UNIVERSITY OF EDUCATION, WINNEBA

VIEWS OF PRE-SERVICE TEACHERS ON THEIR PREPARATION TOWARDS INCLUSIVE EDUCATION IN SELECTED COLLEGES OF EDUCATION IN THE EASTERN REGION OF GHANA

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of the requirements for the award of the degree of Master of Philosophy (Special Education) in the University of Education, Winneba

DECEMBER, 2019

DECLARATION

CANDIDATE'S DECLARATION

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

SIGNATURE……...

DATE …….

SUPERVISORS' DECLARATION

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

…… (Principal Supervisor)

SIGNATURE……...

DATE …….

…… (Co-Supervisor)

SIGNATURE……...

DATE ……

DEDICATION

I dedicate this work to my family especially my wife Ms. Gifty Hinson and all my children for their support and love.

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ABSTRACT

This study examined views of pre-service teachers on their preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana. This was premised on the argument that teacher preparation is a key consideration in the implementation of inclusive education. The self-efficacy theory was adopted for the study. The study employed the cross-sectional design to recruit 287 respondents made up of 272 level 300 pre-service teachers and 15 tutors for the study. In selecting the sample, the researcher used non-probability sampling involving quota sampling technique to select 20% of the pre-service teachers, while a purposive sampling technique was adopted for the selection of tutors in the Colleges of Education. Data from questionnaire were fed into Statistical Package for Social Sciences (SPSS) version 22.0 software and the mean scores were computed and used for the analysis and interpretation. The results of the study showed that the pre-service teachers had demonstrable knowledge of inclusive education, but there were mixed reactions to their ability to adapt the curriculum to meet the learning needs of diverse learners in inclusive classrooms. Based on the findings, it was recommended among others that the curriculum for the Colleges of Education should be reviewed to ensure that pre-service teachers have the necessary skills attitudes, confidence and competence to design and deliver inclusive curricular for a diverse range of learners to improve their participation in learning.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Inclusive education systems reflect growing awareness of the imperatives of 21st century societies to make quality education available to all students. The development of inclusive education in Ghana has been recognized as the process for orchestrating educational quality and equity for students with disabilities (Opoku, Agbenyega, Mprah, Mckenzil, & Badu, 2017).

Ghana as a signatory to the United Nations Convention on the Rights of Persons with Disability (UNCRPD) has since taken steps to safeguard the right to education for all students regardless of their abilities. Evidently, inclusive education has been piloted-in Ghana since 2003-2004 academic year (Anthony, 2011; Gregorius, 2016; Opoku, Badu, Amponteng, & Agyei-Okyere, 2015).

The achievement of inclusive education requires a lot of efforts of which the teacher is paramount. Thus, the critical need for teacher preparation has presented a significant demand for programmes not only at the pre-service level but also by including course-work for service teachers to increase their knowledge base in teaching all categories of children with special needs in inclusive classrooms.

Teachers are at the heart of implementing inclusive education, and they should be supported and trained to adopt different teaching strategies to support the learning needs of students with special needs in classrooms (Ashman, 2015). For instance, meeting the diverse needs of children with special needs require a teacher with requisite competences like professional values and attitudes, pedagogical knowledge and

pedagogical content knowledge to be able to succeed in adequately teaching such children (Ministry of Education, Ghana, 2016).

The primary aim of teacher education in Ghana is to produce teachers for the general education classroom which is mostly subject based. With the practice of inclusive education, the classroom is widespread of learners with special needs. With this, general educators must understand children with special needs, their curriculum needs, adapt the general curriculum to meet their diverse needs and also develop an assessment procedure and be ready to work with them. All these call for adequate teacher preparation to ensure that the teacher trainees acquire the requisite competences.

In Ghana, however, pre-service teacher preparation in the various Colleges of Education largely focuses on subject teaching. This kind of preparation leaves teachers mostly deficient in teaching competences to adequately manage pupils with special needs when confronted with the situation. There is also the argument that the initial teacher education curricula in many African countries, including Ghana, are too theoretical with little emphasis on practical knowledge and practice (Akyeampong, Lussier, Pryo, & Westbrook, 2013).

Agbenyega (2007), Mprah, Dwomoh, Opoku, Owusu, and Ampratwum (2016), and Obeng (2007), opined that since the implementation of inclusive education in Ghana, many challenges and barriers have affected how inclusive education has been interpreted and operationalized at all levels of schooling. For example, it was evident that teachers lacked skills to fully understand inclusive education within a classroom setting as they reported a sense of unpreparedness in their ability to effectively teach students with disabilities. In a study by Mamah, Deku, Darling, and Avoke (2011), the

researchers found lack of adequate training of teachers as a core barrier to teaching students with disabilities in inclusive settings.

With the findings above, pre-service teacher preparation programmes must be enhanced adequately to include knowledge and skills for teaching students with special needs. To be able to achieve this, the curriculum of the Colleges of Education must be redesigned to include areas of curriculum content, teaching strategies, assessment procedures and adequate management of behavioural needs of students with special needs.

From the early 1990s the Colleges of Education in Ghana introduced a course in special needs education into their curriculum. This course is offered to sensitize pre-service teachers about issues relating to learners with disabilities, and equipping them with skills in managing diversity in inclusive classrooms (Hayford, 2013). However, the introductory course, does not adequately inform teachers about how to manage the needs of learners with disabilities and those with special educational needs. In fact, personal observations and experiences as a tutor of a College of Education and corroborated by a number of studies have revealed that, pre-service teacher programmes do not prepare teachers adequately for inclusive education. For instance, in a survey, Brew (2011), reported that 52% of the tutors affirmed that curriculum of Colleges of Education did not offer pre-service teachers' adequate knowledge and skills to function successfully in inclusive settings. Besides, 49% stated that pre-service teachers were not prepared to effect curriculum adaptations and how to conduct and use inclusive assessment for children with special needs in regular classrooms. These findings are critical; they revealed the inadequacies of teacher development programmes with respect to addressing the needs of children in inclusive setting.

Accordingly, some measures have been and continue to be taken to improve on teacher preparation in order to improve competencies of pre-service teachers to meet the learning needs of all learners in inclusive classrooms. Transforming Teacher Education and Learning (T-TEL) is supporting the Ministry of Education, the National Council for Tertiary Education, and the Ghana Education Service, including all their related agencies to transform initial teacher education programmes in all public Colleges of Education in Ghana. These periodic measures continue to be made because it is believed that teachers' knowledge and beliefs about teaching and learning are the most influential factors in the successful implementation of inclusive education. Teachers are key to educational changes and school improvement and that, teachers do not merely deliver the curriculum; they develop, define and interpret it too (Ainscow, 2013). It is what teachers think, believe and do in the classroom that ultimately shapes the kind of learning that their students get.

1.1 Statement of the Problem

In Ghana, education is free and compulsory for all children including those with and without disabilities. In order to ensure that children with disabilities have equal access to education, teachers are trained to help meet the diverse needs of all children. However, the initial teacher education in Ghana particularly has been criticized for failing to prepare teachers adequately for inclusive education (Lewin & Staut, 2003). In some cases, weaknesses in teachers' capabilities in promoting effective learning at the classroom level for individuals with special needs have been cited as an example. In a study by Mamah, Deku, Darling, and Avoke (2011), on university teachers' perception on inclusion, the researchers found lack of adequate training of teachers as a core barrier to teaching students with disabilities in inclusive settings. Similarly, in a

survey, Brew (2011), on the views of tutors of colleges of education on pre-service teacher preparation, the results revealed that the curriculum content designed for pre-service teacher preparation is not well developed to match up to the standard to ensure equity and inclusivity with regards to adequate skills in teaching pupils with special needs in inclusive classrooms. Finally, Akomeah (2015) conducted a study on the perception of teachers on inclusive education in selected basic schools in Cape Coast Metropolis of Ghana. However, from literature it appears there is not enough study conducted on the views of pre-service teachers on their preparation towards inclusive education. It is in the light of this that the researcher sought to ascertain the views of pre-service teachers on their preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana. Moreover, in order to have broader perspective of the issue under study views of tutors would also be sought.

1.2 Purpose of the Study

The purpose of this study was to ascertain the views of pre-service teachers on their preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana.

1.3 Objectives of the Study

The following objectives were developed to guide the study:

- To find out the views of pre-service teachers' on their knowledge and skills towards the practice of inclusive education in Ghana.
- To ascertain the knowledge pre-service teachers have on the adaptation of the curriculum content to meet the learning needs of pupils in inclusive classrooms.
- To explore pre-service teachers' opinion in the use of assessment procedures in assessing pupils with special needs in inclusive classrooms.

- To find out what resources are available for effective pre-service teachers' preparation for inclusive education.

1.4 Research Questions

The following questions were raised to guide the study:

1. What are pre-service teachers' views on their knowledge and skills towards the practice of inclusive education in Ghana?
2. What knowledge do pre-service teachers have on the adaptation of the curriculum content to meet the learning needs of pupils in inclusive classrooms?
3. What knowledge do pre-service teachers have in the use of assessment procedures in assessing pupils in inclusive classroom?
4. What resources are available for effective pre-service teachers' preparation for inclusive educations?

1.5 Significance of the Study

The results of this study would help in revealing how pre-service teachers are prepared towards inclusive education and their development of knowledge and skills for teaching pupils with special needs in inclusive classrooms in Ghana. This would enable the administrators of the Colleges of Education in Ghana to find means of assessing their teacher preparation programmes towards inclusive education in Ghana.

In addition, the results of the study would help in finding out what knowledge pre-service teachers have in the adaptation of the curriculum content to meet the learning needs of pupils in inclusive classrooms. This would also enable the Colleges of Education to find out means of preparing their pre-service teachers to have knowledge on how to adapt the curriculum to meet the learning needs of pupils with special needs in inclusive classrooms.

Furthermore, the results of the study would help in finding out pre-service teachers' knowledge in the use of assessment procedures in assessing pupils with special needs in inclusive classrooms. This would also enable the administrators of the Colleges of Education to plan programmes that prepare their pre-service teachers in assessment procedures for effective inclusive education.

Also, the results of the study would help in identifying resources that are available for pre-service teacher preparation towards inclusive education. Finally, the results of the study would add to the existing literature for any other researchers interested in similar studies.

1.6 Delimitation

Even though, there are seven public Colleges of Education in the Eastern Region of Ghana, the study was delimited to three Colleges of Education in the Eastern Region of Ghana; namely Mount Mary College of Education-Somanya, Presbyterian College of Education-Akropong and SDA College of Education-Koforidua. The focus of the study was the level 300 students on internship with emphasis on areas of teacher preparation.

1.7 Limitations

In selecting the colleges whose participants were involved in the study, purposive sampling techniques was used. While this may satisfy the researcher's needs to take this type of sample, it does not pretend to represent the wider population. It may therefore be biased. The use of Likert scale may affect the generalization of the results due to its limitations. There is no assumption of equal intervals between the categories, hence four indicates neither that it is twice as powerful as two nor that it is twice as strongly felt. Also, the researcher could not check on whether the respondents were

telling the truth since some respondents might be deliberately falsifying their replies. Also, in using a Likert scale, the researcher has no way of knowing if the respondents might have wished to add any other comments about the issue under investigation.

1.8 Operational Definition of Terms

Inclusive education: Inclusive education is a type of education that ensures equal access to quality education for all categories of persons. That is educating both exceptional and non-exceptional students in the same classroom with provision of support services to the handicap.

Pre-service teacher: Students who are in the Colleges of Education undergoing training.

Pupils with special needs: Pupils who have deviated from the norm in terms of physical, mental, emotional, sensory etc.

Diverse learning needs: The educational challenges individuals are facing that make them different from other children.

1.10 Organization of Study

The study was focused on the views of pre-service teachers on their preparation towards the practice of inclusive education in selected Colleges of Education in the Eastern Region of Ghana. Chapter one of the study was the introduction, traced the background of the problem. It stated the problem and described the aspect of the study. It dealt with the purpose of the study, the objective, research questions, significance, limitations, delimitation, definitions of terms and organization of the study. Chapter two also dealt with the review of related literature. In chapter three was the research design, sample and sampling technique, instrumentation, data collection procedure. The

analysis of the data collected was presented in chapter four. Chapter five concerned itself with summary of the findings, conclusions drawn, recommendations made and suggestions for further study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the literature reviewed for the study under the following sub-topics:

1. Theoretical framework
2. The concept of inclusive education.
3. Knowledge and skills of pre-service teachers towards the practice of inclusive education.
4. Pre-service teachers' knowledge on adaptation of the curriculum content to meet the needs of special needs children.
5. Knowledge of pre-service teachers in the use of assessment procedures for pupils with special needs in inclusive classrooms.
6. Resources available for effective pre-service teachers' preparation for inclusive education.
7. Summary of literature review

2.1 Theoretical Framework

The theory that guided this study is the self-efficacy theory by Sdorow (1993) and Bandura (1997). From Sdorow's (1993) perspective, self-efficacy is the extent to which a person believes that he or she can perform behaviours that are necessary to bring a desired outcome. Bandura (1997) also described the concept of self-efficacy as the belief in one's capacities to organize and execute the courses of action required to produce given attainments. Self-efficacy, determines teachers' choice of practices in teaching students with special needs, their skills in applying the instructional needs and

adaptations needed to teach students with special educational needs in the inclusive classrooms. To further explain the concept 'self-efficacy', Bandura (1997), cited in Tobin, Muller and Turner (2006), explained that self-efficacy can be broken into two factors such as efficacy expectancy and outcome expectations. Tobin, Muller and Turner expounded that outcome expectancy is the belief that if effort is applied in an activity an expected outcome will be achieved. Efficacy expectancy is the belief in one's capacity to influence an outcome. For example, a teacher must believe that he or she can adequately teach a student with special needs and bring about a desired change, which is the efficacy expectancy.

Outcome expectancy is a teacher's belief that teaching students with special needs will bring about improvement in their lives. Tschannen-Moran, Woolfolk –Hoy, and Hoy (1998) explained that a teacher's efficacy is influenced by his or her locus of control. Rotter (1966) explained locus of control to be the belief that events and situations that people encounter or experience, are or are not within their control. People who believe that things that they experience are due to their own efforts have internal locus of control whiles those who feel that what happens to them is not within their control but due to other factors have external locus of control. Therefore, people who believe that they are in control of what happens around them (internal) mostly tend to be willing to put more efforts into what they do, which increases their self-efficacy. However, people who have external locus of control do not try new experiences or take risks because they attribute things happening around them to circumstances beyond their control, and this makes them have a lower sense of self-efficacy.

Bandura (1977, 1997) cited by Hoy (2000) proposed four determinants of self-efficacy, namely mastery experience or previous success, various experiences, social persuasion and psychological and emotional states. Bandura (1997), and Bitner and

Pajares (2006) explained that mastery experience is the most influential source of self-efficacy. Mastery experience is a person's capacity to engage in tasks when they have been successful in that task in the past making them feel self-efficient. People also form self-efficacy through vicarious experiences by observing others perform a task, then they use the information to evaluate their own likelihood of success. Social persuasion includes verbal and non-verbal judgments that other people provide, that make people believe that they have the capacity of being successful. Physiological states such as anxiety, stress and mood states play a role in also making a person feel competent or have a high self-efficacy. However, in relation to the study the variable mastery experiences have been found to be more relevant. This is because it deals directly with competence and how previous experiences like knowledge, practice and accomplishment skills made people feel self-efficient.

Bandura (1997) further explained that when people are successful in an activity over a period of approximations, it raises their feeling of their mastery expectations. On other hand, repeated failures in an action lowers one's expectations of being successful. Strong efficacy expectations are developed through repeated success and the ability to cope in difficult situation. Bandura expounded that for a person to feel that he or she has performed an accomplishment or is competent; there must be performance exposure (knowledge, training and experience). Bandura, further explained that a person has exposure to phenomenon of interest, in order to understand the phenomenon. In view of this, Gist (1987) explained that people who are highly efficacious are more likely to get involved in activities for a long time and cope effectively which results in mastery experiences that further raise their self-efficacy then competence. However, according to both Bandura and Gist, people with low self-efficacy frequently lack coping skills

and therefore tend to avoid threatening activities and quit very easily after initiating a task, which in turn leads to a decreased sense of self-efficacy.

2.1.1 Application of the self-efficacy theory to the current study

A teacher who believes that it is his or her duty to make sure that a student with special needs is adequately and effectively taught has an internal locus of control (Rotter, 1966). This makes the teacher believe that if he/she makes an effort he will have the capacity and mastery to teach the student with special needs, thereby raising self-efficacy. A teacher, who has a high sense of self-efficacy, has a positive attitude towards teaching and takes risks to learn new ideas, and then applies the new strategies just to bring improvement in his or her student. However, a teacher with an external locus of control does not believe he has the capacity to bring an improvement to the academic performance of the student with special needs, this makes the teacher lack self-efficacy.

In application of mastery experiences, if a teacher continuously practices strategies learnt in teaching students with special needs, he or she increases his/her chances of perfecting their skills. This brings about desirable outcomes in the child with special needs, making the teacher competent. For example, teacher self-efficacy has been associated with quality of instruction and the use of innovative teaching methods (Idol, 2006; Tschannen-Moran, & Woolfolk-Hoy, 2001; Wolters & Daugherty, 2007). Conversely, teachers who are faced with the daily struggles of teaching the students with special needs may develop a faltering sense of self-efficacy. Their low sense of self-efficacy may be a vicious cycle, resulting in a teachers' belief that he or she may lead to the teachers using less instructional strategies, ultimately leading to non-achievement and failure in teaching and bringing about a change in the student with

special needs. This theory was adopted because with the global agenda for inclusive education, teachers undergoing training need to be properly prepared towards inclusive education.

2.2 Concept of Inclusive Education

Inclusive education is when all students, regardless of any challenges they may have, are placed in age-appropriate general education classes that are in their own neighborhood schools to receive high quality instruction, interventions, and supports that enable them to meet success in the core curriculum (Alquraini & Gut, 2012; Bui, Quirk, Almazan, & Valenti, 2010).

The school and classroom operate on the premise that students with disabilities are as fundamentally competent as students without disabilities. Therefore, all students can be full participants in their classrooms and in the local school community. Much of the movement is related to legislation that students receive their education in the least restrictive environment (LRE). This means they are with their peers without disabilities to the maximum degree possible, with general education the placement of first choice for all students (Alquraini & Gut, 2012).

The United Nations has adopted inclusive practices and has set basic principles underpinning the best practices of inclusive education through various treaties and conventions guiding the practices of inclusive education. For instance; The Dakar Framework for Action adopted a World Declaration on Education for All (EFA) in 2000, which established the goal to provide every girl and boy with primary school education by 2015. It also clearly identified inclusive education as a key strategy for the development of EFA. The Salamanca Statement and Framework for Action, endorsed by 92 governments and 25 international organizations at the World

Conference on Special Needs Education, June, 1994 in Salamanca, Spain proclaimed that every child has unique characteristics, interests, abilities, and learning needs and that "those with special education needs must have access to regular schools which should accommodate them with a child-centered pedagogy capable of meeting those needs. The Salamanca Statement also asserted that educational systems that take into account the wide diversity of children's characteristics and needs are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system.

The fundamental principle of the inclusive school is that all children should learn together wherever possible regardless of any difficulties or differences they may have. Inclusive schools must recognize and respond to the diverse needs of their students, accommodating both different styles and rates of learning and ensuring quality education to all through appropriate curricula, organizational arrangements, teaching strategies, resource use and partnerships with their communities. There should be a continuum of support and services to match the continuum of special needs encountered in every school (UNESCO, 1994).

Successful inclusive education happens primarily through accepting, understanding, and attending to student differences and diversity, which can include the physical, cognitive, academic, social, and emotional. This is not to say that students never need to spend time out of regular education classes, because sometimes they do for a very particular purpose for instance, for speech or occupational therapy.

The driving principle of inclusive education is to make all students feel welcomed, appropriately challenged, and supported in their efforts. It is also critically

important that the adults are supported, too. This includes the regular education teacher and the special education teacher as all other staff and faculty who are key stakeholders; and parents.

2.2.1 Benefits of inclusive education to students

Simply put, both students with and without disabilities learn more. Many studies over the past three decades have found that students with disabilities have higher achievement and improved skills through inclusive education, and their peers without challenges benefit, too (Alquraini & Gut, 2012; Bui, et al., 2010; Dupuis, Barclay, Holms, Platt, Shaha, & Lewis, 2006; Newman, 2006).

Alquraini and Gut (2012) examined the critical components of successful inclusion for students with severe disabilities. The study was to provide an overview of literature regarding effective practices for inclusion with a focus on critical components of successful inclusion that assist in preparing the stakeholders worldwide to work and engage effectively with students with disabilities in inclusive schools. The methodology used to conduct the study was to systematically search internet resource, abstracts and databases. The descriptors involved in the study included students with severe disabilities, intellectual disabilities, inclusion, modification adaptation, assistive technology, collaboration, instructional strategies, typically developing peers and family support. The authors used two sets of criteria thus general education setting and examining critical components of successful inclusion of students with disabilities. Seventy-two studies met with these two criteria. This review provides evidence that these components support students' access and progress, either in curricular and non-curricular activities in general education settings.

For students with disabilities (SWD), this includes academic gains in literacy (reading and writing), math, and social studies both in grades and on standardized tests, better communication skills, and improved social skills and more friendships. More time in the general classroom for SWD is also associated with fewer absences and referrals for disruptive behaviour. This could be related to findings about attitude in that they have higher self-concept, they like school and their teachers more, and are more motivated around working and learning.

For their peers without disabilities, they also show more positive attitudes in these same areas when in inclusive classrooms. They make greater academic gains in reading and math. Research shows the presence of SWD gives non-SWD new kinds of learning opportunities. One of these is when they serve as peer-coaches. By attending to how to help another student, their own performance improves. Another is that as teachers take into greater consideration their diverse learning, they provide instruction in a wider range of learning modalities (visual, auditory, and kinesthetic), which benefitted their regular education students as well.

Researchers often explore concerns and potential pitfalls that might make instruction less effective in inclusion classrooms (Bui et al., 2010; Dupois et al., 2006). But findings (McDonnell, Thorson, & McQuivey, 1998) showed this is not the case. Neither instructional time nor how much time students are engaged differs between inclusive and non-inclusive classrooms. In fact, in many instances regular education students report little to no awareness that there even are students with disabilities in their classes. When they are aware, they demonstrate more acceptance and tolerance for SWD when they all experience an inclusive education together.

2.3 Knowledge and Skills of Pre-service Teachers towards the Practice of Inclusive Education

According to Deku and Vanderpuye (2017), teachers' knowledge, emotions and skills ab`out inclusive education are particularly important in the successful implementation of the inclusive education programmes. Educators' knowledge and skills have direct impact on their preparedness to implement inclusive education effectively. Dapudong (2014) said the success of inclusive education and organized placement of children with disabilities depends on teachers' knowledge and skills.

Drawing conclusion from the Deku and Vanderpuye (2017) and Dapudong (2014) assertions above, it can be established that the successful inclusive education depends on the knowledge and skills of teachers.

In a recent study, Landasan (2017) recommended that teachers' knowledge, skills, and attitude must be given appropriate measures to further enhance the skills and academic performance of the pupils with special needs. Knowledge dispels misconception and clarifies misunderstanding; prejudice and fear then decreases. Educators and non-disabled class peers become more accepting as they learn more about the abilities and problems of special needs.

According to Kapp (1994), pre-service teacher should have knowledge of the following:

- The importance of early identification of and aid to learners with problems and the educator's task in this regard.
- The most important causes and manifestations of learning and behaviour problems in learners.
- The identification procedures that may be employed, such as screening and criterion - reference tests.

- Informal methods of gathering information.
- The basic principles and possible forms of assessment (p. 76).

Additionally, Nell (2010) stated that knowledge includes educators being adequately prepared to assess special needs children, to adapt curriculum content to the needs of the learners in the classrooms, modification as well as medical and para-medical assistive devices required by some of the special needs children. It also includes the use of appropriate teaching strategies based on the learners' total level of functioning. Nell further stated that one of the aims of teacher education programme is to provide elective instruction to pre-service teachers in order to facilitate learning. Lewis and Doorlag (2011) maintained that limited knowledge and experience can lead to the development of prejudice and non-accepting attitudes.

Akomeah (2015) conducted a study on the perception of teachers on inclusive education in selected basic schools in Cape Coast Metropolis of Ghana. The study adopted descriptive survey design to help find answers to the problem under investigation and a questionnaire was used to collect data for the study. Systematic random sampling technique was used to select 76 basic school teachers as the respondents for the study. The background information of the respondents was analyzed using the frequency and percentage. The research questions were analyzed using frequency and percentage. The study revealed that almost all the respondents had knowledge and skills necessary to handle pupils with disabilities in inclusive settings. Another finding was that teachers implemented the curriculum by adopting strategies to suit learners and were using alternative assessment strategies in assessing pupils in the classroom. The findings suggest that teacher's knowledge about inclusive education will enable them to use the skills to assess and handle special needs pupils in the classrooms. These findings are consistence with Nell (2010) that knowledge includes

educators being adequately prepared to assess special needs children, to adapt curriculum content to the needs of the learners in the classrooms.

UNESCO (2009) elaborates on how an inclusive education system should be by stating that: 'an inclusive education system can only be informed if normal schools become more inclusive'. This is to say, if they improve at educating all children in their communities. Knowledge that a learner has about a disability raises the anxiety level of educators. For example, knowledge that a learner is visually impaired causes tension and anxiety in the educator. Chaula, (2014) stressed that every child has an ultimate right to have education, and need to be given the chance to attain and maintain satisfactory level of learning. Every child has unique features, interests, learning needs and abilities. Education system should be designed and programmes need to be implemented in consideration of a wide diversity of these characteristics and needs. In fact, what is pertinent is that, although the learners read braille material, and interact with classmates. Learners with special needs should be included in as many activities as feasible and treated like any other learner, that is, as an individual. Special needs are with identified needs; despite these needs they remain individuals (Downing, 2002).

Shore (2013) further pointed out that the purpose of inclusive education is to help children with disabilities adjust to being with their non-disabled peers and to help them adapt to the demands of regular education class. Shore, further maintained that mainstream classroom educators must be prepared to buy into the philosophy that if material is presented appropriately, all learners can learn; it may have to be at their own pace, but they still can learn. Educators must also be risk takers and they must be willing to risk the way they have always done things. They must be willing to look at the same situation in different ways and even risk failure in order to grow and to look at obstacles as opportunities.

2.3.1 Skills of teachers

Teachers need to possess certain skills to enhance inclusion. According to Van Schalkwyk (1994), skills and competencies refer to the abilities, knowledge, expertise or techniques a person has. Pre-service teachers need to be trained to acquire necessary skills in order to implement inclusive education successfully. Downing (2002) suggested that the skills required for inclusive education are different. They involve being able to identify and assess special needs children, being able to adapt curricular content teaching and learning methods and assessment methods to assist special needs children and working in collaboration with colleagues, parents and the broader communities.

Goddard (2004) stated that the educator should be able to identify and assess the learner with learning and behavioral problems in their class by using informal diagnostic procedures and implement screening test such as reading and mathematical tests themselves or in cooperation with the remedial educator as school psychologist. The author further said, the educator should be able to adapt the curricular content and teaching methods to assess special needs children and collect relevant information in connection with the learners' problems by means of informal medium such as observation. The information gathered concerning the learning should be recorded and then discussed objectively and scientifically with others (classroom teachers and resource room teachers).

Finally, the educator should be able to formulate the objectives of the aid, based on the findings, either on his own or in co-operation with others, apply basic aid techniques on his own and evaluate the progress thereof. Work in collaboration with colleagues and broader community. The findings from Downing (2002) and Goddard (2004) are in line with Akomeah (2015) that teacher's knowledge and skills are

necessary to handle pupils with disabilities in inclusive settings and implement the curriculum by adopting strategies to suit learners, assess pupils in the classroom and prepared to collaborate with other professionals to enhance inclusive education.

2.4 The Curriculum Content of the Colleges of Education

Pre-service teacher preparation in Ghana is the core mandate of the Colleges of Education and some universities notable among them the University of Education, Winneba and the University of Cape Coast and recently University of Development Studies and University of Ghana, Legon as well as some private universities. For the purpose of this study the focus was on the Colleges of Education in the Eastern Region of Ghana. Act, 847 which was passed to give legal backing to the new status of the institution in 2012 placing the colleges under the National Council for Tertiary Education (NCTE) mandates them for the initial training of all teachers at the pre-tertiary level (Ministry of Education, Ghana, 2017). For this to be effective one needs to go through series of training using a curriculum.

The curriculum used in all the 46 Colleges of Education to prepare teachers is under the auspices of the University of Cape Coast, hence the curriculum content is designed and supervised by the University of Cape Coast who also set and mark the external examinations.

According to the Institute of Education of University of Cape Coast, revised course outline (2014), various courses are designed for the colleges to adequately prepare teachers for a period of three years. The courses are put into three categories namely content, pedagogical knowledge and practice.

The core rational for the curriculum designed is that it concentrates on the essential elements on initial teacher education curriculum needs to focus on, in order to

prepare competent teachers. This teacher preparation is given credence to by the Ministry of Education, (2016) which is a new guide for pre-service teacher preparation has set out a minimum level of practice that all trained teachers must reach by the end of their training.

2.4.1 Year One (1) curriculum (content knowledge)

Initial Teacher Education (ITE) students are expected to demonstrate knowledge of subject content. This subject content knowledge should encompass the subject's key concepts, substance and structure. The students are exposed to various courses which include English language, Mathematics, Science, Social studies Educational studies etc. The depth of subject studied varies across different subjects with greater emphasis on English language, Mathematics, General Science, and ICT (Ministry of Education, Ghana, 2017).

Helping subjects like Arts and Craft, Culture and P. E. in addition to institution specialism at the Junior High School phase offer elective courses. A major expectation of students in the Initial Teacher Education (ITE) is that they have a secured knowledge of content as well as the curriculum they are going to implement. Some of this knowledge is attained in the students' general education prior to their enrolment into the ITE programme and then built upon in the disciplinary studies courses. For effective curriculum implementation, it is important that the teacher attains a subject knowledge that goes beyond what is contained within the curriculum at the level the subject is specializing in. The subject should be able to identify and address the gaps in his or her own subject knowledge through self-study with regards to the course they offer in relation to knowledge of special needs pupils, child and adolescence, development and learning is offered. The module or courses for teaching, learning and assessment in the

initial teacher education is structured and integrated in the programme of training (Transforming Teacher Education and Learning, 2016).

2.4.2 Pedagogical knowledge (methodology)

Pedagogical knowledge refers to the specialized cognitive knowledge of teachers for creating effective teaching and learning environment for all learners (Guerriero, 2017). Pedagogy is described as the instructional techniques and strategies which enable learning to take place. It refers to the interactive process between teacher and learner and it is also applied to include the provision of some aspects of the learning environment (Siraj-Blatchford & Siraj-Blatchford, 2002).

Pedagogical knowledge is the broad principles and strategies of classroom management and organizations that go beyond subject matter. Its purpose is to enable student teachers to understand school subjects through linkages among learners, context, subject discipline and pedagogical approach. It draws together teachers' knowledge of the theories of learning and general principles of instructions, their understanding of the various philosophies of education and how they can support effective teaching, general knowledge about learners and knowledge principles and techniques of classroom management (Grossman & Richert, 1988) cited in Ministry of Education, Ghana (2017).

Pedagogical knowledge refers to the principles and strategies of classroom management and organization, teaching methods, assessment, learning processes and learner characteristics that are cross cutting. The rational for pedagogical study is to help pre-service teachers how to teach and assess the subjects that school offer and their pedagogical approaches in the context of the school and the learner. Pedagogical study makes teachers see the linkages among learner, context, subject discipline and

pedagogical approach. Teachers' knowledge about the pedagogy of subjects, such as language, sciences, mathematics and social studies, equips them with skills needed to manage the teaching and learning process in the manner that they will be able to draw upon epistemological insights while teaching any of the key discipline (Ministry of Education, Ghana, 2017).

As part of the pedagogical knowledge that the pre-service teachers acquire, they need to practice to demonstrate the knowledge gained.

According to Transforming Teacher Education and Learning (2016), in their books. Teaching Practice Tutors' Handbook, to enhance the students' skills in teaching, the teaching practice exercises are divided into three major components namely:

Year 1: observation teaching practice.

Year 2: on-campus teaching practice.

Year 3: off campus teaching practice.

2.4.3 Year 1: Observation teaching practice

In year one, college tutors organize pre and post observation teaching practice activities and where possible, make visits to the observation teaching practice schools. The student teachers are posted to schools for ten days' observation. The observation activities include:

Day 1 -Familiarization with school organization.

Day 2: -observing a lesson

Day 3: -Lesson planning

Day 4: -Stimulating and sustaining pupils' interest

Day 5: -Developing the lesson

Day 6: -Classroom organization, management and control

Day 7: -Teacher talk: assessing pupils' learning achievement-communication and questioning skills.

Day 8: -Co-curriculum activities

Day 9: -Professional commitment of the teacher

Day 10 -School leadership

(Transforming Teacher Education and Learning, 2016, p. 15).

2.4.4 Year 2: On-campus teaching practice (micro teaching)

Pre-service teachers will be able to familiarize themselves with the competencies and skills of classroom teaching and learning. The college tutors will supervise and assess the competencies and skills acquired by the student teachers and assist them where necessary.

Pre-On-Campus Teaching Practice Activities.

- Stimulating and sustaining pupils' interest - peer teaching in lower primary
- Stimulating and sustaining pupils' interest - peer teaching in upper primary
- Stimulating and sustaining pupils' interest - peer teaching in Junior High School.

Source: (Transforming Teacher Education and Learning, 2016)

2.4.5 Year 3: Off-campus teaching practice

On their third year of training, pre-service teachers are attached to partner schools for one-year teaching practice. The purpose of this exercise according to the Transforming Teacher Education and Learning (2016), is to help the pre-service teacher to demonstrate questioning and communication skills in their lesson delivery. They will also be required to exhibit knowledge of appropriate use of teaching and learning materials (TLMs) and be able to assess their pupils' learning effectively after teaching.

During the practice, the pre-service teacher would arrange to meet his/her mentor each morning for planning and after school for review and exchange of information gathered. At the end of each week, reflective practice meeting is scheduled on regular basis throughout the one-year teaching practice period. The mentor's role is to support the pre-service teachers. College tutors also visit teaching practice schools to supervise, evaluate and support pre-service teachers.

2.5 Pre-Service Teachers' Knowledge on Adaptation of the Curriculum to meet the Needs of Pupils in an Inclusive Classroom

2.5.1 Curriculum adaptation

Curriculum adaptations refer to modifications that relate specifically to instruction or content of a curriculum and any adjustments to learning, teaching and assessment environment, assessment techniques, that enhance a learner's performance or allow at least partial participation in learning activity, structured learning programmes and assessment (Department of Education, 2005). Miller (2009: pg 466) added that adaptations involve changes to the curricular content, changes to the conceptual difficulty level of the curriculum or changes to the instructional objectives and methodology. Hewitt (2006) on the other hand believes that curriculum adaptations imply actions at the classroom and teacher level. It is to take the curriculum and adjust it to fit the needs or to modify and use existing materials for insertion in a regular curriculum for very specialized reasons.

Although the concept of curriculum adaptation is fairly straightforward, it can take many different forms. In essence, teachers and curriculum specialists adjust and modify curricula according to student needs and the goals set forth by that student's Individualized Education Programme (IEP).

With the continued push toward the inclusion of students with special needs in the general education classroom, the curriculum must be adapted to meet the needs of the students with disabilities.

Curriculum Enhancement and Curriculum Modification

2.5.2 Curriculum enhancement

Curriculum enhancement is when teachers use existing curriculum in the general education classroom but adjust the methods and media of input and output to suit the student's needs and IEP goals. Implementing differentiated instruction techniques, using adaptive technologies, changing the student's physical environment, and integrating culturally responsive language and content into curriculum content are all examples of curriculum enhancement.

2.5.3 Curriculum modification

Curriculum modification implies a greater level of adjustment to the existing curriculum. In general, teachers often accomplish this by adjusting the depth or type of content within the existing curriculum. Perhaps a student whose learning disability prevents him from reading at the same rate or depth as other students needs more time to read the materials, a shorter piece to read, or an alternative piece covering the same content in simpler language. If a student has more severe cognitive disabilities, the teacher might further modify that student's curriculum by changing their course material at a conceptual level. This is similar to altering reading materials to be simpler, but can also include changing the actual conceptual content of those materials towards different subjects more appropriate to that student's cognitive abilities and goals.

Armstrong (2000) cited in Asempa (2013) also describes curriculum adaptations in four primary categories as follows: Curricular content, Instructional strategies, Instructional materials and Assessment practices.

2.5.4 Curriculum content

The adaptation of the content of the curriculum according Armstrong (2000) involves varying what is taught, that is, the complexity and nature of the content presented during the course of a unit of study. This type of curriculum adaptation results in an adjustment of cognitive demand of a learning task for particular learners. Armstrong (2000), explained that adjustment of the cognitive demand in a lesson typically involves an adaptation to the attention, thinking and or memory requirements associated with particular content. He further explains that, in partnership with hierarchical questioning techniques, this approach can result in a larger number of students meaningfully participating in a lesson drawn from the general curriculum. Reisburg (1990) has examples of the modifications of content such as simplifying concepts or reading levels, teaching different sets of knowledge and skills. Furthermore, Reisburg explains that objectives are the foundation upon which you can build lessons and assessments that you can prove meet your overall lesson goals. Objectives guide the content materials and the teaching methods. They are designed to increase an individual's knowledge. This include knowledge or information, recall, comprehension or conceptual understanding, the ability to apply knowledge, the ability to analyse a situation, the ability to synthesize information from a give situation, ability to evaluate a given situation and the ability to create something new.

Amstrong (2000), further explained that adapting the content of the curriculum might involve applications as straightforward as reducing the number of vocabulary words assigned to an individual child having a learner complete only the odd-numbered

problems on a mathematical assignment, holding a learner responsible for learning three facts about one animal, instead of two facts about each of five different species, or affording learners the choice of taking a spelling pre-test to opt out of spelling for particular week. Individualized adaptations of content can also be achieved by restructured concept-based teaching.

King-Sear (2001) suggested that, a variation of this type of lesson can be providing learners with special needs fewer or less work and pointed out that reducing the amount of tasks seen in an accommodated instruction should be differentiated from that provided in adapted instruction. From the above, adaptation of curriculum may include a slight change or modification in conceptual difficulties that is later introduced to the learners. King-Sear further suggested that though there are modifications in the concept of the curriculum, adaptation must take place within the same learning contents and must be part in place when teachers have come to a conclusion that a special needs learner is able to learn the same content and to gain knowledge as others.

2.5.5 Instructional strategies

Adapting instructional strategies are the modifications the classroom teacher makes during lesson delivery. This includes providing additional instructions or using different presentation formats, varying the type of practice activities, modifying task demand or testing procedures or regrouping students with instructional activities.

According to Wade (2000) cited in Brew (2011), many educators still tend to think that it is correct to use the ‘one size fit all’ approach to teaching but the success of inclusive education depends on the regular classroom teachers’ ability to adapt the instructions when students have difficulty in the acquisition of skills and information. The curricula and the method of instruction must meet the needs of all students.

Students with special educational needs require instruction in most of the same skills that other students need. Many of the same instructional procedures appropriate for other students are just as appropriate for students with special needs (Choate, 2004). Several strategies can be used to adapt the curriculum and instruction. Regular classroom teachers should be equipped with these strategies in order to perform effectively. Okyere and Adams (2003) is of the view that, teachers can adapt or modify these strategies to enable pupils with disabilities also benefit from the learning task. Moreover, Choate (2004) postulates that special needs students require instructions in most of the same skills that other students are also appropriate for children with special needs. However, variations of some validated methods effectiveness for teaching these special students. These methods include:

2.5.6 Instructional differentiation according to students' needs

The inclusive teacher should use variety of methods when teaching. He should consider the abilities of individuals in the classroom thereby blending different methods to enable the individual with hearing impairment to benefit from the inclusive classroom. Choata (2004) explains that, the inclusive teacher manages differentiated instructions by blending individual instruction, small cooperative learning groups, teacher directed groups and the whole class instructions. For example, in a single lesson, an effective teacher may provide learning activities at different levels of complexities, assign different task of projects for students to demonstrate learning and place students at different point on the curricular continuum providing different levels and types of support and accommodation to supplement and facilitate individual progress. Okyere and Adams (2003) postulate that teaching procedures should be changed if modification of instruction does not help the student. They suggest that the next step is to adapt the teaching procedures which can be done through the following:

- Presenting the teaching materials again. The skills and information of the original presentation are repeated with a more complete or simpler explanation using more examples.
- Proving additional guided practice. Increase practice by requiring more students' responses or lengthen practice sessions.
- Making the consequences for successful performance more attractive meaningful. Give positive feedback or reinforcement such as a smile, pat or verbal phrase of a successful completion of a task.
- Slowing the pace of instruction. The learning task and the time allotted for instruction remains the same, but the amount of materials presented and practiced is reduced (Okyere & Adam, 2003, p.53).

To ensure effective instructional adaptation, Pierangelo and Giuliani (2012) provided the following principles to guide teachers as they make decisions when planning, implementing, evaluating and modifying instruction for the students with special needs in the general education classrooms.

2.5.7 Selection of appropriate learning tasks

Selection of the learning task is a critical instructional decision. No matter how excellent the teaching procedures, instruction will not be effective if the task selected is inappropriate for the learner. Task selection is even more critical for student with special needs because they may learn new information and skills more slowly than their peers. The teacher should choose the most important portions of the general education curriculum as target behaviours. In making these decisions, priority should be given to skills and information that are useful both now and in the future. Special educators often

use the term functional to refer to such learning tasks, whereas general educators may talk about authentic tasks.

In addition, tasks should be described as precisely as possible. Mager (1984) advocated the use of instructional objectives, which are statement of the desired students' behaviour in specific, observable terms. They spell out the conditions under which the behaviour should occur and the criterion for successful performance of the behaviour. Objectives help clarify the goals of instruction. Unlike broad goals such as 'student will become better readers,' instructional objectives are stated with precision: "When presented with 100-word passage from a book or story written at the grade 3 level, students will read the passage aloud with not more than 5-word recognition errors."

After the desired student behaviour is identified, the teacher chooses instructional activities to present the skills and information required for task performance. Most teachers use commercial programmes and supplement them with teacher made-materials and activities. The teacher must be sure that ready-made programmes present all necessary skills and information and do not include extraneous or irrelevant materials. The teacher must also consider current performance level when placing a student in a programme sequence. For example, grade 9 texts may not be appropriate for ninth graders who read at the seventh grade level. Students should be placed in educational programmes at a level at which they can succeed, that is, at their instructional level.

2.5.8 Breaking the learning task into teachable sub-components

Tasks often require several skills or many different kinds of information for successful performance (Pierangelo & Giuliani, 2006). When the components of the task are identified, they can be presented to students in a systematic fashion as follows: First, the prerequisites for learning the task should be considered. For example, students who have not learned to solve multiplication problems will encounter difficulty when trying to calculate the area of a room. If necessary prerequisite skills are not present, instruction should begin with them.

Next, the learning task is divided into sub-tasks. The sub-tasks may be a series of sequential steps or a collection of important sub-skills. An example of a task that can be broken into steps is addition of three- digit numbers; in the tens column, and finally the numbers in the hundreds column.

Other tasks made up of sequence of sub-tasks include building a model and locating a reference in the library. Writing a friendly letter is a task that can be divided into components sub skills: handwriting (or keyboarding), spelling, capitalization, punctuation and paragraph writing. Other such tasks are telling time, making change and reading with comprehension.

The identification of sub tasks and sub-skills allow the teacher to make decisions about the order in which skills and information will be presented. With tasks that are sequential in nature, sub tasks are generally taught in the order in which they occur. With tasks made up of several components, the easier subskills are presented first. For example, in cursive writing instruction, simpler letters such as lowercase ‘a’ and ‘o’, are taught before more difficult letters, such as uppercase F and G.

2.5.9 Instructional materials

Adapting instructional materials involves making changes to the resources (equipment, assistive devices and or learning materials) to which learners have access during the course of instruction to facilitate the teaching and learning process. Resources are very important in the education of persons with disabilities wherever they may find themselves. The use of appropriate resources in the classroom can go a long way to help pupils with special needs to learn and succeed these resources range from technological devices to the traditional teaching and learning materials in the classroom. Colourful and nicely arranged classrooms that have ample and appropriate instructional materials help establish an environment that is conducive to learning and promote teacher and student satisfaction. For inclusive education to fully gain its grounds, resources must be available to enable pupils with special needs to participate in the teaching and learning process.

According to Ocloo (2011), practical representation of abstracts, symbols and signs is a must for children with special needs who most often are found to be more creative than pupils without disabilities. Graphic or diagrammatic pictogram, bringing in concrete objects or things is very much essential. Materials must be used in teaching all topics. These materials include toys, counters, bottle caps, rings, scissors, thread plastics, muddy sands, newspapers, stone counters, stick counters, water paints with brushes, crayons, cardboard, leather materials, wood materials etc. Are but few improvised materials can be easily used. More sophisticated materials such as computers, talking calculators, adapted computers, alphabetizers, symbol synthesizer, among others can be used in teaching special needs pupils in the inclusive classroom (Avoke, Hayford, Ihenacho, & Ocloo, 1998).

The textbooks and the reading materials for pupils should be modified. Modification usually involves highlighting the information in the textbook, tape recording the textbook or providing the student with a high interest or low vocabulary alternative (Frieberg, 1997). The efforts of regular education teachers are vital if students with learning disabilities are to be successful in the mainstream class in which the textbook is the primary means of dissemination of information.

According to Carnine Silbert and Kameenui (1990) adapting the textbooks to meet the needs of these students can be complex talk. For example, some children with learning disabilities may have attention deficit affecting their ability to differentiate what information they should attend to. The cluttered (disorderly) appearance of many textbooks complicate the decision as to what does or does not warrant attention. Other children are reading at a level far below the textbook. Their reading problems compounded by the complex sentences and organizational structures, difficult vocabulary and concept density typically found in expository text material. Still other students may lack the skills to comprehend and remember textbook reading assignments (Seidengerg, 1989). Special education teachers do not have the time to rewrite textbooks. They can however provide adaptations based on the needs of individual students, the demands of the textbooks and the needs of the regular classroom teacher.

2.6 Pre-Service Teachers' Knowledge of Assessment Procedures for Children in Inclusive Classroom

Assessment in special education is a process that involves collecting information about a student for the purpose of making decisions (Salvia & Ysseldyke, 2007). It involves gathering information about a student's strengths and needs in all areas of concern (Friend & Bursack, 2006). According to Taylor (2009) assessment "refers to

the gathering of relevant information to help an individual make decisions. The educational and psychological assessment of exceptional students, specifically, involves the collection of information that is relevant in making decisions regarding appropriate goals and objectives, teaching strategies and programme placement"

Assessment is a major focal point in education today. The assessment approach describes the way information is collected for making an educational decision (Cohen & Spenciner, 2007). Assessment includes many formal and informal methods of evaluating student's progress and behaviour (Overton, 2009). Clearly, gathering information about a student using a variety of techniques and information sources should shed considerable light on strengths and needs, the nature of the suspected disability and its effect on educational performance, and realistic and appropriate instructional goals and objectives.

The professionals involved in special education in today's school play very critical role in the overall education of students with all types of disabilities. A comprehensive assessment completed by school professionals may address any aspect of a student's educational functioning (Pierangelo & Giuliani, 2009). The pre-service teachers' position is unique in that they can play many different roles in the educational environment. Whatever their roles, the pre-service teachers encounter variety of situations in the classroom that require practical decisions and relevant suggestions. In education, assessment begins by mode of identification.

2.6.1 Mode of identifying children with special needs in the classroom

The importance of assessment of special needs children should never be underestimated. The determination of who will receive a comprehensive assessment for a suspected disability is a skill that educators should acquire. The development of these skills according to National Information Centre for Children and Youth with

Disabilities (2000) should include a good working knowledge of the following components of the assessment process in order to determine the presence of a suspected disability include collection, analysis, evaluation, determination and recommendation. In the same vain, Pierangelo and Giuliani (2006) also suggested these same components as collection, analysis, evaluation, determination and recommendation that one needs as skills to identify a child with disabilities. These components are explained by National Information Centre for Children and Youth with Disabilities (2000) and Pierangelo and Giuliani as follows:

Collection: The process of tracing and gathering information. There are many sources of background information on a child such as school records, observation, parent's intakes and teacher reports.

Analysis: The processing and understanding of patterns in a child's educational, social developmental, environmental, medical and emotional history.

Evaluation: The evaluation of the child's academic, intellectual, psychological, emotional, perceptual, language, cognitive and medical development in order to determine the areas of strengths and weakness.

Determination: The determination of the presence of a suspected disability using knowledge of the criteria that constitutes each category.

Recommendation: The recommendation concerning educational placement programme that need to the school, teachers and parents.

2.6.2 Various methods of assessment

The assessment of a student for a suspected disability is a very serious process. This is a process that will determine the educational direction of a student and could change many factors in his/her life.

Similarly, Overton (2009) opine that assessment includes many formal and informal methods of evaluating student's progress and behaviour. Clearly, gathering information about a student using a variety of techniques and other information sources as asserted by Overton would considerably help identify the strengths, needs and the nature of the suspected disability. This will help identify the effects on the educational performance, and set realistic and appropriate instructional goals and objectives. Pierangelo and Giuliani (2008) further proposed performance-based assessment and Portfolio assessment as other methods of assessing pupils with disabilities.

2.6.3 Performance - based assessment

Performance assessments are assessments which permit pupils to show what they can do in a rear situation. Performance assessment gather evidence by observing and rating their performance or product. They are appreciated for all grade levels and across all subject areas. Performance assessments are especially useful in subjects such as art, music and foreign language learning. This form of assessment according to the authors, is frequently used in early childhood and special education. This is because preschoolers, kindergarten and primary school pupils are limited in their communication skills; therefore, much assessment information is obtained by observing their performances and products.

2.6.4 Performance assessment processes

In a way of assessment, Darling-Hammond (2009) has proposed the following processes:

1. Have a clear purpose which identifies the decision to be made from the performance assessment.

2. Identify observable aspect of the pupil's performance or product that can be judged.
3. Provide an appropriate setting for eliciting and judging the performance or product.
4. Provide a judgement product.
5. Provide a judgement or score to describe performance.

2.6.5 Portfolio-assessment

A portfolio is a systematic collection of work demonstrating what the student has done over a period of time. It can contain examples of assessment, test, essays, poems and art work. Paulson, Paulson, and Meyer (1991) cited in Pierangelo and Giuliani (2008) said a portfolio is a purposeful collection of student's works that exhibits the student's efforts, progress, and achievement in one or more areas. A portfolio must be upgraded as the pupils' achievements and skills grow (Darling-Hammond, 2009). There are numerous types of portfolios which can be used to assess a student's progress based on a varied collection of the student's work (UNESCO, 2004). The items in a portfolio can include work samples, homework assignments, final products and classroom test results. Others are various works in progress, samples of tests completed self-evaluation of the progress of learning and teachers' observation (UNESCO, 2004; Vaidya, 1997). Pierangelo and Giuliani (2008) further proposed performance-based assessment and Portfolio assessment as other methods of assessing pupils with disabilities. These works can be collected in a carton box, folder, drawer, carbinets, bags or other suitable container (Pleiss, Prouty, Schubert, Habib, & Georgel, 2003; UNESCO, 2004). When a student completes an assessment activity or task, it is placed in the portfolio and these pieces of work in the portfolio contribute to an overall assessment of student's work. Portfolio therefore shows a variety of assessment tasks the student has learned and the

student's progress over time (Pleiss *et al.,* 2003). These authors further emphasized that in some instances, portfolios of student's work can take the place of examination of tests.

2.7 Resources Available for Effective Pre-service Teacher Preparation for Inclusive Education

Resources may be anything that can be resorted to for support or what one may depend on to be able to carry out an activity. From educational perspective anything that can facilitate and support the implementation of educational policy is a resource, be it financial, human and material resources. School resources are basically physical materials such as school building, furniture, compound, stationary, library, tools and equipment, etc. (Brown, Ahiatrogah, Anyagre, Essilfie, Arhin, & Ghansah, 2018).

The availability of material resources in a school to support students' training also determine their achievement in the school. General school which admit special needs pupils require well equipped resource rooms that are stocked with optical and non-optical devices which are manned by well qualified personnel (Simon, Echeita, Sandoval, & Lopez, 2010).

Tamakloe, Amadahe, and Atta (2005) noted that teaching resources are the materials in the form of either audio, audio-visual or acoustic which the teachers prepare by themselves or adopt them for use to make learning easier than it would have been without material. Similarly, a learning resource is the material which is supplied to the student or secured by the student themselves for use to make learning easier than it would have been if they had not prepared and used it.

Aduwa-Ogiogbaen and Imogie (2005) asserted that materials and resources including, opaque projectors, non-movable tactile diagrams and many more are required in schools, as these offer a variety of learning experiences individually or in

combination to meet different teaching and learning experiences. They added that incorporating tools and materials in teaching presents support and reinforces teaching.

Nyavor (2015) carried out a descriptive survey on the provision teachers make for pupils with special educational needs in three selected inclusive pilot basic schools at Pokuase in Ghana. Ninety-seven teachers and 15 pupils with special educational needs were purposively sampled and later randomly sampled to participate in the study. A close ended questionnaire in the form of Likert scale and semi-structured interview were the major data collection instruments used. The questionnaire was administered to teachers and the focus group interview granted to pupils with special educational needs. The descriptive statistical method was used in analyzing data from the questionnaire while the semi-structured interview was analyzed using thematic data analysis. In the study, the findings revealed that teachers used tactile materials during the teaching process, as well as real objects. Also, magnifying glasses and computers were provided to pupils with low vision to enhance learning. These notwithstanding, teachers could not provide tape recorders to pupils with special educational needs during lessons.

Inferring from Nyavor's (2015) findings, it can be argued that most regular school teachers lack the requisite skills in adapting teaching and learning resources meant for use by students with disabilities. It therefore means that even if students with special educational needs were provided with the necessary material which will enhance their learning, teachers need to be trained on how to assist students with special needs to use these materials. Therefore, resources needed for pre-service teacher development cannot be over emphasized.

Instructional resources go a long way in facilitating the teaching and learning process. Polloway and Patton (2013) corroborate this view that instructional resources

are key elements in the teaching process. It is therefore important to note that teachers and more importantly, special teachers use instructional resources in diverse ways in the instructional process. Hammill and Bartel (1990) suggest that selection of instructional resources should be considered through an analysis of the curriculum-student-teacher triad.

When resources are lacking in training it creates a gap in skill acquisition and practice. More broadly, studies in other countries have found out that implementation of inclusive education has been encountering resource challenges (Hayford, 2013). For instance, (Hayford reported a study in Portugal which found out that majority of educators reported lack of resources as one of the main barriers in supporting students with disabilities. In Cameroon, a study by Arrah and Swain (2014) reported that teachers faced difficulties in terms of insufficient resources, lack of training, stress and being anxious, in supporting and teaching students with disabilities. In Ghana the situation is the same. This assertion is corroborated by the Ministry of Education (MOE, 2004) that is "Pre/Post-training in special educational needs for regular teachers, inadequate structures/funds for pre/post training programmes to equip regular teachers with pedagogical knowledge to enable them respond to children with SEN." (Hayford (2013, p. 136).

2.8 Summary of Literature Review

The theory adopted for the study was Sdorow (1993) and Bandura (1997) self-efficacy theory. The theory proposed that self-efficacy makes teachers believe that if he/she makes the effort he/she will have the capacity and mastery to teach students with special needs. Thereafter, literature was reviewed on this theory with emphasis on teachers' choice of practices teaching students with special needs, their skills, in

applying instructional needs and adaptations needed to teach students with special needs. The literature highlighted on the knowledge and skills of pre-service teachers on the practice of inclusive education with emphasis on knowledge in identification of special needs students, causes, curriculum adaptation and assessment processes.

The literature was also reviewed on the pre-service teachers' knowledge in adapting the curriculum with much emphasis on content, instruction, material and assessment adaptations. Again, literature also touched on various methods of assessing students with special needs which included portfolio assessment. Finally, literature was on resources available for effective pre-service teachers' preparation for inclusive education.

The literature however, did not specifically highlight the views of pre-service teachers on their preparation toward inclusive education in selected Colleges of Education in the Eastern Region of Ghana. This study was therefore set out to address this gap.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology for the study. The following areas were covered: research approach, research design, population, sample size, sampling technique, instrumentation, procedure for data collection, validity, reliability, data analysis, and ethical considerations.

3.1 Research Approach

In order to explore how pre-service teachers are prepared towards inclusive education in Ghana, the researcher made use of quantitative approach to enable him collect data from pre-service teachers and tutors in selected Colleges of Education in the Eastern Region of Ghana. A quantitative research approach relies primarily on the collection of quantitative data. According to Creswell (2014), quantitative research is "an inquiry approach useful for describing trends and explaining the relationship among variables found in the literature" (p. 58). O'Neill (2006) states that the use of standardized methods in quantitative research allows for greater objectivity and accuracy of results.

3.2 Research Design

This study utilized a cross-sectional survey design to ascertain views of pre-service teachers on their preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana. A cross-sectional design involves the collection of data on more than one case, and at a single point in time, in order to collect a body of data (quantitative and/or qualitative) in connection with two or more

variables, which are then examined to detect patterns of association (Bryman, 2012). In the view of Barbie (2008), cross-sectional survey designs help to elicit information from people and about their behaviour, knowledge, attitudes and with respect to this study, pre- service-teachers' and tutors' views about pre-service teacher preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana. The cross-sectional survey design would be suitable for this study because it would permit the researcher to obtain data from the respondents for the study with ease. It would as well allow the researcher to collect data from the kind of sample required for the study, thus presenting what has been found out without any prejudice.

3.3 Population

The population for the study comprised all level 300 pre-service teachers and the tutors who teach education in the three Colleges of Education in the Eastern Region of Ghana. The reason for the level 300 pre-service teachers was that it was presumed that they might be taken through special needs education course as part of their preparation to meet the needs of all children including those with special educational needs in general. The total population for the study was 1,391 respondents (1,360 level 300 pre-service teachers and 31 tutors of the Colleges of Education who teach education).

Table 1: Population of Pre-Service Teachers per College

Colleges	Female (%)	Male (%)	Total (%)
Mount Mary College of Education, Somanya (MOMACOE)	238 (56. 7%)	182 (43.3%)	420 (100%)
Presbyterian College of Education, Akropong (PCE)	220 (44%)	280 (56%)	500 (100%)
SDA College of Education, Koforidua	276 (62.7%)	164 (37.3%)	440 (100%)
Total	**734**	**626**	**1360**

Source: Researcher's own Computation from field Data. April, 2019.

Table 1 presents population of pre-service teachers of the Colleges of Education selected for the study. Mount Mary College of Education had a population of 420 students made up of 238 (56.7%) females and 182 (43.3%) males. Presbyterian College of Education had a population of 500 students, 220 (44%) females and 280 (56%) males. Finally, SDA College of Education had a population of 440 students, and was made up of 276 (62.7%) females and 164 (37.3%) males.

Table 2: Population of Tutors per College

Elements	MOMACOE	PCE	SDA	Total
Male	4 (57%)	8 (53.3%)	5 (55. 6%)	17
Female	3 (43%)	7 (46.7%)	4 (44.4%)	14
Total	7	15	9	31

Source: Researcher's own Computation from field Data. April, 2019.

Table 2 shows the population of college tutors selected for the study of which Mount Mary College (MOMACOE) were 7 tutors made up of 4 (57%) males and 3 (43%) females. Presbyterian College of Education (PCE) had 15 tutors of which 8 (53.3%) were males and 7 (46.7%) females. Again, SDA College of Education was made up of 9 tutors made up of 5 (55.6%) males and 4 (44.4%) females.

3.4 Sample

The sample for the study was 287 made up of 272 level 300 pre-service teachers and 15 special education tutors in the selected Colleges of Education in the Eastern Region of Ghana.

Table 3: Sample of Pre-Service Teachers per College

Element	MOMACOE	PCE	SDA	Total
Male	36	56	33	125
Female	48	44	55	147
Total	84	100	88	272

Source: Researcher's own computation from field data. April, 2019.

Table 3 presents the sample size of pre-service teachers selected for the study. They comprised MOMACOE 84 of which 36 were males and 48 females. PCE was also made up of 100 respondents of which 56 were males and 44 females. Again, SDA had 88 respondents of which 33 were males and 55 were females.

Table 4: Sample of Tutors per College

Elements	MOMACOE	PCE	SDA	Total
Male	3 (60%)	3 (60%)	2 (40%)	8
Female	2 (40%)	2 (40%)	3 (60%)	7
Total	5	5	5	15

Source: Researcher's own Computation from field Data. April, 2019.

Table 4 above shows the breakdown of the sampled tutors selected for the study. In all 5 tutors were selected from each college; MOMACOE (3 males and 2 females); PCE (3 males and 2 females) and SDA (2 males and 3 females).

3.5 Sampling Techniques

The purpose of sampling is to obtain a group of participants who will be representative of the larger population or will provide specific information needed to address the questions raised (Hayford, 2013). A sample size according Cohen, Manion and Morrison (2004) can be determined in two ways, either by the researcher exercising prudence and ensuring that the sample represents the wider features of the population or by using a table which forms a mathematical formula. On the basis of that a total of 287 respondents comprising 272 level 300 pre-service teachers and 15 tutors formed the sample size for the study. On the basis of familiarity and ease of access, the researcher purposively sampled Colleges of Education in the Eastern Region of Ghana for the study. The researcher is a tutor in one of the colleges in the region as a result was extremely familiar with the environment. In all, there are 7 colleges in the Eastern Region of Ghana and the researcher purposively selected 3 colleges for the study. The

researcher exercised prudence in selecting the 3 because out of the 7, one which is Methodist College of Education had been absorbed by government as a public College of Education in 2018 and therefore do not meet the criteria of the study selecting tutors who have taught in the public College Education for 5 years and more. With the remaining 6 colleges, the researcher used proximity and easy access and familiarity with the environment to easily administer the research instrument. He selected Mount Mary College of Education where the researcher is a tutor. The rest of the colleges were selected based on proximity thus closeness to the researcher. Abetifi College of Education which was farther of the remaining 6 colleges was selected for pretesting of the instruments. Therefore, Presbyterian College of Education, Akropong, and SDA College of Education.

In selecting the sample size, the researcher used non-probability sample involving quota sampling technique to select level 300 pre-service teachers. Quota sampling method was adopted because the researcher chose 20% of participants from the target population from each college so as to get a proportional number of participants relative to the population in each college. According Gay (1992), 20% is adequate enough to represent a small population while 10% to represent a large population. With this sampling technique, the researcher selected specific number from the groups of the population. This ensured that all dimensions of the population were represented in the sample (Kusi, 2012). Sarantakos (2005) also contended that the use of quota sampling technique makes the ratios of the sub-groups to reflect the proportions of the population. Saunders, Lewis, and Thornhill, (2012) also indicated that application of quota sampling ensures that sample group represents certain characteristics of the population chosen by the researcher.

For the tutors, purposive sampling technique was used for those who had been teaching special needs education in the colleges for the past five years and above. Purposive sampling was employed to select units of study because they satisfied some qualities, which are not randomly distributed in the universe (Kumekpor, 2002). Cohen, Manion, and Morrison (2011) described purposive sampling technique as a feature of qualitative research where researchers deliberately select subjects to be included in a study on the basis of their judgment of possession of a particular characteristics needed. With respect to the current study, tutors of the Colleges of Education who had in-depth knowledge in special education were selected.

3.6 Data Collection Instrument

The primary data collection instrument was the structured questionnaire. It is described as follows:

3.6.1 Questionnaire

Questionnaire formed the primary data collection instrument. Two different sets of questionnaires were designed for the study; one for the pre-service teachers and the other for the tutors who teach special education in the Colleges of Education. Kuranchie (2016) defined questionnaire as a collection of statements and questions on a paper to elicit specific information from respondents to answer research questions and/or test hypotheses. McLeod (2019) also contend that a questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents. The rational for using questionnaire was that it reduces biases because there is uniform question presentation and no middle man bias. Respondents also feel free to give their real views without fear of victimization. The researcher's own opinion is not allowed to influence the respondent to answer questions in a certain manner.

There is no verbal clue to influence the respondents. Questionnaires provide a relatively cheap, quick and efficient way of obtaining large amounts of information from a large sample of people. According to McLeod (2019), data can be collected relatively quickly because the researcher would not need to be present when the questionnaires are completed. This is useful for large populations when interviews would be impractical. One of the major weaknesses of a questionnaire is that the results obtained may not be reliable if many of the questions or items are not properly answered. A well-designed questionnaire is the culmination of a long process of planning such as developing the research objective, formulating the problem and generating the hypothesis. It is a good tool for the protection of the privacy of the participants.

The questionnaire contained two sections; "A" and "B". Section 'A' provided data on the demographic information of respondents such as gender and educational level of tutors and gender and programme pursued by the pre-service teachers while section "B" was on the research questions for the study. Responses from 40 items on a 5-point Likert-type scale, ranging from strongly agree to strongly disagree was used for the section B part of the instrument.

Items were clustered into four (4) major themes, namely; (a) Knowledge and skills about inclusive education; ten (10) sub-items - from numbers 1-10 (b) Understanding and adaptation of the Curriculum to meet the learning needs of special children in inclusive classroom.; ten (10) sub-items - from numbers 11-20 (c) Knowledge of Assessment procedures; ten (10) sub-items - from numbers 21-30 and (d) Resources available; ten (10) sub-items - from numbers 31- 40.

The questionnaire items centered on the guiding research questions for the study. The rational for using a questionnaire was because it offered the researcher an opportunity to sample the views of a larger population within a short time and it saved

cost. It is a quicker way of collecting data and also known to be quite valid and reliable and well structured (Seidu, 2007).

Pretesting

After series of discussions with my two supervisors, a draft of the questionnaire was pretested using 20 pre-service teachers and 3 tutors of Abetifi Presbyterian College of Education. Abetifi Presbyterian College of Education was selected because of proximity and has the same characteristics as the sampled Colleges of Education for the study. The researcher set out to pretest the instrument on 12th February, 2019. Questionnaires were personally administered and collected on the same day.

The pretest was very essential because it actually helped to reshape and restructured the items. For instance, it enabled the researcher to identify and correct few ambiguities like clarity of expression and overloaded questions. The purpose of the pretesting according to Robson (2002), cited in Hayford (2013), was to get feedback about individual items whether each item was clear, simple and unambiguous. According to Cresswell and Cresswell (2018) testing is important to establish the content validity of scores on an instrument; to provide an initial evaluation of the internal consistency of the items and to improve questions, format and instructions. The pretest study was conducted to determine whether the items would be understood by the respondents.

3.7 Validity

Creswell and Creswell (2018) contend that validity is the extent to which a test measures what it claims to measure. The questionnaire items were validated in two ways; namely, face validity and content validity.

3.7.1 Face validity

Face validity was carried out by giving the instruments to colleague tutors in the same College of Education for scrutiny. Their comments and suggestions were considered for review of the items.

3.7.2 Content validity

The content validity of the questionnaire was established by giving the instrument to the two supervisors who read through and made the necessary corrections and additions before pre-test. All the necessary corrections in the items were made and declared valid by the supervisors. I ensured content validity by making items on the instruments to cover the objectives of the study, ten statements were made from each research question totaling forty statements in the questionnaire.

3.8 Reliability

Reliability refers to the consistency of results generated by a research instrument. According to Cresswell and Cresswell, (2018) reliability refers to the consistency or repeatability of an instrument.

To ensure reliability of the research instrument, it was pre-tested on twenty (20) pre-service teachers and five (5) tutors of Abetifi College of Education. The pre-test results were subjected to Cronbach's alpha reliability analysis using Statistical Package for Social Sciences (SPSS) version 22.0 software to determine the reliability coefficient (r) in order to establish the reliability of the instrument. A Cronbach's alpha reliability coefficient of 0.931 for pre-service teachers and 0.937 for tutors were obtained which implied a high reliability. Devellis (2003) pointed out that the acceptable variables for alpha, ranges from 0.70 to 0.95. Since the Cronbach's alpha is greater than 70 (DeVellis, 2003) the instrument is good for use.

3.9 Procedure for Data Collection

Prior to the administration of the questionnaire to pre-service teachers and tutors, a letter of introduction from the Head of Department of Special Education of the University of Education, Winneba was obtained to introduce the researcher during the data collection to the principals of the Colleges of Education selected for the study. The purpose of the study was made known to them. Seeking permission before accessing the schools or site is a major consideration in a research studies before interviewing participants or embarking on observation (Avoke, 2005). Data collection was conducted in April 2019. A period of one month was used to select participants and the administration of questionnaire. In each college, the head of department of education who acted as a coordinator for the data collection directed the researcher to the various basic schools where the pre-service teachers were having their internship. At the basic schools, the researcher sought the consent of the pre-service teachers and made known the purpose of the study and procedure for responding to the questionnaire to them.

The questionnaires were personally administered to the pre-service teachers. Clear instructions were given to enable participants give their responses meaningfully. Each participant was permitted to ask questions relating to the completion of the questionnaire, and their concerns were clarified. The participants were given four days to complete the questionnaire. This was to give them enough space and time to complete the questionnaire to avoid putting pressure on them considering their busy schedule. The participants were asked to hand over the completed questionnaire to a previously named coordinator latest by 6:00pm. The exercise lasted one week in each college with the completed questionnaires retrieved from the coordinators in each college two days later. The researcher assured respondents that their responses would be kept confidential and used only for research purpose. With regards to the tutors, the

questionnaires were personally administered to them with clear directives. Tutors were asked to respond to the questionnaire within four days and hand them over to the coordinator latest by 6:00pm. This data collection procedure was replicated in all the five colleges selected for the study.

3.10 Data Analysis

Data analysis is a process which involves drawing conclusions and explaining findings in words about a study (Creswell, 2005). The analysis of the data was done in twofold. The first phase focused on entering the data into the Statistical Package for Social Sciences (SPSS) version 22 software, and subsequently screening the data to ensure that all entries were accurate. To do this the data was coded and entered personally to be sure that the SPSS data file was error free. Also, the variables in the data file were reviewed to ensure that all values, labels and measurement levels were valid. In the second phase of the data analysis, data was analysed using descriptive statistics consisting frequency counts and percentages for all the demographic variables, research questions raised for the study, and these were presented in tables. Means and standard deviations were calculated for the four themes of the section B. Specifically, the four research questions were answered using the frequency, percentage, mean and standard deviation scores.

3.11 Ethical Consideration

Since the study involved pre-service teachers and tutors in the Colleges of Education, there were some basic ethical considerations to protect the rights of participants. Ethics refers to the correct rules of conduct necessary when carrying out research. We have a moral responsibility to protect research participants from harm

(McLeod, 2015). The rights of respondents and other parties involved at every stage of this study were particularly treated with utmost care.

The following considerations were made to promote and to protect the rights and interest of participants of their right to participate voluntarily or withdraw from the study at any stage if they were uncomfortable. Anonymity and privacy of participants were guaranteed by asking them not to write their names on the questionnaire. The researcher ensured that the information provided by the respondents was kept confidential. Participants were provided informed consent prior to completing the questionnaire and were made aware that they had the right to withdraw their information at any time during the study.

CHAPTER FOUR

RESULTS AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter deals with the presentation and discussion of the findings. It is presented in line with the four research questions posed to guide the study.

4.1 Demographic Information of Respondents

Table 5: Demographic Information on Pre-Service Teachers (N=272)

Item	Variable	Frequency	Percent
Gender	Male	125	46.0
	Female	147	54.0
Programme Pursued	General	193	71.0
	French	19	7.0
	Early Childhood	47	17.3
	Science	13	4.8
Total		**272**	**100.0**

Source: Field Data (2019)

The demographic data obtained indicated that majority of the pre-service teachers in the study were females (54.0%), compared to the males (46.0%). Figure 1 shows a graphical presentation of the gender distribution of the pre-service teachers. Also, it was observed that a high percentage of the pre-service teachers (71.0%) were studying General Education courses in the Colleges of Education, followed by 17.3% who were studying Early Childhood Education, 7.0% who were studying French Education, and 4.8% who were studying Science Education. These data are presented graphically in Figure 2.

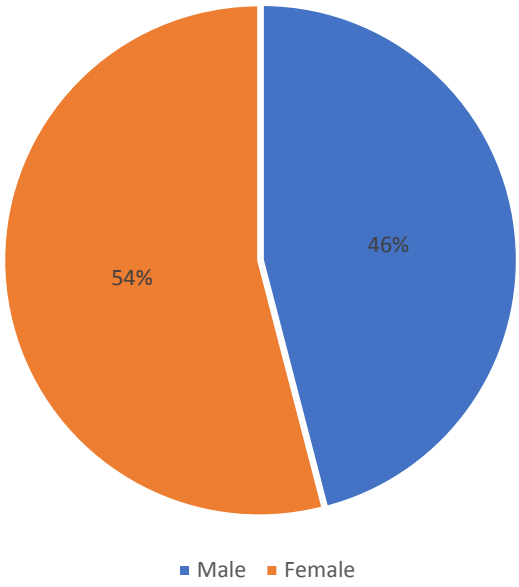


Figure 1: Gender Distribution of Respondents

Source: Field Data (2019)

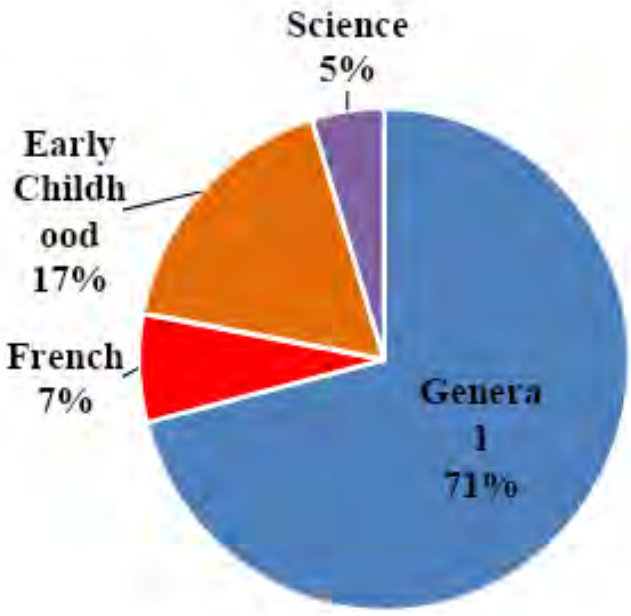


Figure 2: Programme Distribution of Pre-Service Teachers

Source: Field Data (2019)

Table 6: Demographic Information on Tutors (N=15)

Item	Variable	Frequency	Percent
Gender	Male	8	53.0
	Female	7	47.0
Educational Level	B. Ed	0	0.0
	M.Ed./MPhil	15	100.0
	Any Other	0	0.0
Number of Years Teaching	0 – 5	5	33.3
	6 – 10	5	33.3
	11 – 15	2	13.3
	16 – 20+	3	20.0
Total		**15**	**100.0**

Source: Field Data (2019)

For the college tutors who participated in this study, it was found out that majority of them were males (53.0%), with the females (47.0%) being in the minority. Figure 3 shows a graphical representation of this data. Again, it was observed that all the tutors (100.0%) had a master's degree (M.Ed/MPhil). Furthermore, the data revealed that of the 15 tutors, 33.0% had teaching experiences ranging from 0 to 5 years, 33.3% of them had been teaching between 6 to 10 years, while 13.3% and 20.0% of the tutors reported that they had teaching experiences between 11 to 15 years, and 16 to 20 or more years, respectively. Figure 4 presents this data in a graphical form.

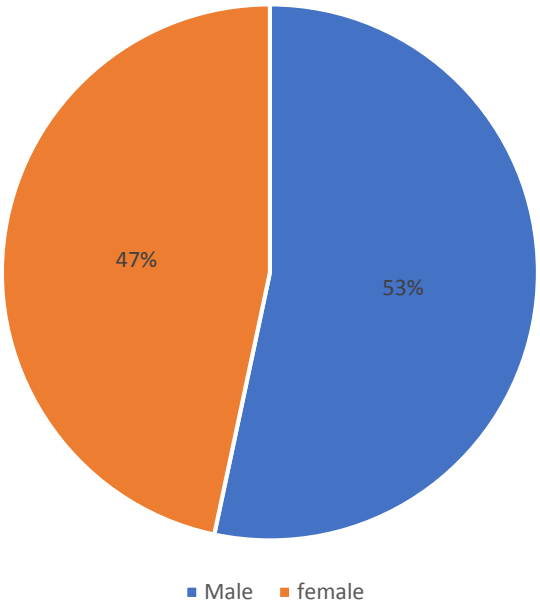


Figure 3: Gender Distribution of College Tutors

Source: Field Data (2019)

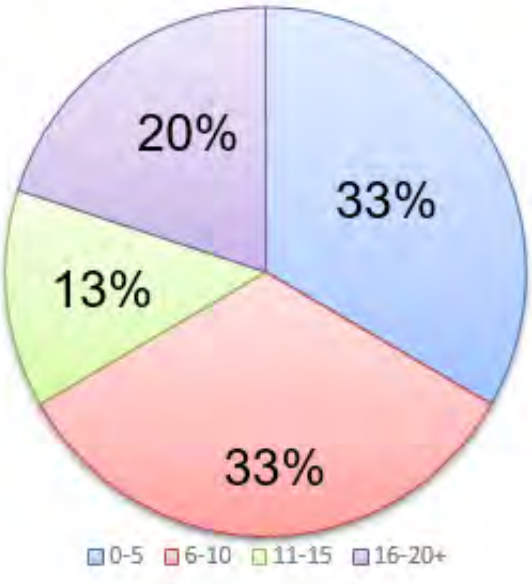


Figure 4: Distribution of Tutors by Number of Years of Teaching at Colleges

Source: Field Data (2019)

4.2 Research Question 1: What are pre-service teachers' views on their knowledge and skills towards the practice of inclusive education in Ghana?

Table 7 : Pre-Service Teachers' Views on their Knowledge and Skills about Inclusive Education (N=272)

Statement	Strongly Agree F (%)	Agree F (%)	Not Sure F (%)	Disagree F (%)	Strongly Disagree F (%)	Mean Score	Interpretation
Pre-service teachers can identify special needs pupils.	114 (41.9)	130 (47.8)	16 (5.9)	8 (2.9)	4 (1.5)	4.26	Agree
Pre-service teachers are able to screen and identify pupils.	60 (22.1)	140 (51.5)	46 (16.9)	21 (7.7)	5 (1.8)	3.84	Agree
Pre-service teachers understand the importance of early identification.	77 (28.3)	151 (55.5)	28 (10.3)	10 (3.7)	6 (2.2)	4.04	Agree
Pre-service teachers are exposed to the causes of learning and behaviour problems.	88 (32.4)	134 (49.3)	30 (11.0)	12 (4.4)	8 (2.9)	4.04	Agree
Pre-service teachers are able to use appropriate behavioural intervention skills in inclusive classroom.	87 (32.0)	135 (49.6)	33 (12.1)	16 (5.9)	1 (0.4)	4.07	Agree
Pre-service teachers are exposed to informal methods of assessing pupils.	60 (22.1)	144 (52.9)	40 (14.7)	20 (7.4)	8 (2.9)	3.84	Agree
Pre-service teachers are exposed to various methods of teaching in the classroom.	112 (41.2)	117 (41.9)	21 (7.7)	14 (5.1)	11 (4.0)	4.11	Agree
Pre-service teachers are exposed to appropriate classroom management skills.	108 (39.7)	121 (44.5)	25 (9.2)	12 (4.4)	6 (2.2)	4.15	Agree
Pre-service teachers are able to design a learning programme for special needs pupils.	64 (23.5)	123 (45.2)	50 (18.4)	29 (10.7)	6 (2.2)	3.77	Agree
Pre-service teachers value diversity among pupils in class.	73 (26.8)	140 (51.5)	37 (13.6)	14 (5.1)	8 (2.9)	3.94	Agree

Source: Field Data (2019)

Key: F = Frequency, % = Percent
***Mean Score** of 5.00 = Strongly Agree, 4.00 = Agree, 3.00 = Not Sure, 2.00 = Disagree, 1.00 = Strongly Disagree

Table 7 presents data on the pre-service teachers' knowledge and skills about inclusive education in order to answer research question one, and the responses revealed that majority of them agreed with the statements. For instance, it emerged that 89.7% of the pre-service teachers either strongly agreed or agreed that the pre-service teachers are able to identify special needs pupils in the classroom. Also, 73.6% of them indicated that the pre-service teachers are exposed to the procedures for screening and identification, while another 83.8% of them noted that their understanding of the importance of early identification is enabled by the school curriculum. The responses to other statements indeed showed that the pre-service teachers were knowledgeable about inclusive education. For example, 81.7% of the respondents stated that the pre-service teachers are exposed to the causes and manifestations of learning and behaviour problems, while another 81.6% noted that the pre-service teachers are able to use appropriate behavioural intervention skills in inclusive classrooms.

Furthermore, the data show that the pre-service teachers are exposed to various methods of teaching pupils with disabilities in the classroom. This was confirmed by 83.1% of the pre-service teachers who agreed to the statement, compared to the 9.1% who disagreed and the 7.7% who were not sure of their responses to the statement. Again, the data indicated that majority of the pre-service teachers (84.2%) agreed to the statement that they are exposed to appropriate classroom management skills in inclusive education settings. Finally, it was observed that 68.7% of the pre-service teachers agreed that the pre-service teachers were able to design a learning programme for special needs pupils in inclusive classrooms. These results suggest that the curriculum that is used in the Colleges of Education in Ghana helps pre-service teachers to acquire knowledge and skills about inclusive education.

Discussions on Knowledge and Skills of Pre-Service Teachers

From Table 7, it was found out that almost all the pre-service teachers (89.7%) have knowledge about inclusive education by the results of either strongly agreed or agreed that they were knowledgeable about inclusive education. This is in agreement with Deku and Vanderpuye (2017) that:

> *Teachers' knowledge, emotions and skills about inclusive education are particularly important in the successful implementation of the inclusive education programme (p. 41).*

Again, it emerged that 89.7% of the pre-service teachers either strongly agreed or agreed that the pre-service teachers are able to identify special needs pupils in the classroom. Also, 73.6% of them indicated that the pre-service teachers were exposed to the procedures for screening and identification, while another 83.8% of them noted that their understanding of the importance of early identification.

This assertion is consistent with the view of Downing (2002) who suggested that the skills required for inclusive education involved being able to identify and assess special needs children, being able to adapt curricular content, teaching and learning methods and assessment methods to assist special needs children and working in collaboration with colleagues, parents and the broader communities.

On the issue of the pre-service teachers' knowledge on the causes of disability, 81.7% of the respondents stated that they were exposed to the causes and manifestations of learning and behaviour problems, while another 81.6% noted that the pre-service teachers were able to use appropriate behavioural intervention skills in inclusive classrooms. These responses confirmed what Anyagre and Dondieu (2006) indicated that

> *knowledge of special education exposes the teacher to scientific causes of disabilities to offset negative traditional perception. This enables the teacher to incorporate ways of preventing disabilities in their teaching*

> *leading to mass education on prevention of disabilities in their communities. (p. 24).*

Furthermore, the data showed that the pre-service teachers were exposed to various methods of teaching pupils with disabilities in the classroom. This was confirmed by 83.1% of the pre-service teachers who agreed to the statement, compared to the 9.1% who disagreed and the 7.7% who were not sure of their responses to the statement. Again, the data indicated that majority of the pre-service teachers (84.2%) agreed to the statement that pre-service teachers are exposed to appropriate classroom management skills in inclusive education settings. This result confirms a literature statement that Pedagogical knowledge refers to the specialized cognitive knowledge of teachers for creating effective teaching and learning environment for all learners (Guerriero, 2017).

Tutors' Views of Pre-Service Teachers' Knowledge and Skills on Inclusive Education

Views of college tutors who participated in this study on the knowledge and skills of pre-service teachers about inclusive education was sought. From their perspectives, it was noted that majority of the tutors agreed with the views of the pre-service teachers. This was evident from the fact that majority of the tutors indicated their agreement with the statements in the table. For examples, all the tutors agreed that the pre-service teachers were able to identify special needs pupils in the classroom. This is in agreement with Deku and Vanderpuye (2017) that

> *Teachers' knowledge, emotions and skills about inclusive education are particularly important in the successful implementation of the inclusive education programme. (p. 41).*

Also, 73.3% of the tutors indicated that they agreed to the statement that pre-service teachers are exposed to the procedures for screening and identification. Furthermore, 86.7% of the tutors agreed that the pre-service teachers understand the importance of early identification.

This assertion is corroborated by Downing (2002) who were of the view that the skills required for inclusive education involve being able to identify and assess special needs children, being able to adapt curricular content, teaching and learning methods and assessment methods to assist special needs children and working in collaboration with colleagues, parents and the broader communities.

Again, all of the tutors also agreed that pre-service teachers are exposed to the causes and manifestations of learning and behaviour problems. This result show that the tutors agree with the pre-service teachers on their views about how the curriculum enables pre-service teachers to acquire knowledge and skills about inclusive education. This is consistent with the view of Anyagre and Dondieu (2006) that

> *the knowledge of special education exposes the teacher to scientific causes of disabilities to offset negative traditional perception. This enables the teacher to incorporate ways of preventing disabilities in their teaching leading to mass education on prevention of disabilities in their communities. (p. 24)*

However, majority of the tutors disagreed with the pre-service teachers on the statement that pre-service teachers are able to design a learning programme for special needs pupils in inclusive classrooms. This was noted from the data which showed that whereas 68.7% of the pre-service teachers agreed with the statement, only 46.6% of the tutors agreed with the statement. This gave an indication that the tutors and the pre-service teachers had divergent views on the matter.

4.3 Research Question 2: What knowledge do pre-service teachers have on the adaptation of the curriculum content to meet the learning needs of pupils in inclusive classrooms?

Table 8: Pre-Service Teachers' Views on Curriculum Adaptations (N=272)

Statement	Strongly Agree F (%)	Agree F (%)	Not Sure F (%)	Disagree F (%)	Strongly Disagree F (%)	Mean Score	Interpretation
Pre-service teachers are able to design curriculum for pupils with special needs.	85 (31.3)	114 (41.9)	39 (14.3)	27 (9.9)	7 (2.6)	3.89	Agree
Pre-service teachers are able to adapt lessons to meet the unique needs of pupils.	81 (29.8)	132 (48.5)	33 (12.1)	21 (12.1)	5 (1.8)	3.97	Agree
Pre-service teachers are able to set individualized objectives.	80 (29.4)	132 (48.5)	31 (11.4)	24 (8.8)	5 (1.8)	3.95	Agree
Pre-service teachers are exposed to variety of teaching methods.	116 (42.6)	108 (39.7)	28 (10.3)	16 (5.9)	4 (1.4)	4.16	Agree
Pre-service teachers are able to adjust instructional duration to individual learning needs.	81 (29.8)	108 (39.7)	43 (15.8)	35 (12.9)	5 (1.8)	3.83	Agree
Pre-service teachers are exposed to tasks analysis.	94 (34.6)	113 (41.5)	33 (12.1)	26 (9.6)	6 (2.2)	3.97	Agree
Pre-service teachers are exposed to modifying teaching and learning materials.	99 (36.4)	108 (39.7)	32 (11.8)	31 (11.4)	2 (0.7)	4.00	Agree
Pre-service teachers are able to adapt the classroom for pupils with disabilities to move reely.	101 (37.1)	106 (39.0)	34 (12.5)	23 (8.5)	8 (2.9)	3.99	Agree
Pre-service teachers are able to adapt the learning environment to facilitate participation.	69 (25.4)	121 (44.5)	44 (16.2)	30 (11.0)	8 (2.9)	3.78	Agree
Pre-service teachers are able to help pupils work on same content but less complex material.	48 (17.6)	112 (41.2)	64 (23.5)	39 (14.3)	9 (3.3)	3.56	Agree

Source: Field Data (2019)

Key: F = Frequency, % = Percent
***Mean Score** of 5.00 = Strongly Agree, 4.00 = Agree, 3.00 = Not Sure, 2.00 = Disagree, 1.00 = Strongly Disagree

Table 8 presents the data on research question two which was on pre-service teachers' views on curriculum adaptations to meet the learning needs of pupils in inclusive classrooms. From the data, it could be concluded that majority of the pre-service teachers agreed with the statements on curriculum adaptations to meet the learning needs of pupils in inclusive classrooms. This was evident from the data obtained from the respondents. For example, 73.2% of the pre-service teachers agreed to the statement that pre-service teachers are exposed to how to design a curriculum to suit all pupils with special needs in the class, compared to 12.5% who disagreed. Also, 77.9% of the pre-service teachers indicated their agreement to the statement that pre-service are able to set objectives that are based on individual needs. Again, on the statement about whether the pre-service teachers are exposed to use variety of teaching methods during lesson delivery, 82.4% of the respondents agreed, while 7.3% disagreed. The remaining 10.3% were not sure of the statement.

Furthermore, majority of the pre-service teachers (76.1%) agreed that the pre-service teachers were exposed to how to break tasks into smaller teachable and learnable parts. This statement was disagreed with by 11.8% of the pre-service teachers, while the remaining 12.1% indicated that they were not sure of the statement. Furthermore, 69.9% of the pre-service teachers agreed that the pre-service teachers can make changes to the learning environment or learning location to facilitate participation of all pupils in the classroom. However, 16.2% of them were not sure, while the remaining 13.9% disagreed with the statement. Lastly, it was observed that majority of the pre-service teachers (58.5%) agreed that the curriculum exposes them to enable pupils work on same content but with less complex materials, with the remaining 17.6% and 23.5% disagreeing and not being sure respectively.

Views of Pre-Service Teachers on Curriculum Adaptations

The Table 8 revealed the data on pre-service teachers' views on curriculum adaptations to meet the learning needs of pupils in inclusive classrooms. From the data, it can be concluded that majority of the pre-service teachers agreed with the statements on curriculum adaptations to meet the learning needs of pupils in inclusive classrooms. This is evident from the data obtained from the respondents. For example, 73.2% of the pre-service teachers agreed to the statement that the curriculum exposes pre-service teachers to how to design a curriculum to suit all pupils with special needs in the class, compared to 12.5% who disagreed. Okyere and Adams (2003) were of the view that, teachers can adapt or modify these strategies to enable pupils with disabilities also benefit from the learning tasks. Moreover, Choate (2004) postulated that special needs students require instructions in most of the same skills that other students are also appropriate for children with special needs.

Again, on the statement about whether the curriculum exposes pre-service teachers to use variety of teaching methods during lesson delivery, 82.4% of the respondents agreed, while 7.3% disagreed. The remaining 10.3% were not sure of the statement.

In view of the above, Choate, (2004) cited in Brew, (2011), opined that several strategies can be used to adapt the curriculum and instruction. Regular classroom teachers should be equipped with these strategies in order to perform effectively. The author further stipulated that

> *The inclusive teacher should use variety of methods when teaching. He should consider the abilities of individuals in the classroom thereby blending different methods to enable the individual with hearing impairment to benefit from the inclusive classroom.*

Again, majority of the pre-service teachers (76.1%) agreed that they are exposed to how to break tasks into smaller teachable and learnable parts. This statement was disagreed with by 11.8% of the pre-service teachers, while the remaining 12.1% indicated that they were not sure of the statement. According to Pierangelo and Giuliani (2006), tasks often require several skills or many different kinds of information for successful performance. When the components of the task are identified, they can be presented to students in a systematic fashion.

Views of Tutors on Curriculum Adaptations

The views of the tutors on curriculum adaptations to meet the learning needs in inclusive classrooms were positive. From the data, it came out that 80.0% of the tutors agreed with the statements that pre-service teachers can adapt lessons to meet the unique needs of pupils with special needs in the classroom.

Okyere and Adams (2003) were of the view that, teachers can adapt or modify these strategies to enable pupils with disabilities also benefit from learning. Moreover, Choate (2004) postulated that special needs students require instructions in most of the same skills as other students, which are also appropriate for children with special needs.

Choate, (2004), cited in Brew, (2011), opined that several strategies can be used to adapt the curriculum and instruction. Regular classroom teachers should be equipped with these strategies in order to perform effectively. The author further stipulated that

> *The inclusive teacher should use variety of methods when teaching. He should consider the abilities of individuals in the classroom thereby blending different methods to enable the student with hearing impairment to benefit from the inclusive classroom.*

Again, on the issue of task analysis, 73.4% of the tutors agreed that the curriculum exposed pre-service teachers to how to break tasks into smaller teachable and learnable parts. This assertion was supported by Pierangelo and Giuliani (2006), who stated tasks often require several skills or many different kinds of information for successful performance.

4.4 Research Question 3: What knowledge do pre-service teachers have in the use of assessment procedures in assessing pupils in inclusive classroom?

Table 9: ***Pre-Service Teachers' Views on Assessment Procedures (N=272)***

Statement	Strongly Agree F (%)	Agree F (%)	Not Sure F (%)	Disagree F (%)	Strongly Disagree F (%)	Mean Score	Interpretation
Pre-service teachers can select criteria for assessing pupils.	89 (32.7)	113 (41.5)	38 (14.0)	26 (9.6)	6 (2.2)	3.93	Agree
Pre-service teachers can identify observable aspect of the pupils' performance and judge.	78 (28.7)	133 (48.9)	36 (13.2)	19 (7.0)	6 (2.2)	3.95	Agree
Pre-service teachers are able to design an assessment task to reflect the performance of pupils.	67 (24.6)	134 (49.3)	41 (15.1)	26 (9.6)	4 (1.5)	3.86	Agree
Pre-service teachers are able to assess performance.	68 (25.0)	131 (48.2)	34 (12.5)	31 (11.4)	8 (2.9)	3.81	Agree
Pre-service teachers are able to provide an appropriate setting for assessing pupils' performance.	54 (19.9)	137 (50.4)	49 (18.0)	27 (9.9)	5 (1.8)	3.76	Agree
Pre-service teachers are able to use different assessment methods.	65 (23.9)	123 (45.2)	50 (18.4)	23 (8.5)	11 (4.0)	3.76	Agree
Pre-service teachers are able to give adequate time to complete task during exercises.	79 (29.0)	130 (47.8)	33 (12.1)	25 (9.2)	5 (1.8)	3.93	Agree
Pre-service teachers are able to adjust evaluation criteria or system grading.	66 (24.3)	122 (44.9)	49 (18.0)	27 (9.9)	8 (2.9)	3.78	Agree
Pre-service teachers are able to give adequate number of tasks to complete depending on their ability.	77 (28.3)	121 (44.5)	42 (15.4)	28 (10.3)	4 (1.5)	3.88	Agree
Pre-service teachers are able to create assessment portfolio.	65 (23.9)	132 (48.5)	39 (14.3)	28 (10.3)	8 (2.9)	3.80	Agree

Source: Field Data (2019)

Key: F = Frequency, % = Percent
***Mean Score** of 5.00 = Strongly Agree, 4.00 = Agree, 3.00 = Not Sure, 2.00 = Disagree, 1.00 = Strongly Disagree

Table 9 presents data on the views of pre-service teachers on assessment procedures in assessing pupils in inclusive classrooms. These views provided answers to research question three. The data showed that pre-service teachers agreed with the statements made. For example, 74.2% of the pre-service teachers agreed that they are taught how to select criteria for assessing pupils. Also, on the statement that pre-service teachers are able to design an assessment task to reflect the performance of pupils, 73.9% of the pre-service teachers agreed, 11.1% disagreed, while 15.1% were not sure of the statement. Again, 70.3% of the pre-service teachers agreed that they are exposed to how to provide an appropriate setting for eliciting and judging pupils' performance, 11.7% disagreed, while the remaining 18.0% were not sure.

Furthermore, on the issue of how to assess pupils using different assessment methods including non-traditional methods of assessment, 69.1% of the pre-service teachers agreed compared to 12.5% who disagreed. Also, 72.8% of the pre-service teachers indicated their agreement with the statement that pre-service teachers are able to give adequate number of tasks to complete depending on their abilities, while 11.2% disagreed, and the remaining 15.4% stated that they were not sure of their response to the statement.

Pre-Service Teachers' Views on Assessment Procedures

Table 9 presents data on the views of pre-service teachers on assessment procedures in assessing pupils in inclusive classroom. These are the views of pre-service teachers on research question three. The data showed that the pre-service teachers agreed with the statements made. For example, 74.2% of the pre-service teachers agreed that they are exposed to how to select criteria for assessing pupils.

Again, 70.3% of the pre-service teachers agreed that the curriculum exposes them to how to provide an appropriate setting for eliciting and judging pupils' performance, 11.7% disagreed, while the remaining 18.0% were not sure. The importance of assessment of special needs children should never be underestimated. The determination of who will receive a comprehensive assessment for a suspected disability is a skill that educators should acquire. The development of these skills according to National Information Centre for Children and Youth with Disabilities (2000) should include a good working knowledge which include collection, analysis, evaluation, determination and recommendation. Cohen and Spenciner (2007) are also of the view that assessment approach describes the way information is collected for making an educational decision.

Furthermore, 69.1% of the pre-service teachers agreed that pre-service teachers are able to assess using different assessment methods including non-traditional methods of assessment, compared to 12.5% who disagreed. Assessment includes many formal and informal methods of evaluating student's progress and behavior (Overton, 2009). The author further opined that clearly, gathering information about a student using a variety of techniques and information sources should shed considerable light on strengths and needs, the nature of the suspected disability and its effect on educational performance, and realistic and appropriate instructional goals and objectives. Also, 72.8% of the pre-service teachers indicated their agreement with the statement that pre-service teachers are able to give adequate number of tasks to complete depending on their abilities, while 11.2% disagreed, and the remaining 15.4% stated that they were not sure of their response to the statement. From this results, one can say that pre-service teachers can assign task to pupils with disabilities based on their individual abilities. This is to say that the pupils with disabilities are not overlooked.

Tutors' Views on Assessment Procedures

It can be observed that the views of the tutors were similar to those of the pre-service teachers. The data showed that the tutors agreed with all the statements made about the views of pre-service teachers on assessment procedures in assessing pupils in inclusive classroom. From the data, it was noted that 66.7% of the tutors agreed that pre-service teachers know how to select criteria for assessing pupils. Also, it was found out that 60.0% of the tutors agreed that pre-service teachers are exposed to how to design an assessment task to reflect the performance of pupils. Again, 86.6% of the tutors agreed that pre-service teachers are exposed to how to provide an appropriate setting for eliciting and judging pupils' performance. This implies that the views of the pre-service teachers and the tutors are in agreement with each other. The importance of assessment of special needs children should never be underestimated. The determination of who will receive a comprehensive assessment for a suspected disability is a skill that educators should acquire. The development of these skills according to National Information Centre for Children and Youth with Disabilities (2000) should include a good working knowledge which include collection, analysis, evaluation, determination and recommendation. Cohen and Spenciner (2007) are also of the view that assessment approach describes the way information is collected for making an educational decision.

In the same vein, it was revealed that 80.0% of the tutors agreed that pre-service teachers are able to assess using different assessment methods including non-traditional methods of assessment, compared to 20.0% who disagreed. Assessment includes many formal and informal methods of evaluating student's progress and behaviour (Overton, 2009). Clearly, gathering information about a student using a variety of techniques and information sources should shed considerable light on strengths and needs, the nature of the suspected disability and its effect on educational performance, and realistic and

appropriate instructional goals and objectives. Also, 66.7% of the tutors indicated their agreement with the statement that pre-service teachers can give adequate number of tasks to complete depending on their ability, while 20.0% disagreed, and the remaining 13.3% stated that they were not sure of their response to the statement. These results showed that the views of both tutors and pre-service teachers were the same as far as the views on the use of assessment procedures in assessing pupils in inclusive classroom were concerned.

4.5 Research Question 4: What resources are available for effective pre-service teacher preparation for inclusive education?

Table 10: Pre-Service Teachers' Views on Resources Available (N=272)

Statement	Strongly Agree F (%)	Agree F (%)	Not Sure F (%)	Disagree F (%)	Strongly Disagree F (%)	Mean Score	Interpretation
The college has a resource room.	49 (18.0)	70 (25.7)	56 (20.6)	47 (17.3)	50 (18.4)	3.08	Not Sure
There is a resource teacher in the college	64 (23.5)	96 (35.3)	43 (15.8)	37 (13.6)	32 (11.8)	3.45	Not Sure
The resource teacher in the college trains pre-service teachers to handle pupils for remediation.	51 (18.8)	105 (38.6)	45 (16.5)	37 (13.6)	34 (12.5)	3.37	Not Sure
There are enough learning resources in the resource room in the college.	19 (7.0)	62 (22.8)	71 (26.1)	61 (22.4)	59 (21.7)	2.71	Not Sure
The materials in the resource room are fully utilized by pre-service teachers.	18 (6.6)	65 (23.9)	72 (26.5)	66 (24.3)	51 (18.8)	2.75	Not Sure
The resources expose the pre-service teachers to teach pupils with special needs.	32 (11.8)	91 (33.5)	66 (24.3)	53 (19.5)	30 (11.0)	3.15	Not Sure
There are braille materials for the blind.	42 (15.4)	71 (26.1)	68 (25.0)	46 (16.9)	45 (16.5)	3.07	Not Sure
The resources expose pre-service teachers to adapt instruction to the level of pupils.	36 (13.2)	97 (35.7)	72 (26.5)	45 (16.5)	22 (8.1)	3.29	Not Sure
The resources in the college are able to equip the pre-service teacher enough.	40 (14.7)	87 (32.0)	58 (21.3)	56 (20.6)	31 (11.4)	3.18	Not Sure
The pre-service teachers are familiar with the resource materials for use.	34 (12.5)	83 (30.5)	69 (25.4)	56 (20.6)	30 (11.0)	3.13	Not Sure

Source: Field Data (2019)

Key: F = Frequency, % = Percent ***Mean Score** of 5.00 = Strongly Agree, 4.00 = Agree, 3.00 = Not Sure, 2.00 = Disagree, 1.00 = Strongly Disagree

From Table 10 presents data on the pre-service teachers' views on resources available for effective pre-service teacher preparation which answered research question four. It was found out that the pre-service teachers neither agreed nor disagreed with the statements. For instance, it emerged that 43.7% of the pre-service teachers agreed that the

college had a resource room, while 35.7% disagreed, and the remaining 20.6% remained neutral in their responses. Also, 29.8% of them indicated their agreement to the statement that there were enough learning resources in the resource room in the colleges, while 44.1% disagreed, and 26.1% were not sure. Again, 41.5% of the pre-service teachers stated their agreement to the statement that there were Braille materials for the blind in the colleges, with 33.4% disagreeing, and 25.0% not sure of the statements.

Furthermore, when asked about whether the resources in the college were able to equip the pre-service teachers to teach pupils with special needs in the classroom, the data revealed that 46.7% of the pre-service teachers agreed to the statement, while 32.0% disagreed and 21.3% were not sure. Finally, it was observed that 43.0% of the pre-service teachers agreed that they were familiar with the resource materials for use in the classroom, while 31.6% and 21.4% disagreed and were not sure respectively. These results suggest that there were divergent views about the availability of resources for effective pre-service teacher development in Colleges of Education. It further suggests that pre-service teacher development requires requisite materials to ensure that teachers are well-trained for the task.

Pre-Service Teachers' Views on Resources Available

From Table 10 which presents data on the pre-service teachers' views on resources available for effective pre-service teacher preparation, it was found out that the pre-service teachers neither agreed nor disagreed with the statements. For instance, it emerged that 43.7% of the pre-service teachers agreed that the college has a resource room, while 35.7% disagreed, and the remaining 20.6% remained neutral in their responses. From educational perspective anything that can facilitate and support the implementation of educational policy is a resource. According to Brown, Ahiatrogah, Anyagre, Essilfie, Arhin and Ghansah, (2018) school resources are basically physical materials such as school building,

furniture, compound, stationary, library, tools and equipment, etc., therefore if such resources are lacking it impedes teaching and learning.

Also, 29.8% of them indicated their agreement to the statement that there are enough learning resources in the resource room in the colleges, while 44.1% disagreed, and 26.1% were not sure. Again, 41.5% of the pre-service teachers stated their agreement to the statement that there are Braille materials for the blind in the colleges, with 33.4% disagreeing, and 25.0% not sure of the statements. Simon, Echeita, Sandoval and Lopez, (2010) asserted that general school which admit special needs pupils require well equipped resource rooms that are stocked with optical and non-optical devices which are manned by well qualified personnel.

Furthermore, when asked about whether the resources in the college are able to equip the pre-service teacher to teach pupils with special needs in the classroom, the data revealed that 46.7% of the pre-service teachers agreed to the statement, while 32.0% disagreed and 21.3% were not sure. This result confirmed a study by Arrah and Swain (2014) which reported that teachers faced difficulties in terms of insufficient resources, lack of training, stress and being anxious, in supporting and teaching students with disabilities. Finally, it was observed that 43.0% of the pre-service teachers agreed that they were familiar with the resource materials for use in the classroom, while 31.6% and 21.4% disagreed and were not sure respectively. These results suggest that there were divergent views about the availability of resources for effective pre-service teacher development in Colleges of Education. It further suggests that pre-service teacher development requires requisite materials to ensure that teachers are well-trained for the task.

Views of Tutors on Resources Available

Tutors' views on resources available for effective pre-service teacher preparation in Colleges of Education in Ghana were very similar to those of the pre-service teachers themselves. For instance, the data revealed that 66.7% of the tutors agreed that the college has a resource room, while 33.3% disagreed. From educational perspective anything that can facilitate and support the implementation of educational policy is a resource. According to Brown, Ahiatrogah, Anyagre, Essilfie, Arhin and Ghansah, (2018) school resources are basically physical materials such as school building, furniture, compound, stationary, library, tools and equipment, etc., therefore if such resources are lacking it impedes teaching and learning.

Also, 80.0% of them agreed to the statement that there were enough learning resources in the resource room in the colleges, while 13.3% disagreed, and 6.7% were not sure. Again, 73.3% of the tutors stated their agreement to the statement that there were braille materials for the blind in the colleges, with 26.7% disagreeing. These findings agreed with Simon, Echeita, Sandoval and Lopez, (2010) who were of the view that general school which admit special needs pupils require well equipped resource rooms that are stocked with optical and non-optical devices which are manned by well qualified personnel.

Also, it emerged from the data that the resources in the colleges were able to equip the pre-service teachers to teach pupils with special needs in the classroom. This is evident from the data which revealed that 66.6% of the tutors who agreed to the statement, while 26.7% disagreed and 6.7% were not sure.

Finally, 60.0% of the tutors agreed that the pre-service teachers were familiar with the resource materials for use in the classroom, while 33.3% and 6.7% disagreed and were not sure respectively. These results suggested that the views of the tutors about

the availability of resources for effective pre-service teacher development in Colleges of Education were contrasting.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter deals with the summary, conclusion and recommendations made based on the findings from the study which was views of pre-service teachers on their preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana.

5.1 Summary of Findings

This study sought to address the following four research questions:

1. What are pre-service teachers' views on their knowledge and skills towards the practice of inclusive education in Ghana?
2. What knowledge do pre-service teachers have on the adaptation of the curriculum content to meet the learning needs of pupils in inclusive classrooms?
3. What knowledge do pre-service teachers have in the use of assessment procedures in assessing pupils in inclusive classroom?
4. What resources are available for effective pre-service teacher preparation for inclusive education?

The study involved three selected Colleges of Education in the Eastern Region of Ghana. In all two hundred and eighty-seven (287) respondents were involved in the study made up of 272 pre-service teachers and 15 tutors of the Colleges of Education teaching Special Education for five years and above. The researcher adopted a quantitative approach of data collection, precisely using questionnaire. Two different sets of questionnaires were designed for the respondents. The Likert-type scale questionnaire items were designed to obtain data from pre-service teachers and college

tutors. The items were rated: Strongly Agree = 5.0; Agree = 4.0; Not sure = 3.0; Disagree = 2.0; and Strongly Disagree = 1.0. In selecting the sample size, the researcher used non-probability sample involving quota sampling technique to select the level 300 pre-service teachers. For the tutors a purposive sampling technique was adopted for those who have been teaching special needs education in the colleges for the past five years and above.

The findings of the research were discussed around the following themes:

1. Knowledge and skills of pre-service teachers about inclusive education.
2. Pre-service teachers' knowledge on adaptation of the curriculum content to meet the needs of children.
3. Knowledge of pre-service teachers in the use of assessment procedures for assessing pupils in inclusive classrooms.
4. Resources available for effective pre-service teacher preparation for inclusive education.

5.1.1 Knowledge and skills of pre-service teachers about inclusive education

The study revealed that the pre-service teachers had demonstrable knowledge and skills about inclusive education. It was found out that pre-service teachers were able to identify special needs pupils in the classroom. Also, the results indicated that pre-service teachers were exposed to procedures for screening and identification, and demonstrated an understanding of the importance of early identification. The responses to other statements showed that the pre-service teachers were knowledgeable about inclusive education. For example, the pre-service teachers indicated that they were exposed to the causes and manifestations of learning and behaviour problems. They also noted that pre-service teachers were able to use appropriate behavioural intervention skills in inclusive classrooms.

Furthermore, the data showed that pre-service teachers were exposed to various methods of teaching pupils with disabilities in the classroom. They explained that the curriculum in the Colleges of Education exposed them to appropriate classroom management skills in inclusive education settings. On the contrary, majority of the pre-service teachers were not sure the curriculum of the Colleges of Education taught them how to design learning programmes for students with special needs in inclusive classrooms. These results, therefore, suggested that the curriculum that is used in the Colleges of Education in Ghana helps pre-service teachers to acquire knowledge and skills about inclusive education, but not how to develop independent activities for students with special needs in inclusive settings. From the responses of the tutors, it was noted that majority of their views were in agreement with that of the pre-service teachers on the knowledge and skills on inclusive education.

5.1.2 Pre-Service teachers' knowledge on adaptation of the curriculum content to meet the needs of special needs children

The study showed that majority of the pre-service teachers could adapt the curriculum to meet the learning needs of pupils in inclusive classrooms. This was evident from the data obtained from the respondents that pre-service teachers were exposed to how to design a curriculum to suit all pupils with special needs in the class. However, this contradicted the views of the tutors. Also, the pre-service teachers indicated that the curriculum enabled them to set objectives that were based on individual needs. Additionally, the pre-service teachers indicated they were exposed to the use of variety of teaching methods during lesson delivery. Furthermore, the pre-service teachers stated that they were able to demonstrate the use of task analysis whereby they could break tasks into smaller teachable and learnable parts for their students. However, some tutors did not agree with that assertion that pre-service

teachers could break tasks into teachable and learnable parts. Finally, pre-service teachers agreed that the curriculum had exposed them to how they could make changes to the learning environment or learning location to facilitate participation of all pupils in the classroom.

5.1.3 Knowledge of pre-service teachers in the use of assessment procedures for pupils with special needs in inclusive classrooms

On the assessment procedures, the pre-service teachers agreed to the statement that the curriculum taught them how to select criteria for assessing pupils and could use variety of assessment procedures including observation, and non-traditional methods of assessment. The pre-service teachers indicated their agreement with the statement that the curriculum taught them to give adequate number of tasks to complete depending on the pupils' abilities. They also indicated their knowledge on different methods of assessment which included portfolio assessment. All these assertions were corroborated by the tutors in their responses to the questionnaire items on assessment procedures in assessing individuals with special needs in inclusive classrooms.

5.1.4 Resources available for effective pre-service teacher preparation towards inclusive education

On the availability of resources in the colleges, the results revealed that the colleges do not have resource rooms for teacher development. The results again indicated that the colleges have resource teachers referring to their special education tutors. Meanwhile, from the responses it came out clearly that the Colleges of Education lacked resources for the development of pre-service teachers towards inclusive education.

5.2 Conclusion

The following conclusions can be drawn based on the findings of the research. Regarding the knowledge and skills of pre-service teachers about inclusive education, it can be concluded that the pre-service teachers demonstrated enough knowledge in the following areas: knowledge of inclusive education, mode of identification, causes of disabilities, knowledge on instructional strategies and assessment procedures. Furthermore, the respondents described some mode of identification needed for successful inclusive education as observation, screening, giving the child a task and managing the behaviour of the child. The respondents also indicated a clear knowledge of the causes of disabilities. It also came out that pre-service teachers were able to use variety of methods in teaching the exceptional children in an inclusive setting which included the use of braille for the blind, sign language for the deaf, and demonstration methods.

It can also be concluded that the pre-service teachers could adapt the curriculum content, instructional methods, resources and the environment to meet the learning needs of the exceptional children in an inclusive classroom.

On the use of assessment procedures in assessing pupils in inclusive classrooms, it was observed from the data analysis that the pre-service teachers took some steps to assess pupils in various ways. Two themes that emerged from the data were; a) using different assessment methods; and b) knowledge of portfolio assessment.

On the knowledge of portfolio assessment, the responses were affirmative indicating they had knowledge and use of portfolio assessment.

On the issue of the resource rooms available in the colleges, the results indicated that almost all the colleges lacked resource rooms for pre-service teachers' development.

It further came out that the Colleges of Education lacked resources for effective development of pre-service teachers.

5.3 Recommendations

Based on the findings of the study, the researcher finds it expedient to put across the following recommendations, which would help pre-service teacher preparation towards inclusive education in Ghana.

1. The programmes designed in the Colleges of Education for pre-service teacher preparation should include more sessions of field experience to help equip them with the necessary skills towards inclusive education.
2. Inclusive education should be incorporated in the curriculum of the Colleges of Education to expose pre-service teachers to the concept prior to their completion.
3. Colleges of Education should as a matter of priority provide enough resource rooms and resources to facilitate pre-service teachers' knowledge on inclusive education.
4. Curriculum content designed for pre-service teacher preparation should include more practical activities to equip them with adequate skills to handle exceptional individual.
5. Special education should be taught as a course in the Colleges of Education throughout the entire period of pre-service training.
6. Curriculum designers should include programmes not only at the pre-service level but also by including course-work for service teachers to increase their knowledge base in teaching all categories of children with special needs in inclusive classrooms.
7. Programmes for the Colleges of Education should be reviewed to ensure that graduates have the necessary attitudes, confidence and competence to design and

deliver inclusive curricular for a diverse range of learners to improve their participation in learning.

5.4 Suggestions for Further Research

This study primarily focused on views of pre-service teachers on their preparation towards inclusive education in selected Colleges of Education in the Eastern Region of Ghana. The study was limited to the pre-service teachers' knowledge and skills on inclusive education, curriculum adaption, assessment procedures and resources available for pre-service teacher preparation. However, it is suggested that future studies be conducted in the teachers' readiness for inclusive education in Ghana. Another area suggested for future research is the level of knowledge of private school teachers on inclusive education and other disability issues.

REFERENCES

Aduwa-Ogiegbaen, S. O., & Imogie, A. L. (2005). *Instructional communication and technology in higher education*. Ibadan: Stirling Hordorn Publishers (Nigerian) Ltd.

Agbenyega, J. S. (2007). Examining teachers' concerns and attitudes to inclusive education in Ghana. *International Journal of Whole Schooling, 3*(1), 41-56.

Ainscow, M. (1993). *Teacher development and special needs: Some lessons from UNESCO Project*. London: Falmer Press.

Ainscow, M. (2013). From special education to effective schools for all: Widening the agenda. In L. Florian (Ed.), *The sage handbook of special education* (pp.171-186; 2nd ed). London: Sage

Akomeah, E. B. (2015). *Perception of teachers on inclusive education in selected basic schools in Cape Coast metropolis of Ghana*. An unpublished M. Phil thesis, University of Cape Coast.

Akyeampong, K., Lussier, K., Pryor, J., & Westbrook, J. (2013). Improving teaching and learning of basic maths and reading in Africa: Does teacher preparation count? *International Journal of Educational Development, 33*(3), 272-282

Alquraini, T., & Gut, D. (2012). Critical components of successful inclusion of students with severe disabilities: Literature review. *International Journal of Special Education, 27*(1), 1-26.

Anthony, J. (2011). Conceptualizing disability in Ghana: Implications for EFA and Inclusive Education: *International Journal of Inclusive Education, 15* (10), 1073-1086.

Anyagre, P., & Dondieu, C. K. (2006). *A guide to education studies.* Vol. 2 Cape Coast: Ghana University Press.

Armstrong, T. (2000). *Multiple intelligence in the classroom* (2nd ed.). Alexandria, VA: ASCD.

Arrah, R., & Swain, K. (2014). Teachers' perceptions of students with special education needs in Cameroon secondary schools. *International Journal of Special Education, 29*(3), 101-110.

Ary, D., Jacob, L. C., & Razaviel, A. (2002). *Introduction to research in education* (6th ed.). Belmont, CA: Wadson Thomas Learning.

Asempa, E. Y. (2013). *Adaptations for enhancing inclusion of pupils with disabilities in selected schools within Yilo Krobo District*. An unpublished M. Phil thesis, University of Education, Winneba.

Ashman, A. (2015). *Education for inclusion and diversity*. (Ed). Melbourne, Vic. Pearson Education.

Avoke, M. (2005). *Special educational needs in Ghana: Policy, practice and research*. Winneba, Ghana: Special Educational Books.

Avoke, M. K., Hayford, S. K., Ihenacho, I. J. & Ocloo, M. A. (1998). *Issues in special education.* Winneba: Department of Special Education.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freman and Co.

Babbie, E. R., (2008). *The basics of social research*. USA, Thomson Wadsworth.

Best, J. W., & Khan, J.V., (1995). *Research in education*. New York: Englewood Cliffs Prentice Hall.

Birgin, O., & Baki, A. (2007). The use of portfolio to assess students' performance. *Journal of Turkish Science Education, 4*(2), 75-90.

Brew, B. (2011). *Views of tutors of colleges of education on pre-service teachers' preparation towards inclusive education in Ghana.* An unpublished M. Phil thesis, University of Education, Winneba.

Bitner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school students. *Journal of Research in Science Teaching, 43*(5), 485-499.

Brown, P., Ahiatrogah, P., Anyagre, S., Essilfie, G., Arhin, V., & Ghansah, K. K. (2018). *Principles and practice of education*. Cape Coast, Ghana: University of Cape Coast, College of Distance Education.

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford: Oxford University Press, Inc.

Bui, X., Quirk, C., Almazan, S., & Valenti, M. (2010). *Inclusive education research & practice.* Maryland Coalition for Inclusive Education.

Carnine, D. Silbert, J., & Kameenui, E. J. (1990). *Direct instruction reading* (2nd ed.). Columbus, OH: Merrill.

Chaula, G. J. (2014). *Challenges teachers face in implementation of inclusive education in primary schools*. Dare Salam: University of Tanzania Schools.

Choate, J. S. (2004). *Successful inclusive teaching: Proven ways to detect and correct special needs* (4th ed.). New York: Pearson Education, Inc.

Cohen, L. G. & Spenciner, L. J. (2007). *Assessment of children and youth with special needs* (3rd ed.). Upper Sadde River Merril/Pearson Education.

Cohen, L. G. & Spenciner, L. J. (2011). *Assessment of children and youth with special needs* (4th ed). Upper Sadde River Merril/Pearson Education.

Cohen, L. Manion, L. & Morrison, K. (2004). *Research methods in education* (5th ed.). London: Routledge Falmer.

Cohen, L. Manion, L. & Morrison, K. (2007). *Research methods in education* (6th ed.). Routledge, Taylor & Francis Group. London and New York

Cohen, L. Manion, L. & Morrison, K. (2011). *Research methods in education.* London: Routledge, Taylor & Francis Group.

Cresswell, J. W. & Cresswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks. CA Sage.

Cresswell, J. W. (2009). *Research design*: Qualitative, quantitative, and mixed methods approaches (4th ed.). Thousand Oaks. CA Sage Publications.

Cresswell, J. W. (2014). *Research design*: *Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks. CA Sage.

Creswell, J.W. (2005). *Education research: Planning, conducting and evaluating quantitative research* (2nd ed.). New Jersey: Merril Patience Hall.

Dapudong C. R. (2014). *Teachers' knowledge and attitude towards inclusive education: Basis for an enhanced professional development programme.* Ifugao University.

Darling-Hammond, L. (2009). *Preparing teachers for changing world: What teachers should learn and be able to do*. San Francisco: Jossey- Bass.

Deku, P. & Vanderpuye, I. (2017). Perspectives of teachers regarding inclusive education in Ghana. *International Journal of Whole Schooling, 13* (3), 39-54

Department of Education (2005). *Guidelines for inclusive learning programmes. Education White Paper 6*: Building an inclusive education and training system. Pretoria: Government Printers.

DeVellis, R. (2003). *Scale development: Theory and applications.* Thousand Oaks, CA: Sage.

Downing, J. E. (2002). *Including students with severe and multiple disabilities in typical classrooms.* Baltimore: Paul Brookes Publishing Company.

Dupuis, B., Barclay, J. W., Holmes, S. D., Platt, M., Shaha, S. H., & Lewis, V. K. (2006). Disabilities. *Journal of the American Academy of Special Education Professionals*, Summer, 74-91.

Forman, P. (2001). *Integration of inclusive in action*. London: Harcourt Brace.

Frederick, N., Osborne, L. A. & Reed, P. (2004). Judgement of successful inclusion by education personnel. *Education Psychology*, *24*(3), 263-290.

Frieberg, K. L. (1997). *Educating exceptional children* (9th ed.). Guilford, USA: Dushkin Publishing Group/Brown & Benchmark Publishers.

Friend, M., & Bursack, W. D. (2006). Including students with special needs: *A practical guide for classroom teachers.* Boston: Allyn and Bacon.

Gay, G. (1992). The state of multi-cultural education opportunity; 1996 report.

Ghana Education Service. (2005). *Conference of heads of second cycle schools.* Ajumako, Central Region, Ghana.

Gist, M. E. (1987). Self-efficacy: Implication for organizational behaviour and human resource management. *Academy of Management Review, 12*(3), 472-485.

Goddard, M. (2004). *Access through technology, Library Journal,* (*2*), 2-6.

Government of Ghana. (2017). *National teachers' standards and teacher education curriculum framework for Ghana.* Accra, Ghana: Government of Ghana.

Gregorius, S. (2016). Exploring narrative of education: Disabled young people's experiences of educational institutions in Ghana. *Disability & Society, 31*(3), 322-338

Grossman, P. N., & Richert, R. (1988). Unacknowledged knowledge growth: A reexamination of the effects of teacher education. *Teaching and Teacher Education, 4*, 53-62.

Guerriero, S. (2017). *Pedagogical knowledge in the changing nature of the teaching profession*. Paris: OECD Publishing.

Hammill, D. D., & Bartel, N. R. (1990). *Teaching children with learning and behaviour problems* (Canadian ed.). Boston: Allyn & Bacon.

Hayford, S., K. (2007). *Continuous assessment and lower attaining pupils in primary and junior secondary schools in Ghana.* PhD Thesis. University of Birmingham, Birmingham, UK.

Hayford, S., K. (2013). *Special educational needs and quality education for all*. Accra, Ghana: Salt and Light.

Hewitt, T. W. (2006). *Understanding and shaping curriculum*: *What we teach and why*. New Delhi: Sage.

Hoy, A. W. (2000). *Changes in teacher efficacy during the early years of teaching.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans.

Idol, L. (2006). Toward inclusion of special education students in general education: A programme evaluation of eight schools. *Remedial and Special Education, 27*, 77-94.

Institute of Education. (2014). *Course outline for Colleges of Education.* Cape Coast, Ghana: College of Education Studies, University of Cape Coast.

Johnson, B., & Christensen, L. (2012). *Educational research*: *Quantitative, qualitative & mixed approaches*. Los Angeles: SAGE Publications.

Kapp, D. A. (1994). *Children with problems: An orthopedagogical perspective*. Pretoria: Van Schaik.

King-Sear, M. E. (2001). Three steps for gaining access to the general education curriculum for learners with disabilities. *Intervention in School and Clinic, 37*(2), 67-76.

Kumekpor, T. K. B. (2002). *Research methods and techniques of social science*. Accra, Ghana: Sonlife Press and Services.

Kuranchie, A. (2016). *Research made easy:* Kumasi, Ghana: Bookworm Publications.

Kusi, H. (2012). *Doing qualitative research: A guide for researchers*. Accra: Emmpong Press.

Landasan, S. (2017). *Extent of implementation of inclusive education.* Unpublished master's thesis, Laguna Polytechnic State University, Los Banos, Laguna.

Levitz, E. (1996). Specialized education, the way forward. *Publico,* June 7-10

Lewin, K. M., & Staut, J. S. (2003). *Researching teacher education: New perspectives and policy*. London: Routledge.

Lewis, R. B., Doolag, D. H. (2011). *Teaching students with special needs in general education classrooms*. Upper Saddle River, NJ: Pearson.

Mager. R. F. (1984). *Preparing instructional objectives.* Belmont, CA: Pitman Learning.

Mamah, V., Deku, P., Darling, S. M., & Avoke, S. K. (2011). University teachers' perception of inclusion of visually impaired in Ghanaian universities. *Instructional Journal of Special Education, 26*(1), 70-79.

Marshall, C., & Rossman, G. B. (2011). *Designing qualitative research* (5th ed.). Los Angeles: SAGE Publications.

Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (3rded.). London: SAGE Publications.

McDonnell, J., Thorson, N., & Mcquivey, C. (1998). The instructional characteristics of inclusive classes for elementary students with severe disabilities: An exploratory study. *Journal of Behavioral Education, 8*(4), 415-437.

McLeod, J. D. (2015). Why and how inequality matters. *Journal of Health and Social Behaviour*, *56*, 149-165.

McLeod, S. A. (2019). *Qualitative vs. quantitative research. Simply psychology*: https://www.simplypsychology.org/qualitative-quantitative.html

Miller, S. P. (2009). *Validated practices for teaching students with diverse needs and abilities (2nd ed.)*. Upper Saddle River: Pearson.

Ministry of Education. (2004). *Continuous assessment at basic education level: Termly assessment plan*. Accra, Ghana: Government of Ghana.

Ministry of Education. (2016). *National teachers' standard for Ghana: Guidelines.* Accra, Ghana: Government of Ghana.

Ministry of Education. (2017). *The national teacher education curriculum framework (NTECF):* The essential elements of initial teacher education. Accra, Ghana: Government of Ghana.

Mprah, K., Dwomoh, A., Opoku, M., Owusu I., & Ampratwum, J. (2016). Knowledge, attitude and preparedness of teachers towards inclusive education in Ejisu-Juaben municipality in Ashanti region of Ghana. *Journal of Disability Management and Special Education, 6*(2), 1-15.

National Information Center for Children and Youth with Disabilities. (2000). *Questions and answers about IDEA.* Retrieved January, http://www.nichcy.org//informationResources/Documents/NICHCY%20PUBS/nd21.pdf.

Nell, K. D. (2010). *The real world reading and writing U. S. children need*. East Lansing: Michigan State University.

Newman, L. (2006). *General education participation and academic performance of students with learning disabilities.* National center for special education research, Institute of Education Sciences (IES).

Nyavor. M. (2015). *Provisions teachers make for pupils with special educational needs in three selected inclusive pilot basic schools at Pokuase in Greater Accra Region of Ghana.* Unpublished master's thesis, University of Education, Winneba: Ghana.

Obeng, C. (2007). Teachers' views on the teaching of students with disabilities in Ghanaian classrooms. *International Journal of Special Education, 22*(1), 96-102.

Ocloo, M. A. (2011). *Effective education of persons with visual impairment in Ghana.* Accra: Distinctive Publishers.

Okyere, B. A., & Adams, J. S. (2003). *Introduction to special education. An African perspective*. Accra: Adwinsa Publications.

O'neill, R. (2006). The advantages and disadvantages of qualitative and quantitative research methods. Retrieved from http://www.learnhigher.ac.uk/analysethis/main/quantative1.html

Opoku, M. P. (2016). The state of special schools in Ghana: Perception of special educators in Ashanti and Brong Ahafo Regions of Ghana. *Turkish International Journal of Special Education and Guidance & Counselling (TIJSEG) 5*(1), 1300- 7432.

Opoku, M. P., Agbenyega, J., Mprah, W. K., Mckenzie, J., & Badu, E. (2017). Decade of inclusive education in Ghana: Perspectives of special educators. *Journal of Social Inclusion, 8* (1), 3-20, 2017.

Opoku, M. P., Badu, E., Amponteng, M., & Agyei-Okyere, E. (2015). Inclusive education at the crossroads in Ashanti and Brong Ahafo regions in Ghana: Target not achievable by 2015. *Disability, CBR & Inclusive Development, 26*(1), 63-78.

Overton, T. (2009). *Assessment in special education: An applied approach* (6th ed.). Upper Saddle River, NJ: Merrill.

Paulson, E. L., Paulson, P. R., & Meyer, C. A. (1991). *What makes a portfolio a portfolio? Educational Leadership, 48* (5), 60–63.

Pierangelo, R., & Giuliani, G. A. (2012), *Assessment in special education: A practical approach* (4thed.). Boston: Allyn & Bacon.

Pierangelo, R., & Giuliani, G. (2006). *Assessment in special education: A practical approach* (2nd ed.). Boston: Allyn & Bacon.

Pierangelo, R., & Giuliani, G. (2008). *Assessment in special education: A practical approach*. Boston: Allyn & Bacon.

Pierangelo, R., & Giuliani, G. (2009). *Assessment in special education: A practical approach* (3rd ed.). Boston: Allyn & Bacon.

Pleiss, J., Prouty, D., Schubert, J., Habib, M., & George, E. (2003). *Continuous assessment: A practical guide for teachers.* Washington, DC: American Institutes for Research.

Polloway, E. A., & Patton, J. R. (2013). The influence of teachers' classroom practices on the self-concept of primary school pupils with disabilities. *Journal of Emerging Trends in Educational Research and Policy Studies*, *4*(4), 627-636.

Porter, S. (2007). *Research methodology*. Belfast: Blackwell Publishing Ltd. Retrieved fromhttp://www.marjee.org/pdfs/validity.pdf.

Reisburg, L. (1990). Curriculum evaluation and modification: An effective teaching perspective. *Intervention in School and Clinic, 26*(2), 99-105.

Robson, C. (2002). *Real world research.* Oxford: Blackwell Publishers Ltd.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*(1), 1-28.

Rudner, L., & Boston, C. (2012). *Overview of authentic assessment*: Boston: Houghton Education.

Salvia, J., & Ysseldyke, J. (2007). *Assessment in special and inclusive education* (11th ed.). Boston: Houghton Mifflin.

Santosh, G. (1993). *Research methodology and statistical techniques.* New Delhi: Deep and Deep Publication.

Sarantakos, S. (2005). *Social research.* Hampshire: Palgrave Macmillan.

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed). Upper Saddle River. NJ Pearson Education Ltd.

Schumm, J. S., & Vaughn, S. (1995). Getting ready for inclusive. Is the stage set? *Learning Disabilities Research and Practices, 10*(3), 169-179.

Sdorow, L. (1993). *Psychology*. Madison, WI: Brown & Benchmark.

Seidengerg, P. L. (1989). Relating text-processing research to reading and writing instruction for learning disabled students. *Learning Disability Focus, 5*, 4-12.

Seidu, A. (2007). Modern approaches to research in educational administration. Payless Publication Limited. Amakom, Kumasi.

Shore, K. (2013). *Mainstreaming special education students: The parents' role.* Australia: Wiltshire.

Simon, C., Echieta, G., Sandoval, M., & Lopez, M. (2010). *The inclusive education process of students with visual impairment in Spain: An analysis from the perspective of organization*. Madrid, Spain.

Siraj-Blatchford, J., & Siraj-Blatchford, I. (2002). *IBM KidSmart's early learning programme: UK evaluation report – Phase 1*(2000–2001), IBM White Paper, London: IBM.

Tamakloe, E. K., Amedahe, F. K., & Atta, E.T. (2005). *Principles and methods of teaching*. Accra: Ghana University Press.

Taylor, R. (2009). *Assessment of exceptional students: Educational and Psychological procedures* (8th ed.). Upper Saddle River, N.J: Merrill/Pearson.

Tobin, T. J. Muller, R. O., & Turner, L. M. (2006). Organisational learning and climate as predictors of self-efficacy. *Social Psychology of Education, 9,* 301-319.

Transforming Teacher Education and Learning. (2016). *Teaching practice, tutor handbook: School partnership programme*. Accra, Ghana: Government of Ghana.

Tschannen-Moran, M., Woolfol-Hoy, A. W., & Hoy, W. K. (2001). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.

UNESCO (1994). *Salamanca statement and framework for action on special needs education.* Salamanca Spain: World conference on special needs education: Access and quality, Salamanca Spain.

UNESCO, (2004). *Changing teaching practices: Using curriculum differentiation to respond to students' diversity.* Paris: UNESCO.

UNESCO, (2009). *Better education for all: A global report.* Retrieved from http://grdspublishing.org/.

Vaidya, S. R. (1997). *Meeting the challenges of an inclusive classroom for improving learning for all students.* Retrieved November 18, 2019, from www. Findarticles.com/article/mi-/html.

Van-Schalkwyk, O. J. (1994). *Educational management:* Tutorial letter 10214. Pretoria: UNISA.

Wade, S. E. (2000). *Inclusive education: A casebook and reading for* prospective *and practicing educators*. New Jersey: Lawrence Erlbaum Associates.

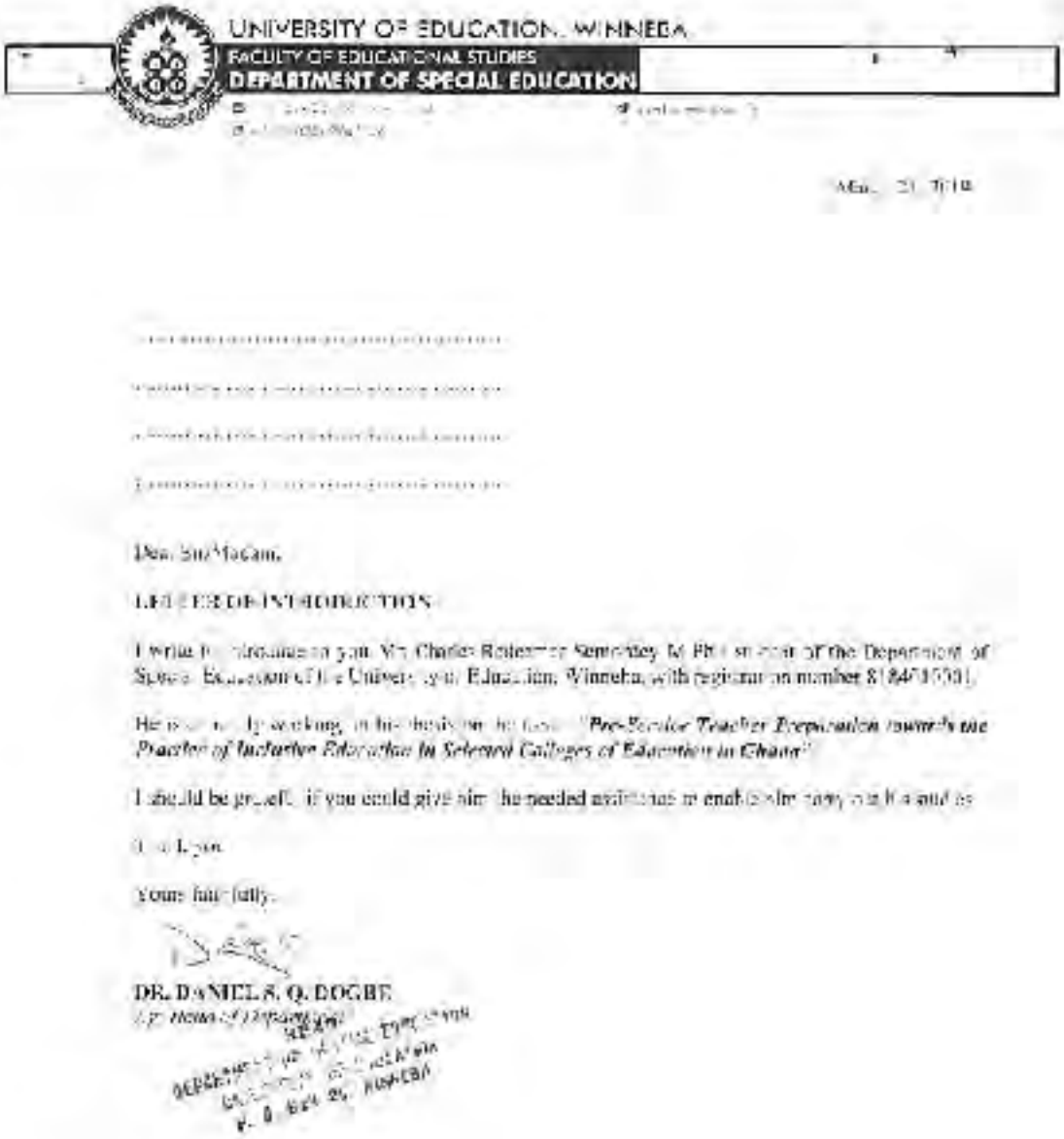
Walonick, D.S. (2004). *Survival statistics.* Bloomington: StaPac, Inc.

Wolters, C. A., & Daugherty, S. G. (2007). Goal structures and teachers' sense of efficacy: Their relation and association to teaching experience and academic level. *Journal of Educational Psychology, 99* (1), 181-193

APPENDICES

APPENDIX A

LETTER OF INTRODUCTION



UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF SPECIAL EDUCATION

AUG. 21, 2018

Dear Sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you Mr. Charles Robertson Semordey, M.Phil student of the Department of Special Education of the University of Education, Winneba, with registration number 8184710001.

He is currently working on his thesis on the topic: *"Pre-Service Teacher Preparation towards the Practice of Inclusive Education in Selected Colleges of Education in Ghana"*.

I should be grateful if you could give him the needed assistance to enable him carry out his study as per the topic.

Thank you.

Yours faithfully,

DR. DANIEL S. Q. DOGBE
(for Head of Department)

APPENDIX B

QUESTIONNAIRE FOR PRE-SERVICE TEACHERS

Section A: Background information

Instruction: Please tick (√) the response which corresponds with your background information.

1. Gender: Male [ ] Female [ ]
2. What programme are you pursuing?

General [ ] French [ ] Early childhood [ ] Science [ ] Any other (specify)

B) **Instruction:** The tables below contain statements on pre-service teacher preparation towards the practice of inclusive education in Ghana, on a 5 point Likert scale of SA, A, NS, D, and SD. The figures stand for the following:

1 (SD -STRONGLY DISAGREE)

2 (D - DISAGREE)

3 (NS- NOT SURE)

4 (A - AGREE)

5 (SA - STRONGLY AGREE)

Please tick (√) in the column that best corresponds with your opinion on each of the statements provided.

C) **Knowledge and skills of pre-service teachers about inclusive education**

SN	STATEMENT	SA	A	NS	D	SD
1.	Pre-service teachers can identify a special needs pupils					
2.	Pre-service teachers are able to screen and identify pupils.					
3.	Pre-service teachers understand the importance of early identification					
4	Pre-service teachers are exposed to the causes of learning and behaviour problems.					
5	.Pre-service teachers are exposed to the use appropriate behavioural intervention skills in inclusive classroom.					
6.	Pre-service teachers are exposed to informal methods of assessing pupils.					
7.	Pre-service teachers are exposed to various methods of teaching in the classroom.					
8.	Pre-service teachers are exposed to appropriate classroom management skills.					
9.	Pre-service teachers are able to design a learning programme for special needs pupil.					
10.	Pre-service teachers value diversity among pupils in class.					

D) **Pre-service teachers' knowledge on adaptation of the Curriculum to meet the learning needs of special children in inclusive classroom**

SN	STATEMENT	SA	A	NS	D	SD
11	Pre-service teachers are able to design a curriculum for pupils with special needs.					
12	Pre-service teachers are able to adapt lesson to meet the learning needs of pupils.					
13.	Pre-service teachers are able to set individualized objectives.					
14	Pre-service teachers are exposed to variety of teaching methods.					
15.	Pre-service teachers are able to adjust instructional duration to individual learning needs.					
16	Pre-service teachers are exposed to task analysis.					
17	Pre-service teachers are exposed to modifying teaching and learning materials.					
18	Pre-service teachers are able to adapt the classroom for pupils with disabilities to move freely					
19	Pre-service teachers are able to adapt the learning environment to facilitate participation.					
20	Pre-service teachers are able to help pupils work on same content but less complex material					

E) **Knowledge pre-service teachers have in the use of assessment procedures for pupils in inclusive classroom**

SN	STATEMENT	SA	A	NS	D	SD
21.	Pre-service teachers can select criteria for assessing pupils.					
22.	Pre-service teachers can identify observable aspect of the pupils' performance and judge.					
23.	Pre-service teachers are able to design an assessment task to reflect the performance of pupils.					
24.	Pre-service teachers are able to assess performance.					
25.	Pre-service teachers are able to provide an appropriate setting for assessing performance.					
26.	Pre-service teachers are able to use different assessment methods.					
27.	Pre-service teachers are able to give adequate time to complete task during.					
28.	Pre-service teachers are able to adjust evaluation criteria or system grading.					
29.	Pre-service teachers can give adequate number of tasks to complete depending on their ability.					
30.	Pre-service teachers are able to create assessment portfolio.					

F) Resources available for effective pre-service teacher preparation for inclusive education

SN	STATEMENT	SA	A	NS	D	SD
31	The college has a resource room.					
32	There is a resource teacher in the college					
33	The resource teacher in the college helps to train pre-service teachers to handle pupils for remediation					
34	There are enough learning resources in the resource room in the college.					
35	The materials in the resource room are fully utilized by pre-service teachers.					
36	The resources expose the pre-service teachers to teach pupils with special needs.					
37	There are braille materials for the blind.					
38	The resources expose pre-service teachers to adapt instruction to the level of pupils.					
39	The resources in the college are able to equip the pre-service teacher enough.					
40	The pre-service teachers are familiar with the resource materials for use.					

APPENDIX C

QUESTIONNAIRE FOR COLLEGE TUTORS

Section A: Background Information

Instruction: Please tick (√) the response which corresponds with your background information.

3. Gender: Male [ ] Female [ ]

4. Educational level

B. Ed [ ]

M. Ed / M.Phil [ ]

Any other? (specify) ……..

5. Number of years teaching at the College of Education

0 - 5 [ ] 6 - 10 [ ] 11 - 15 [ ] 16 - 20+ [ ]

Section B: The tables below contain statements on pre-service teacher preparation towards the practice of inclusive education in Ghana, on a 5 point Likert scale of SA, A, NS, D, and SD. The figures stand for the following:

1 (SD -STRONGLY DISAGREE)

2 (D - DISAGREE)

3 (NS- NOT SURE)

4 (A - AGREE)

5 (SA - STRONGLY AGREE)

Please tick (√) in the column that best correspond with your opinion on each of the statements provided.

C) Knowledge and skills of pre-service teachers about inclusive education.

SN	STATEMENT	SA	A	NS	D	SD
1.	Pre-service teachers can identify a special needs pupils					
2.	Pre-service teachers are able to screen and identify pupils.					
3.	Pre-service teachers understand the importance of early identification					
4	Pre-service teachers are exposed to the causes of learning and behaviour problems.					
5	Pre-service teachers are exposed to the use appropriate behavioural intervention skills in inclusive classroom.					
6.	Pre-service teachers are exposed to informal methods of assessing pupils.					
7.	Pre-service teachers are exposed to various methods of teaching in the classroom.					
8.	Pre-service teachers are exposed to appropriate classroom management skills.					
9.	Pre-service teachers are able to design a learning programme for special needs pupil.					
10.	Pre-service teachers value diversity among pupils in class.					

D) Pre-service teachers' knowledge on adaptation of the Curriculum to meet the learning needs of special children in inclusive classroom.

SN	STATEMENT	SA	A	NS	D	SD
11	Pre-service teachers are able to design a curriculum for pupils with special needs.					
12	Pre-service teachers are able to adapt lesson to meet the learning needs of pupils.					
13.	Pre-service teachers are able to set individualized objectives.					
14	Pre-service teachers are exposed to variety of teaching methods.					
15.	Pre-service teachers are able to adjust instructional duration to individual learning needs.					
16	Pre-service teachers are exposed to task analysis.					
17	Pre-service teachers are exposed to modifying teaching and learning materials.					
18	Pre-service teachers are able to adapt the classroom for pupils with disabilities to move freely					
19	Pre-service teachers are able to adapt the learning environment to facilitate participation.					
20	Pre-service teachers are able to help pupils work on same content but less complex material					

E) Knowledge pre-service teachers have in the use of assessment procedures for pupils in inclusive classroom

SN	STATEMENT	SA	A	NS	D	SD
21.	Pre-service teachers can select criteria for assessing pupils.					
22.	Pre-service teachers can identify observable aspect of the pupils' performance and judge.					
23.	Pre-service teachers are able to design an assessment task to reflect the performance of pupils.					
24.	Pre-service teachers are able to assess performance.					
25.	Pre-service teachers are able to provide an appropriate setting for assessing performance.					
26.	Pre-service teachers are able to use different assessment methods.					
27.	Pre-service teachers are able to give adequate time to complete task during.					
28.	Pre-service teachers are able to adjust evaluation criteria or system grading.					
29.	Pre-service teachers can give adequate number of tasks to complete depending on their ability.					
30.	Pre-service teachers are able to create assessment portfolio.					

F) Resources available for effective pre-service teacher preparation for inclusive education

SN	STATEMENT	SA	A	NS	D	SD
31	The college has a resource room.					
32	There is a resource teacher in the college					
33	The resource teacher in the college helps to train pre-service teachers to handle pupils for remediation					
34	There are enough learning resources in the resource room in the college.					
35	The materials in the resource room are fully utilized by pre-service teachers.					
36	The resources expose the pre-service teachers to teach pupils with special needs.					
37	There are braille materials for the blind.					
38	The resources expose pre-service teachers to adapt instruction to the level of pupils.					
39	The resources in the college are able to equip the pre-service teacher enough.					
40	The pre-service teachers are familiar with the resource materials for use.					