. (2007). Predictors of academic performance of university students: An application of the goal efficacy model. *College Student Journal* 41 (2), 407-415.
- Koplan, J. P., & Fleming, D. W. (2000). Current and future public health challenges. *Journal for American Medical Association*, 284(13), 1696-1698.
- Krueger, R. A., & Casey, M. A. (2000). *Focus groups: A practical guide for applied research*, (3rded.) Thousand Oaks, CA: Sage Publications.
- Kubischta, F. (2014). *Engagement and Motivation: Questioning students on study-motivation, engagement and study strategies*. Unpublished bachelor thesis, Haaga-Helia University of Applied Sciences, Finland.
- Kuh, G. D., Gonyea, R. M., & Williams, J. M. (2005). What students expect from College and what they get. In T. Miller, B. Bender, J. Schuh, & Associates (Eds.), *Promoting reasonable expectations: Aligning student and institutional views of the College experience* (pp. 34-64). San Francisco: Jossey-Bass.
- Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What Matters to Student Success: A Review of the Literature*. National Postsecondary Education Cooperative. Retrieved from <https://files.eric.ed.gov/fulltext/EJ939056.pdf>.
- Kuyini, A. B., & Mangope, B. (2011). Student teachers' attitudes and concerns about inclusive education in Ghana and Botswana. *International Journal of Whole Schooling*, 7(1), 20-37.

- Kuyini, A. B., Yeboah, K. A., Das, A. K., Alhassan, A. M., & Mangope, B. (2016). Ghanaian teachers: competencies perceived as important for inclusive education, *International Journal of Inclusive Education*, 20(10), 1009-1023. DOI: 10.1080/13603116.2016.1145261
- Lagadien F. (1993). *The power of potential of people with disabilities*. Independent Living Institute Retrieved from <https://www.independentliving.org/docs4/lagadien.html>
- Langford, B. E., Schoenfeld, G., & Izzo, G. (2002). Nominal grouping sessions vs. focus groups. *Qualitative Market Research*, 5(1), 58–70.
- Lewis, R. B., & Doorlag, D. H. (2011). *Teaching students with special needs in general education classrooms* (8thed.) New York: Pearson.
- Lewis, J. L., Ream, R. K., Bocian, K. M., Cardullo, R. A., Hammond, K. A., & Fast, L. A. (2012). Con cariño: Teacher caring, math self-efficacy, and math achievement among Hispanic English learners. *Teachers College Record*, 114(7), 1- 42.
- Leyser, Y., Zeiger, T., & Romi, S. (2011). Changes in self-efficacy of prospective special and general education teachers: Implication for inclusive education. *International Journal of Disability, Development and Education*, 58(3), 241-255.
- Lim, B. H., &Chai, K. H. (2017). Conceptualizing the special needs community therapy from three main ecosystemic models. *European Journal of Special Education Research*, 2(3), 107-124.

- Lindheimer III, J. B. (2011). The college persistence questionnaire: Developing scales to assess student retention and institutional effectiveness. Unpublished master's thesis, Appalachian State University, Boone, North Carolina.
- Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading & Writing Quarterly, 19* (2), 119-137.
- Lohfink, M. M., & Paulsen, M. (2005). Comparing the determinants of persistence for first-generation and continuing generation students. *Journal of College Students Development, 46*(4), 409-428.
- Lombardi, A. R., Murray, C., & Gerdes, H. (2012). Academic performance of first-generation college students with disabilities. *Journal of College Student Development, 53*(6), 811-826.
- Lourens, H., & Swartz, L. (2016). Experiences of visually impaired students in higher education: bodily perspectives on inclusive education. *Disability & Society, 31*(2), 240-251.
- Maindi, A. B. (2018). Challenges faced by students with visual impairments when learning physics in regular secondary schools. *International Journal of Education, Learning and Development, 6*(9), 38-50.
- Mamiseishvili, K., & Koch, L. C. (2011). First-to-second-year persistence of students with disabilities in postsecondary institutions in the United States. *Rehabilitation Counseling Bulletin, 54*(2), 93-105.

Mamiseishvili, K., & Koch, L. C. (2012). Students with disabilities at 2-year institutions in the United States: Factors related to success. *Community College Review*, 40(4), 320-339.

Martela, F. (2015). Fallible Inquiry with Ethical Ends-in-View: A Pragmatist Philosophy of Science for Organizational. *Research Organization Studies*, 36(4), 537-563. DOI: 10.1177/0170840614559257

Martin, J. (2015). *Effects on Retention of Students with Learning Disabilities Utilizing Services at Community Colleges*. Unpublished doctoral thesis, University of New York, Tirana, Albania.

Mantey, E. E. (2014). *Accessibility to inclusive education for children with disabilities: A case of two selected areas in Ghana*. Siegen: University of Siegen.

Mastropieri, M. A., & Scruggs, T. E., (2018). *Inclusive classrooms, The Strategies for effective differentiated instruction* (6thed.) London: Pearson

Mattern, K. D., & Patterson, B. F. (2009). *Is performance on the SAT related to college retention?* (College Board Research Report No. 2009-7). New York, NY: The College Board.

Mayers, R. E. (2013). The relative benefits of learning teaching and teaching expectancy. *Contemporary Educational Psychology*, 38, 281-288.

McCarron, G. P., & Inkelas, K. K. (2006). The gap between educational aspirations and attainment for first-generation college students and the

role of parental involvement. *Journal of Post-Secondary Education and Disability*, 22(1), 11–17.

McCarty, K. (2006). *Full Inclusion: The benefits and disadvantages of inclusive schooling: An overview*. Retrieved from [http://www.fullinclusion.benefits .disadvantages](http://www.fullinclusion.benefits.disadvantages).

McMahon, W. W. (2009). *Higher learning, greater good: The private and social benefits of higher education*. Baltimore, MD: Johns Hopkins University Press.

Migehe, G. J. (2014). *An analysis of academic performance of students with hearing impairment in Tanzania secondary schools*. Unpublished doctoral dissertation, The Open University of Tanzania, Tanzania.

Memis, R. (2020). *Examining the Relationship between Middle School Students' use of Learning Strategies, Self-Efficacy, and Math Achievement: Measure Development and a Structural Model*. Unpublished doctoral dissertation, Kent State University, Ohio.

Ministry of Education (MOE), Ghana (2015). *Inclusive education policy*. Accra: Ministry of Education.

Ministry of Education, Sports and Science (MOESS) Ghana. (2008). *Preliminary Education Sector Performance Report (ESPR)*. Accra: Republic of Ghana.

- Mitchell, D. (2005). Introduction; sixteen propositions on the context of inclusive education. In D. Mitchell (Ed.), *Contextualizing inclusive education evaluating old and new international perspectives* (pp. 230-252). London: Routledge.
- Mitchell, D. (2010) *Education that fits: review of international trends in the education of students with special educational needs*. New Zealand: University of Canterbury.
- Morelle, M. (2016). *Challenges experienced by learners with visual impairment in two mainstream primary schools in Klerksdorp, Dr. Kenneth Kaunda District*. Unpublished doctoral dissertation, University of South Africa, Pretoria, South Africa.
- Moxley, D., Najor-Durack, A., & Dumbrigue, C. (2001). *Keeping students in higher education: Successful practices and strategies for retention*. London: Kogan Page Limited.
- Mprah, K. W., Amponteng, M., & Owusu, I. (2015). Barriers to inclusion of children with disabilities in inclusive schools in Ghana. *Journal of Disability Studies* 1(1), 15-22.
- Mula, I., & Tilbury, D. (2009). A United Nations decade of education for sustainable development (2005-14). What difference will it make? *Journal of Education for Sustainable Development* 3(1), 87-97.
- Mungai, B. W. (2015). *Challenges facing implementation of inclusive education in public primary schools in Mwea East District, Kirinyaga*

County, Kenya. Unpublished master's thesis: Kenyatta University, Kenya.

Murphy, S. L. (2015). How do we teach them to read if they can't pay attention? Change in literacy teaching practice through collaborative learning. *Language and Literacy*, 17(1), 83-105.

Murray, C., Goldstein, D. E., Nourse, S., & Edgar, E. (2000). The postsecondary school attendance and completion rates of high school graduates with learning disabilities. *Learning Disabilities Research & Practice*, 15(3), 119-127.

Mwanyuma, R. (2016). *Factors influencing the academic achievement of deaf learners in Kilifi County, Kenya: A case of Sahajan and School for the Deaf*. Unpublished master's dissertation, University of Nairobi, Kenya.

Narad, A., & Abdullah, B. (2016). Academic Performance of Senior Secondary School Students: Influence of Parental Encouragement and School Environment. *Rupkatha Journal on Interdisciplinary Studies in Humanities* 8(2):12-19

National Disability Authority (2020). *7 Principles of Universal Design*. Retrieved from <http://universales-is-Universal-Design/The-7-Principles/>

National Down's Syndrome Society (NDSS) (2004). *Inclusion: educating students with Down syndrome with their non-disabled peers* (Electronic version). Retrieved from <http://www.ndss.org>.

- Nauta, M. M. (2007). Assessing College students' satisfaction with their academic majors. *Journal of Career Assessment* 15(4), 446-462.
- Naz, S. (2017). Academic achievement of hearing impaired, visually impaired and orthopaedically impaired higher secondary school students of Kashmir, J&K. *International Journal of Academic Research Development*, 2(4), 226-235.
- Ng, A. G. T., & Chia, K. H. (2009). Learning inside and/or outside classroom: A bio-ecological model. *ASCD Review*, 15(1), 59-64.
- Norwich, B. (2019). A novel contemporary approach to educational policy making for pupils with special educational needs/disabilities. *Frontiers in Education*, 4(71), 72-89.
- Obeng-Asamoah, P. K. (2016). *Ghana's policy on inclusive education: A tool for national development*. GhanaWeb. Retrieved from <https://www.ghanaweb.com/GhanaHomePage/features/Ghana-s-Policy-on-Inclusive-Education-A-tool-for-national-development-444807>.
- Obi, F. B., & Mensah, T. (2005). Inclusive education: The challenges of the 21st century, Nigerian- Ghanaian Teacher. *African Journal of Special Educational Needs*4(1), 19-27.
- Ocloo, M. A., Agbeke, W. K., Avoke, M., Oppong, A., Hayford, S., Gadagbui, G., Boison, C., & Essel, J. (2002). *Foundations in special education: the Ghanaian perspective*. Winneba: Department of Special Education, University of Education, Winneba.

- Ocran, J. (2018). Exposing the protected: Ghana's disability laws and the rights of disabled people. *Disability & Society*, 34(4), 663-668.
- Oja, M. (2011). Student satisfaction and student performance, *Journal of Applied Research in the Community College*, 19(1), 47-53.
- O'Keeffe, P. (2013). A sense of belonging: Improving student retention. *College Student Journal*, 47(4), 605-613.
- Okyere, B. A., & Adams, J. S. (2003). *Introduction to special education: An African perspective*. Accra: Adwinsa Publications.
- Omede, A. A. (2015). The challenges of educating the visually impaired and quality assurance in tertiary institutions of learning in Nigeria. *International Journal of Educational Administration and Policy Studies*, 7(7), 129-133.
- Onete, O. U., Edet, P. B., Udey, F. U., & Ogbor, B. P. (2012). Academic Performance: A Function of Achievement Motivation Among Education Students of Cross River University of Technology, Calabar. *Review of Higher Education in Africa*, 4, 63-83
- Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G.A (2009). Qualitative framework for collecting and analyzing data in focus group research. *International Journal of Qualitative Methods*, 8(3) 1-21.
- Open University (2003) *Medical model vs social model* (Electronic version). Retrieved from <http://www.open.ac.uk/openlearn>.

- Opertti, R., & Brady, J. (2011). Developing inclusive teachers from an inclusive curricular perspective. *Prospects*, 41(3), 459-473. DOI: 10.1007/s11125-011-9205-7.
- Oppong, A. M., & Fobi, D. (2020). *Deaf education in Ghana*. Retrieved from <https://www.researchgate.net/publication/331930374>
- Osgood, R. L. (2005). *The history of inclusion in the United States*. Washington, D.C.: Gallaudet University Press.
- Oseguera, L., & Rhee, B. S. (2009). The influence of institutional retention climates on student persistence to degree completion: A multilevel approach. *Research in Higher Education*, 50(6), 546-569.
- Otyola, W. R., Kibanja, G. M., & Mugagga, A. M. (2017). Challenges faced by visually impaired students at Makerere and Kyambogo Universities. *Makerere Journal of Higher Education*, 9 (1), 75-86.
- Pajares, F., & Schunk, D.H. (2001). Self-beliefs and school success: self-efficacy, self-concept, and school achievement. In R. J. Riding & S. G. Rayner, (Eds), *International perspectives on individual differences: Self-perception*, Volume 2 (pp. 239–266). London: Ablex Publishing.
- Pallant, J. (2010). *SPSS Survival manual: A step by step to data analysis using SPSS for Windows*. Sydney: Allen and Unwin.
- Papuda-Dolińska, B. (2017). Differences in social and academic functioning among visually impaired children in special, integrated and inclusive educational settings in Poland. *Hrvatska revija za rehabilitacijska istraživanja*, 53(1), 113-126.

- Parekh, G. Flessa, J., & Smaller, H. (2016). The Toronto District School Board: A global city school system's structures, processes, and student outcomes. *London Review of Education*, 14(3), 65-84.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How College affects students: A decade of research*. San Francisco: John Wiley & Sons, Inc.
- Pearson, S. (2005). SEN- a politically correct phrase to replace terms such as disabled?' A study of the views of students entering a secondary PGCE course. *Support for Learning*, 20(1), 17-21.
- Pekeberg, I. M. B. (2012). *Inclusive education in Ghana: An analysis of policies and the practices in one mainstream school and one inclusive school in the greater Accra region*. Unpublished master thesis, Comparative and International Education Institute of Educational Research. University of Oslo.
- Peña, E. V. (2014). Marginalization of published scholarship on students with disabilities in higher education journals. *Journal of College Student Development*, 55(1), 30-40.
- Pike, G. R. (2006). Students' personality types, intended majors, and College expectations: Further evidence concerning psychological and sociological interpretations of Holland's theory. *Research in Higher Education*, 47(7), 801-822.

- Pilon, A. F. (2009). *Experience and learning in the ecosystemic model of culture. A critical approach to education, culture and the environmental crisis*. Retrieved from <http://www.comminit.com/files/ExperienceandLearningintheEcosystemicM>
- Porchea, S., Allen, J., Robbins, S. B., & Phelps, R. (2010). Predictors of long-term enrolment and degree outcomes for community college students: Integrating academic, psychosocial, socio-demographic, and situational factors. *Journal of Higher Education*, 81(6), 680–708.
- Prevatt, F., Welles, T. L., Li, H., & Proctor, B. (2010). The contribution of memory and anxiety to the math performance of college students with learning disabilities. *Learning Disabilities Research & Practice*, 25(1), 39-47.
- Radloff, A., & Coates, H. (2009). *Doing more for learning: Enhancing engagement and outcomes, Australasian student engagement report*. Retrieved from http://www.acer.edu.au/documents/aussereports/AUSSE_Australasian-Student-Engagement-Report-ASER-2009.pdf
- Reason, R. D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development*, 50(6), 659–682.
- Reindal, S. M. (2009). Disability, capability, and special education: Towards a capability-based theory. *European Journal of Special Needs Education*, 24(2), 155-168.

Republic of Ghana (2006). *Persons with disability Act, 2006 Act 715.*

Retrieved from <http://www.gapagh.org/GHANA%2520DISABILITY%2520ACT>

Retention Study Group (2004). *Promoting success for Carolina's undergraduates: Factors related to retention and graduation.* A report

presented to the Enrolment Policy Advisory Committee. The University of North Carolina at Chapel Hill.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin, 138*(2), 353–387.

Rishaelly, C. E. (2017). *Factors influencing academic performance of hearing impaired students in inclusive education: a case of Moshi technical secondary school.* Unpublished doctoral dissertation, The Open University of Tanzania, Tanzania.

Ritter, N. L. (2010). *Understanding a widely misunderstood statistic: Cronbach's alpha.* Conference: Southwestern Educational Research Association at New Orleans, LA ED526237

Roberts, J. B., Crittenden, L. A., & Crittenden, J. C. (2011). Students with disabilities and online learning: A cross-institutional study of perceived satisfaction with accessibility compliance and services. *The Internet and Higher Education, 14*(4), 242-250.

Robson, C. (2011). *Real world research.* West Sussex: John Wiley and Sons Ltd.

- Rosa, O. M. A., & Angulo, L. M. V. (2019). Attitudes of children with hearing loss towards public inclusive education. *Education Sciences*, 9(3), 244-255. doi:10.3390/educi9030244
- Rose, R. (2002). *The curriculum: a vehicle for inclusion or a lever for exclusion? In promoting inclusive practice*. New York, NY: Routledge.
- Ross, T., Kena, G., Rathbun, A., KewalRamani, A., Zhang, J., Kristapovich, P., & Manning, E. (2012). *Higher education: Gaps in access and persistence study* (NCES 2012-046). U.S. Department of Education, National Center for Education Statistics. Washington, DC: Government Printing Office.
- Sachs, D., & Schreuer, N. (2011). Inclusion of students with disabilities in higher education: Performance and participation in student's experiences. *Disability Studies Quarterly*, 31(2), 13-22.
- Safder, M., Akhtar, M., Fatima, G., & Malik, M. (2012). Problems faced by students with hearing impairment in inclusive education at the university level. *Journal of Research and Reflections in Education*, 6(2), 134-143.
- Saif, A. D. A. (2014). The relationship between self-efficacy, motivation, and academic achievement of undergraduate students in Yemen. *Assut University Journal of Education Psychology* 30(1), 14-20.
- Salamonson, Y., Weaver, R., Chang, S., Koch, J. Bhathal, R., Khoo, C., & Wilson, I. (2013). Learning approaches as predictors of academic

performance in first year health and science students, *Nurse Education Today*, 33, 7, 729-733

Salisu, S., Hashim, N., Mashi, M. S., & Aliyu, H. G. (2020). Perseverance of effort and consistency of interest for entrepreneurial career success: Does resilience matter? *Journal of Entrepreneurship in Emerging Economies*, 12(2), 279-304.

Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing “neighborhood effects”: Social processes and new directions in research. *Annual Review of Sociology*, 28(1), 443-478.

Sandkuhl, O. (2005). *Strengthening inclusive education by applying a rights-based approach to education programming*. Corpus ID: 16514147
Paper presented at ISEC Conference, Glasgow.

Schifter, L. A. (2016). Using survival analysis to understand graduation of students with disabilities. *Exceptional Children*, 82(4), 479-496.

Schuck, L. (2015). *Predictors of college attendance and persistence among blind and visually impaired students*. Unpublished doctoral dissertation, Western Michigan University, Kalamazoo, Michigan.

Schuck, L., Wall-Emerson, R., Kim, D. S., & Nelson, N. (2019). Predictors associated with college attendance and persistence among students with visual impairments. *Journal of Postsecondary Education and Disability*, 32(4), 339-358.

- Schuelka, M. J. (2018). The cultural production of the ‘disabled’ person: Constructing student difference in Bhutanese schools. *Anthropology and Education Quarterly*, 49(2), 183–200.
- Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education: Theory, research and applications*. (3rded), Upper saddle River, NJ: Merrill- Prentice Hall.
- Seidman, A. (Ed.) (2005). *College student retention: Formula for student success*. Westport, CT: Praeger Publishers.
- Shahed, S., Ilyas, Z., & Hashmi, A. M. (2016). Academic performance, self-efficacy and perceived social support of visually impaired students. *Annals of King Edward Medical University*, 22(1), 72-72.
- Shearman, D., & Petocz, P. (2012). When “strongly disagree” doesn’t mean strongly disagree. Joint AARE APERA International Conference, Sydney.
- Shields, P. M., & Nandhini, R. (2013). *A Playbook for research methods: Integrating conceptual frameworks and project management*. New Forums Press
- Shogren, K. A., McCart, A. B., Lyon, K. J., & Sailor, W. S. (2015). All means all: Building knowledge for inclusive school wide transformation. *Research and Practice for Persons with Severe Disabilities*, 40(3), 173-191.
- Singal, N. (2014). *Disability, poverty and education*. New York, NY: Routledge.

- Smart, J. F. (2004). Models of disability: The juxtaposition of biology and social construction. In T. F. Riggart, & D. R. Maki, (Eds). *Handbook of Rehabilitation Counseling* (pp. 25-49). Springer Series on Rehabilitation. New York: Springer.
- Smith, C. M. M., & Sutherland, M. J. (2006). Setting or mixed ability? Pupils' views of the organisational arrangement in their school. *Journal of Research in Special Educational Needs*, 6(2), 69-75.
- Stainback, W., & Stainback, S. (Eds.) (2004). *Controversial issues confronting special education divergent perspectives*. (5thed.). Boston: Allyn and Bacon.
- Stevens, L., & Wurf, D. (2018). Perceptions of inclusive education: A mixed methods investigation of parental attitudes in three Australian primary schools. *International Journal of Inclusive Education*, 24 (4), 1-15.
- Strayhorn, T. L. (2012). Satisfaction and retention among African American men at two-year community colleges. *Community College Journal of Research and Practice*, 36(5), 358-375.
- Strnadová, I., Hájková, V., & Květoňová, L. (2015). Voices of university students with disabilities: Inclusive education on the tertiary level—a reality or a distant dream? *International Journal of Inclusive Education* 19(10), 1080-1095.
- Suleymanov, F. (2015). Issues of Inclusive Education: Some Aspects to be Considered, *Electronic Journal for Inclusive Education*, 3 (4) 1-22

- Summers, M. (2003). Attrition Research at Community Colleges. *Community College Research*, 30 (4), 64-85.
- Surbhi, S. (2016). *Difference between census and sampling*. Retrieved from <http://keydifferences.com/difference-between-census-and-sampling.html>.
- Swain, J., French, S., Barnes, C., & Thomas, C. (2004). *Disabling barriers, enabling environments*. (2nded). London: Sage Publication. ISBN- 13: 978-0761942658
- Symonds, J. E., & Gorard, S. (2008). The death of mixed methods: Research labels and their casualties. *The British Educational Research Association Annual Conference*, Edinburgh: Herriot Watt University.
- Tashakkori, A., & Teddlie, C. (Eds) (2010). *Handbook of mixed methods in social & behavioral research* (2nded.). Thousand Oaks, CA: SAGE.
- Taylor, H. (2008). The 'education system': a view from the inside. *Support for Learning*, 17 (3), 104-109.
- Taylor, P. C., & Medina, M. N. D. (2013). *Educational Research Paradigms: From Positivism to Multiparadigmatic*. Retrieved from <https://www.hetl.org/2013/06/page/2/>
- Tessema, M. T., Ready, K., & Yu, W. C. (2012). Factors affecting College students' satisfaction with major curriculum, *International Journal of Humanities and Social Science*, 2, 34-44.
- Therriault, S. B., & Krivoshey, A. (2014). *College persistence indicators research review*. Washington, DC: American Institutes for Research.

- Thomas, S. (2004). College students and disability law. *Journal of Special Education, 33*(4), 248-257.
- Thurman, M. S. (2003). *A study on children with disabilities and special Education in Ghana: Key Findings*. Washington, DC: USAID UN Convention on the Rights of Persons with Disabilities. Retrieved from www.un.org/disabilities/default.asp?id=259
- Tinsley, H. E. (2000). The congruence myth: An analysis of the efficacy of the person–environment fit model. *Journal of Vocational Behavior, 56*(2), 147-179.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89-125.
- Tinto, V. (1993). *Leaving College: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.
- Tinto, V. (2004). *Leaving College: Rethinking the causes and cures of student attrition* (4th ed.). Chicago, IL: University of Chicago Press.
- Tinto, V. (2005). Moving from theory to action. In A. Seidman (Ed.), *College student retention* (pp. 317-333). Westport: Praeger Publishers.
- Tomko, C. F. (2004) *Inclusion. Kids Together, Inc.* (Electronic version). Retrieved from <http://www.kids.together.org/inclusion.htm>.
- UK Disability History Month ([UKDHM], 2018). *The social model*. World of Inclusion Ltd. Retrieved from <https://ukdhm.org>.
- UmmiHabibah, A. R. (2018). *Relationship between cognitive ability, personality, psychological well-being and self-esteem among hearing-*

impaired students: The moderating role of emotional intelligence.

Unpublished doctoral dissertation, University of Utara, Malaysia.

UNESCO (1994). *The Salamanca Statement and Framework for Action on Special Needs Education*. Salamanca, Spain: World Conference on Special Needs Education: Access and Quality.

UNESCO (2003). "Overcoming Exclusion through Inclusive Approaches in Education – A Challenge and a Vision." *Conceptual Paper*, ED-2003/WS/63. Paris: UNESCO.

UNESCO-IBE (2007). *Background Note*, Preparatory meeting of the forty-eighth session of the International Conference on Education, Nairobi, Kenya.

UNESCO (2009). *Policy guidelines on inclusive education. Report*. Retrieved from http://www.unesco.org/new/en/education/themes/strengthening-education-systems/inclusive-education/singleview/news/unescosnewpolicyguidelines_on_inclusion_in_education/

Upcraft, M.L., Gardner, J. N., & Barefoot, B. O. (2005). *Challenging and supporting the first-year student: A handbook for improving the first year of college* (pp. 469- 485). San Francisco: Jossey-Bass.

Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: critical review of the literature and future directions. *Review of Educational Research*, 78(4), 751–796. doi: 10.3102/0034654308321456

- U.S. Bureau of Labor Statistics. (2013). *Earnings and employment rates by educational attainment*. Retrieved from http://www.bls.gov/ep_table_001.htm Washington, DC: United States Department of Labour.
- U. S. Department of Education, Office of Special Education and Rehabilitative Services (2010). *Thirty-five years of progress in educating students with disabilities through IDEA*, Washington, D.C. Retrieved from <http://www.ed.gov/about/offices/list/osers/reports.html>.
- Vanderpuye, I. (2013). *Piloting inclusive education in Ghana: Parental perceptions, expectation and involvement*. Unpublished doctoral dissertation, University of Leeds, West Yorkshire, England. Retrieved from <http://etheses.whiterose.ac.uk/>.
- Vanderpuye, I., Obosu, G. K., & Nishimuko, M. (2018). Sustainability of inclusive education in Ghana: Teachers' attitude, perception of resources needed and perception of possible impact on pupils. *International Journal of Inclusive Education*, 24(14), 1527-1539 doi: 10.1080/13603116.2018.1544299.
- Villa, R. A., & Thousand, J. S. (2003). Making inclusive education work. *Educational Leadership*, 61(2), 19-23.
- Voltz, D. L., Brazil, N., & Ford, A. (2001). What matters most in inclusive education: A practical guide for moving forward. *Intervention in School and Clinic*, 37(1), 23-30.
- Vuuro, E. (2016). *Barriers of inclusive education: the case of Wenchi Senior High School in the Wenchi Municipality*. Unpublished master's thesis,

Kwame Nkrumah University of Science and Technology, Kumasi,
Ghana.

Weerasinghe, I. S., & Fernando, R. L. (2017). Students' satisfaction in higher
education. *American Journal of Educational Research*, 5(5), 533-539.

Weddell, K. (2005). Dilemmas in the quest for inclusion. *British Journal of
Special Education* 32, (1), 3–11.

Weiner, H. M. (2003). Effective inclusion professional development in the
context of the classroom. *Teaching Exceptional Children*, 35(6), 12-18.

Weng, F., Cheong, F., & Cheong, C. (2010) Modelling IS student retention in
Taiwan: Extending Tinto and Bean's model with self-efficacy,
*Innovation in Teaching and Learning in Information and Computer
Sciences*, 9(2), 1-12.

Wessel, R. D., Jones, J. A., Markle, L., & Westfall, C. (2006). Retention and
graduation of students with disabilities: Facilitating students' success.
Journal of Postsecondary Education and Disability, 21(3), 116-125.

Westrick, P., & Robbins, S. B. (2012). "Can do" vs. "Will do": The relative
effects of ACT scores and high school GPA on college performance
and retention. Unpublished manuscript.

Winter, J. A. (2003). The development of the Disability Rights Movement as a
social problem solver. *Disability Studies Quarterly*, 23(1), 33-61.

Winzer, M. A. (2007). *Children with exceptionalities in Canadian classrooms*
(8thed.) Canada: Pearson.

WHO (2012). *Global status report on non-communicable diseases 2010*. Retrieved from http://www.who.int/about/licensing/copyright_form/en/index.html).

WHO (2020). *Disability and health*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/disability-and-health#>

Wolfe, B. D., & Kay, G. (2011). Perceived impact of an outdoor orientation program for first-year university students. *Journal of Experiential Education* 34 (1) 19-34.

Wood, R., & Bandura, A. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*, 56(5), 805-819.

Wolanin, T. R., & Steele, P. E. (2004). *Higher education opportunities for students with disabilities: A primer for policy makers*. Retrieved from [http://www.ihep.org/assets/files/publications/m-r/Opportunities Students Disabilities](http://www.ihep.org/assets/files/publications/m-r/Opportunities%20Students%20Disabilities).

Wright, S. L., Jenkins-Guarnieri, M., & Murdock, J. L. (2013). Career development among first-year college students: College self-efficacy, student persistence, and academic success. *Journal of Career Development*, 40(4), 292–310. doi:10.1177/0894845312455509

Yorke, M. (2013). *Student retention in open and distance learning*. Retrieved from <http://kn.open.ac.uk/public/workspace.cfm?wpid=1889>

Yssel, N., Pak, N., & Beilke, J. (2016) A Door Must Be Opened: Perceptions of Students with Disabilities in Higher Education, *International Journal of Disability, Development and Education*, 63(3), 384-394.
DOI: 10.1080/1034912X.2015.1123232





APPENDIX A: INFORMED CONSENT FORM

UNIVERSITY OF CAPE COAST, COLLEGE OF EDUCATION

STUDIES

FACULTY OF EDUCATIONAL FOUNDATIONS

INFORMED CONSENT FORM

Title: Inclusive Education Experiences on Satisfaction, Persistence and Achievement of Teacher-trainees with sensory impairment in Ghanaian Colleges of Education

Principal Investigator : Emmanuel Kwame Larbi Mantey

Address : OLA College of Education

P. O. Box 175

Cape Coast

General Information about Research

The focus of education is currently geared towards inclusive education, where all students with disabilities are expected to be educated along their peers without disabilities with the appropriate support services. This study intends to gather responses from teacher-trainees with sensory impairment in Inclusive Colleges of Education. The purpose of this study is to help assess your satisfaction, persistence and academic achievement to help promote inclusion in Colleges in Ghana.

By participating in this study you will be making an important contribution to the debate about inclusive education in Ghanaian Colleges of Education and the future of teacher-trainees with disabilities and their admission into colleges

of their choice. To find answers to some of these questions, I invite you to take part in this research project.

Procedures

To find answers to some of these questions, we invite you to take part in this research project. If you accept, you will be required to:

- take part in a discussion with 3-8 other persons with similar experiences. This discussion will be moderated by myself.
- fill out a survey which will be provided by [name of distributor of blank surveys] and collected by [name of collector of completed surveys].

I feel that your experience as a student with sensory impairment in an Inclusive College of Education is the best person to help academia understand your satisfaction, persistence and achievement in the Colleges rather than tutors or other students without disabilities. The questions for discussions and the questionnaires are solely based on your satisfaction, persistence and academic performance. Copies of the report will be made available to all who take part and are interested in the outcome.

During this discussion, however, I do not wish you to tell us your personal experiences, but give us your opinion on the questions that we will pose to the group based on your personal experiences and your experience within your College or elsewhere. If you do not wish to answer any of the questions or take part in any part of the discussion, you may say so and keep quiet. The discussion will take place in the Resource centre of your College, and no one else but the people who take part in the discussion, sign language interpreter

for the hearing impaired and myself will be present during this discussion. The entire discussion will be tape-recorded, but no-one will be identified by name on the tape. Additionally, the tape will be stored by me. The information recorded is considered confidential, and no one else will have access to the tapes. The tape and questionnaires will be discarded in three (3) years' time where it is expected that the data would have been exhausted for its purpose.

The survey as a questionnaire is expected to last about 30 minutes. This questionnaire will be distributed and collected by myself. If you do not wish to answer any of the questions included in the survey, you may skip them and move on to the next question. The students with visual impairment will have the questions read out to you by myself and your responses ticked for you by myself. I will read over with the ticked responses for your confirmation if what you said was exactly what I ticked or recorded

Possible Risks and Discomforts

The data will be collected in the resource rooms of all the colleges, as such the likelihood of risk factors may be absent. Questions and issues to be discussed are also not intimidating or about other people to demand protection from attacks.

Possible Benefits

The results of the study may inform in policy direction of Colleges of Education towards the inclusive agenda, as such the respondents may be classified as partners in the policy formulation.

Confidentiality

This study is anonymous. Where names are to be used, it will be pseudonyms. “I will protect information about you to the best of my ability. You will not be named in any reports. The audio recordings are for reporting purpose. You will not hear your voice on any media outlet.

Compensation

Snacks and water will be provided for you after the discussions for your time and energy used to help me collect my data.

Voluntary Participation and Right to Leave the Research

As a participant of the study, you have the absolute right to pull out of the study at any given time if you so wish. Your participation is voluntary and your rights as participants are fully respected

Contacts for Additional Information

If you have any further question or clarification relating to this study, you have every right to contact my Principal Supervisor, Dr. Irene Vanderpuye on 0507652689.

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of University of Cape Coast (UCCIRB). If you have any questions about your rights as a research participant you can contact the Administrator at the IRB Office between the hours of 8:00am and 4:30 p.m. through the phones lines 0332133172 and 0244207814 or email address: irb@ucc.edu.gh.

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title (Inclusive Education Experiences on Satisfaction, Persistence and Academic Performance of Students with Disabilities in Colleges of Education in Ghana.) has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date _____ Name and signature or mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date _____ Name and signature of witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Date _____ Name and Signature of Person Who Obtained Consent

Many thanks for your time

APPENDIX B: QUESTIONNAIRE FOR STUDENTS

UNIVERSITY OF CAPE COAST

SCHOOL OF GRADUATE STUDIES AND RESEARCH

FACULTY OF EDUCATIONAL FOUNDATIONS

The focus of education at all the sectors for persons with disabilities is geared towards Inclusive Education, where all students with disabilities are expected to be educated along their peers without disabilities. This questionnaire is part of a survey which intends to gather responses from students with disabilities in the Colleges of Education practicing Inclusive Education. This is to help assess inclusive experiences on satisfaction, persistence and academic performance of teacher-trainees with sensory impairment in Ghanaian Colleges of Education: The moderating role of self-efficacy. Feel free to respond to the items to the best of your understanding. Your responses will be kept confidentially so do not write your name on the instrument.

Many thanks for your time.

INSTRUCTIONS:

Please consider each of the questions carefully, and indicate the answer that best represents your thoughts. There are no "right or wrong" answers, so mark your real impressions. Please indicate your response to each item by ticking the appropriate space, eg [].

Experiences	SA	A	I	D	SD
Sensory supports and health care needs for students are effective					
Students participate in classroom instruction in similar ways as students without disabilities (class discussions etc)					
There are assistive technology supports for students with disabilities.					
Instructional support reflects the learning styles of all students in the class by the use of visual, tactile, and kinaesthetic materials and experiences.					
Peer supports are reciprocal. Students have the opportunity to provide support and assistance to others as well as to receive it.					

SECTION C: Satisfaction

Indicate your response to each of the following statements by ticking [√] one of the following by indicating:

SA= Strongly Agree, A= Agree, I- Indecisive, D= Disagree, SD= Strongly Disagree

STATEMENT	SA	A	I	D	SD
1. In general, I am satisfied with the quality of instruction I am receiving in this college					
2. I am satisfied with the academic advising I receive in college					
3. I am satisfied with the extent of my intellectual growth and interest in ideas since coming here					

STATEMENT	SA	A	I	D	SD
4. I am satisfied with the interactions with other students in college as it impacts on my intellectual growth					
5. I am satisfied that this is the right College for me					
6. My interactions with other students here have impacted on my personal growth, attitudes and values					
7. I am satisfied with my sense of connectedness with others (students, staff) on this campus					
8. When I think about my overall social life here (friends, extracurricular activities, and so on), I am very satisfied					
9. I am satisfied with the way the college communicate important information to students such as academic rules, diploma requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs					
10. I have been able to make new friends when I came to this collage					

SECTION D: Persistence

Indicate your response to each of the following statements by ticking [√] one of the following by indicating: SA= Strongly Agree, A= Agree, I- Indecisive, D= Disagree, SD= Strongly Disagree

STATEMENT	SA	A	I	D	SD
1. Being educated with peers without disabilities encourages me to persist					
2. My overall impression of the other students in my College is very favourable					
3. My commitment to earning a college diploma, in my college here is very strong?					
4. After beginning college, I discover that a college diploma is not quite as important to me as it once					
5. My intention to persist in this College in pursuit of the diploma is high.					
6. Though things are not as expected for a sensory impaired student in this College, I have no choice					
7. I often attend classes, meetings, and other college events since am always welcomed.					
8. I have better study habits and complete assignments in a timely manner.					
9. I get the needed support from my family that keeps me going on campus					

SECTION E: Students Self-Efficacy

Indicate your response to each of the following statements by ticking [√] one of the following by indicating: SA= Strongly Agree, A= Agree, I- Indecisive, D= Disagree, SD= Strongly Disagree

STATEMENT	SA	A	I	D	SD
1. I am sure I can cope with being in an inclusive environment to study					
2. Compared with other students in this college I expect to do well.					
3. I'm certain I can understand the ideas taught in					
4. I expect to do very well in this class.					
5. Compared with others in this programme, I think I'm a good student.					
6. I am sure I can do an excellent job on the problems and tasks assigned to us in class.					
7. I think I will receive a good grade in this					
8. My study skills are excellent compared with others in this College.					
9. Compared with other students in this College I think I know a great deal about the courses learnt.					
10. I know that I will be able to learn the material for the various courses.					

SECTION F: Inclusive Education Experiences on Academic Performance

Indicate your Cumulative Grade Point Average (CGPA) by ticking [] one of the following grade levels. In what range is your current CGPA?

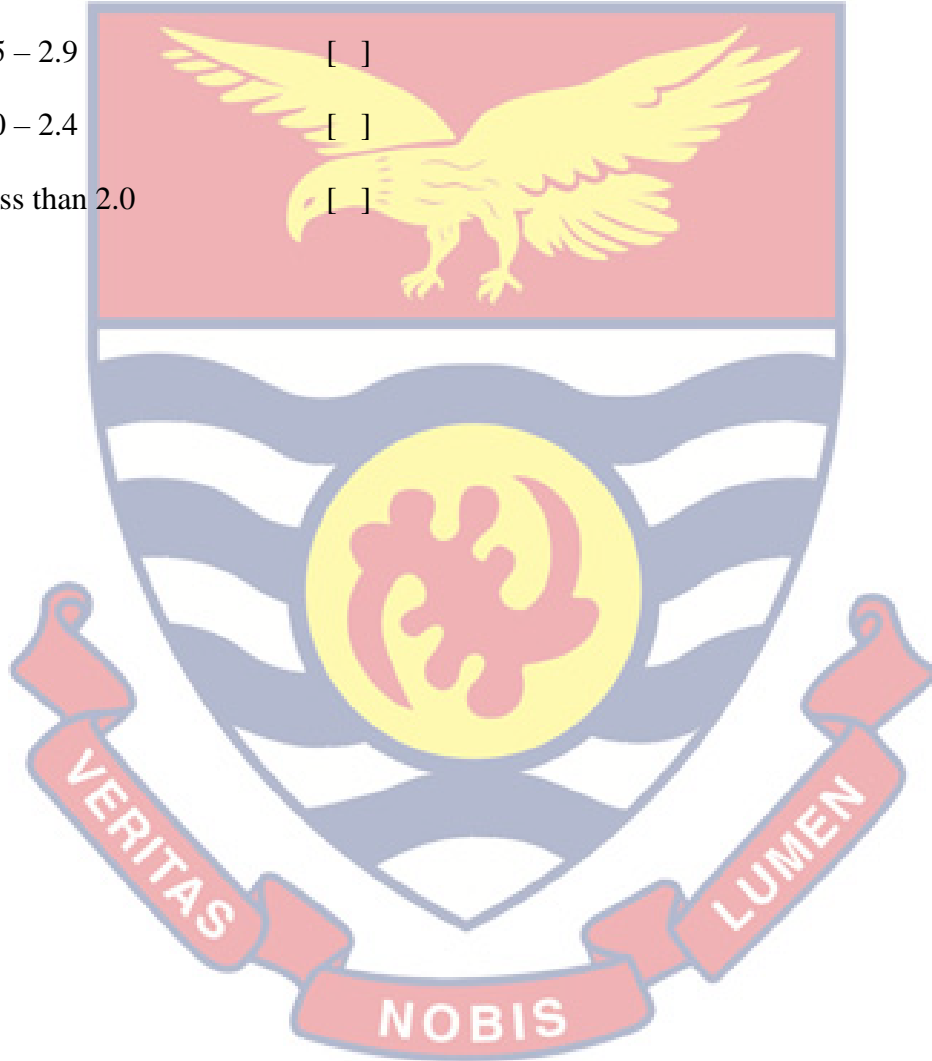
3.6 and above []

3.0 – 3.5 []

2.5 – 2.9 []

2.0 – 2.4 []

Less than 2.0 []



APPENDIX C: FOCUS GROUP DISCUSSIONS GUIDE

UNIVERSITY OF CAPE COAST

SCHOOL OF GRADUATE STUDIES AND RESEARCH

FACULTY OF EDUCATIONAL FOUNDATIONS

The focus of education at all the sectors for persons with disabilities is geared towards inclusive education, where all students with disabilities are expected to be educated along their peers without disabilities. This schedule is part of a survey which intends to gather responses from students with disabilities in Colleges of education currently involved with such provision (Inclusive education). This is to help assess the impact of inclusive education experiences on satisfaction, persistence and academic performance of teacher-trainees with sensory impairment and the moderating role of self-efficacy. By participating in this discussion, you will be making important contribution to the debate about inclusive education in Ghanaian Colleges of Education and the future of teacher-trainees with disabilities admission into colleges of their choice. Copies of the report will be made available to all who take part and are interested in the outcome. I wish to assure you that all your answers will be treated as confidential information.

Many thanks for your time.

1. Would you have selected a different College if it had not been for your disability? Why?
2. Which category of SWD's can be easily accommodated in the inclusive settings and why?

3. How satisfied are you in your College with accessibility to educational facilities and services?
4. What promotes your satisfaction in your College?
5. What are some of the specific challenges you face in the College?
6. Tell me a story of a/some challenges you have ever faced on campus and how you were able to overcome it (persist) and not stop pursuing the programme?
7. What motivates you to persist and not drop out of College?
8. Could you make an observation as to the general preparedness of your College for inclusive education in terms of educational materials?
9. How does your College help you to persist?
10. How do you see the personnel, the college's infrastructure and social set-up of your College in view of inclusive education?
11. How do you see your academic performance in the College in relation to your peers, with or without disabilities?
12. Why will you agree/disagree to inclusive education at the Colleges of Education level?
13. Would you recommend that other colleges admit persons with disabilities or only the selected colleges should do so? Any reasons?
14. In relation to the achievement/difficulties of students with disabilities in the colleges, what do you recommend to make inclusion a desirable practice?
15. Any question or suggestions for future studies on Inclusive Education?

APPENDIX D: RESULTS FROM RELIABILITY ANALYSIS

Section B: Inclusive Education Experience

Cronbach's Alpha	N of Items
.705	9

Section C: Satisfaction

Cronbach's Alpha	N of Items
.827	10

Section D: Persistence

Cronbach's Alpha	N of Items
.618	9

Section E: Self-efficacy

Cronbach's Alpha	N of Items
.934	10

Overall Reliability Coefficient

Cronbach's Alpha	N of Items
.806	42

**APPENDIX E: LETTER OF INTRODUCTION TO INSTITUTIONAL
REVIEWBOARD**

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF EDUCATION AND PSYCHOLOGY

Telephone: 233-3321-32440/4 & 32480/3
Direct: 033 20 91697
Fax: 03321-30184
Telex: 2552, UCC, GH.
Telegram & Cables: University, Cape Coast
Email: edufound@ucc.edu.gh



UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

17th November, 2017

**THE DIRECTOR
INSTITUTIONAL REVIEW BOARD
UCC**

**LETTER OF INTRODUCTION
MR. EMMANUEL KWAME LARBI MANTEY**

We confirm that the above-mentioned name is a Ph.D Special Education Student at the Department of Education and Psychology, UCC.

Currently, he is at the theses stage writing on the topic "*Inclusive education experiences on satisfaction, persistence and achievement of students with disabilities in Colleges of Education in Ghana*".

The Department would be very grateful if you could assist him with any information he may need.

Thank you.

Yours faithfully,



**Georgina Nyantakyiwaa Thompson
(Principal Administrative Assistant)
For: Head**

**APPENDIX F: ETHICAL CLEARANCE FROM INSTITUTIONAL
REVIEWBOARD**

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 03321-33172/3 / 0207355653/ 0244207814

C/O Directorate of Research, Innovation and Consultancy

E-MAIL: irb@ucc.edu.gh

OUR REF: UCC/IRB/A/2016/195

YOUR REF:

OMB NO: 0990-0279

IORG #: IORG0009096

16TH JANUARY, 2018

Mr. Emmanuel Kwame Larbi Mantey
Department of Education and Psychology
University of Cape Coast

Dear Mr. Mantey,

ETHICAL CLEARANCE –ID: (UCCIRB/CHLS/2017/26)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for the implementation of your research protocol titled *'Inclusive Education Experiences on Satisfaction, Persistence and Achievement of Students with Disabilities in Colleges of Education in Ghana'*. This approval requires that you submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the UCCIRB for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing,

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu (PhD)

UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST
Date: 17/01/2018

APPENDIX G: LETTER OF INTRODUCTION FROM DEPARTMENT

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS

DEPARTMENT OF EDUCATION AND PSYCHOLOGY

Telephone: 233-3321-32440/4 & 32480/3
Direct: 033 20 91697
Fax: 03321-30184
Telex: 2552, UCC, GH.
Telegram & Cables: University, Cape Coast
Email: edufound@ucc.edu.gh



UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

16th February, 2018

TO WHOM IT MAY CONCERN

Dear Sir/ Madam,

LETTER OF INTRODUCTION: MR. EMMANUEL KWAME LARBI MANTE

We introduce to you the above mentioned name an Ph.D Special Education Student at the Department of Education and Psychology, UCC.

He is undertaking a theses work entitled "Inclusive Education Experiences on Satisfaction, Persistence and Achievement of Students with Disabilities in Colleges of Education in Ghana".

It is purely for academic purposes. All information retrieved would be treated confidentially.

Kindly accord him with the necessary assistance he may need.

Thank you for your support.

(Georgina Nyantakyiwaa Thompson).
Principal Administrative Assistant

For: Head

APPENDIX H: CODING SCHEME

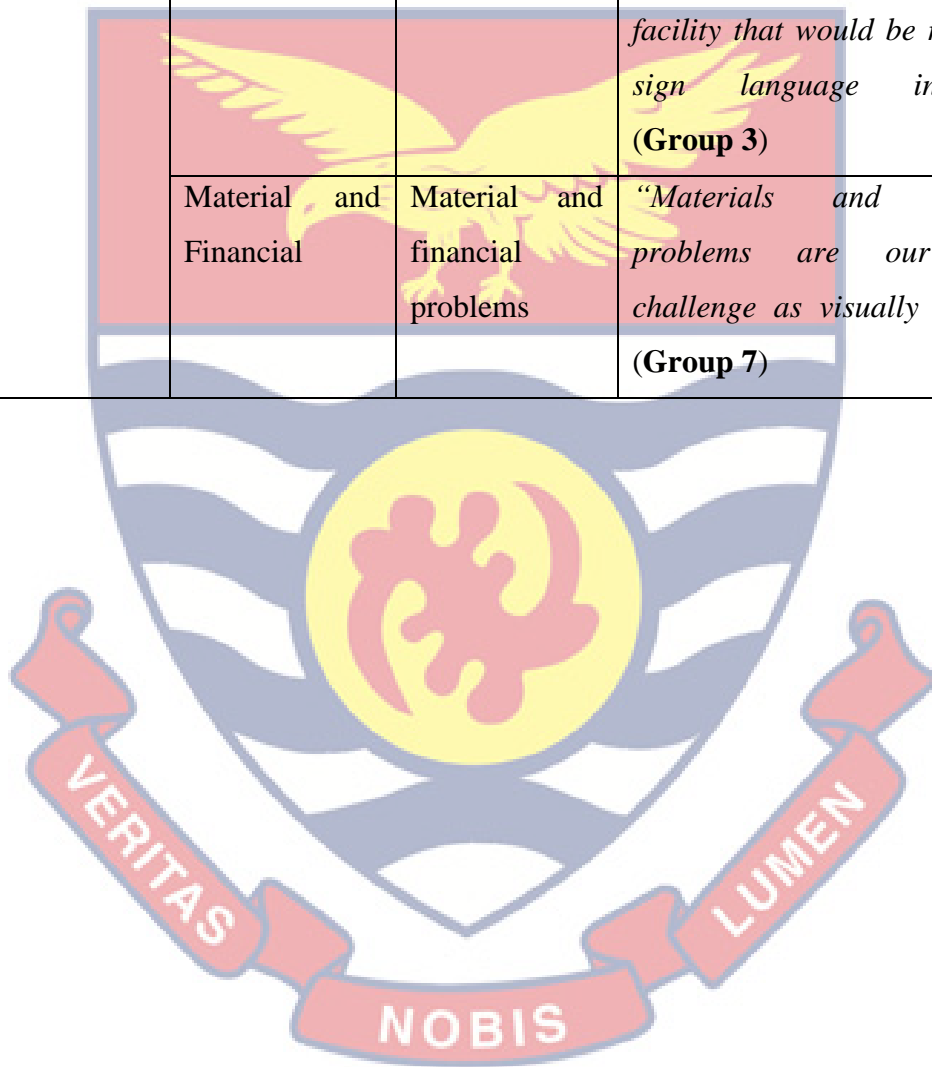
MAIN THEME	SUB THEME	CATEGORY OF CODES	Example(s) of Response Patterns
Preparedness of the Colleges towards inclusive education	General preparation	Proper preparation	Group 1 “I cannot see any proper preparation. You can send reports forward but the responds will not come as you are expecting”
	Infrastructure	Dormitories	“...as for the infrastructure, there are many problems with that because even in the dormitories we are sleeping (Group 1)
	Human resource	Resource personnel	“...for our resource personnel, what I will say is that they do not pay much attention for us (Group 1)
Satisfaction with educational facilities	Poor roads/speed ramps	Speed ramps	“Speed ramps are not there. There are open gutters. So, if you are a Fresher then you are in danger. Mobility orientation was not organised” (Group 7) .
	Financial constraints	Money	“It was difficult for me to get money to go to the College when I had admission to the college (Group 7)
	Material and human resource	Not satisfied	Group 1 had this to say: “Not all that satisfied because there are no enough materials and personnel too”

MAIN THEME	SUB THEME	CATEGORY OF CODES	Example(s) of Response Patterns
	Well-fixed materials	Facilities	<i>“As for the facilities they are well equipped (Group 10)</i>
	Support from teachers	Teachers	<i>The teachers are always concern with our involvement in the teaching and learning process that makes me satisfied (Group 9)</i>
	Financial challenge	Difficult getting money	<i>“It was difficult for me to get money to go to the College when I had admission to the college (Group 7)</i>
Persistence of students in the Colleges	Faith in God	Word of God	<i>“I only motivate myself with the word of God and I believe that the faith that I have in God will make me successful (Group 1)</i>
	Family responsibilities	Family motivated	<i>‘how I was going to take care of my family motivated me to go school so that I can take care of my family’ (Group 8)</i>
	Academic performance	Examination results	<i>“...Most of the times, when our examination results are out, we discover that even some of us performed better than those with no impairment and that motivates to continue” (Group 2)</i>
	Support from friends	Friends	<i>“I am motivated to stay because of the support I get from friends</i>

MAIN THEME	SUB THEME	CATEGORY OF CODES	Example(s) of Response Patterns
			(Group 6)
Academic Performance of students in the Colleges	General Views	Varied Views	<p><i>“With this, I will say that it varies. When I came, I learnt that two visually impaired students had first class in the 2012. This means that they were able to move with the sighted people or learn equally and perform equally with them”</i></p> <p>(Group 6)</p> <p><i>“... If you struggle and you try hard, you can be equal with your colleagues even though you may have some disabilities”. (Group 6)</i></p>
		Peers without disabilities perform better	<p><i>“Okay, I will say that the regular students are better than those with disabilities because in the recent graduation only two disabled students out of twelve had first class and all the rest were students without disabilities.” (Group 8)</i></p>
	Misconceptions	Refuting of misconception	<p><i>“Sometimes too the hearing may think that the hearing impaired has low academic levels but getting close to them</i></p>

MAIN THEME	SUB THEME	CATEGORY OF CODES	Example(s) of Response Patterns
			<i>they realise that we are so special in certain way and they help each other” (Group 5)</i>
Challenges facing SWD in the Colleges of Education	Poor relationship	Our relationship	<i>“...our relationship between the visually impaired and those that are sighted is not good. Some prevent us from entering the resource centres” (Group 10)</i>
	Ramps and open gutters	Make ramps	<i>“...I will say they should make ramps for schools and open gutters should be also be closed to aid movement” (Group 7)</i>
	Lack of educational Materials	Embossers	<i>Embossers, Braille books as well as talking computers should be brought to our schools (Group 8)</i>
	All colleges be made inclusive	Each region	<i>“Yes, if possible, each region should have one College of Education that admits persons with disabilities (Group 4)</i>
Recommendations made by students	Colleges be made inclusive	All or more Colleges	<i>“...all the colleges in Ghana should admit persons with disabilities. And even if not all, at least every region should have a college with disable people there and that is, the government should provide the facilities that they need for</i>

MAIN THEME	SUB THEME	CATEGORY OF CODES	Example(s) of Response Patterns
			<i>them to admit persons with disabilities” (Group 2)</i>
	Sign language interpreters	Sign language	<i>“...so, if inclusive education should be introduced, the only facility that would be needed is sign language interpreter (Group 3)</i>
	Material and Financial	Material and financial problems	<i>“Materials and financial problems are our major challenge as visually impaired (Group 7)</i>



APPENDIX I:

KAISER-MEYER-OKLIN (KMO) AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.676
Bartlett's Test of Sphericity	Approx. Chi-Square	1761.388
	df	780
	Sig.	.000

