

# **Inclusive education: Learners with disabilities and special education needs in Ghana**

**Research report**

**June 2019**

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Limited**



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## Acronyms and Abbreviations

CoE	College of Education
EFA	Education for All
ESP	Education Strategic Plan
GES	Ghana Education Service
GOG	Government of Ghana
GSS	Ghana Statistical Service
IDIs	In-depth interviews
IE	Inclusive Education
ICT	Information and communication technology
JHS	Junior high school
MoE	Ministry of Education
NAB	National Accreditation Board
NCTE	National Council for Tertiary Education
OECD	Organisation for Economic Co-operation and Development
PPS	Probability proportional to size
PWDs	Persons with disability
RTL	Research Trust Limited
SEN	Special educational needs
T-TEL	Transforming Teacher Education and Learning
UDL	Universal Design for Learning
UNESCO	United Nations Educational, Scientific and Cultural Organization

## Executive summary

### Introduction

The provision of inclusive education (IE) has become an important goal of the Ministry of Education (MoE) and the Ghana Education Service (GES), for which reason an inclusive education policy was developed in 2015. Inclusive education involves bringing all learners together in their regular community schools, especially those who were previously excluded from mainstream education. Learners with disabilities and special educational needs (SEN) form part of the population that was previously excluded from mainstream education. To ensure the successful implementation of IE, several factors need to be considered, including knowledge of inclusion by teachers and the institutions that train them.

This document is a report on a study commissioned by Transforming Teacher Education and Learning (T-TEL) and the National Council for Tertiary Education (NCTE) to assess, among other things, the knowledge level and extent of compliance of colleges of education (CoEs) and public basic schools with the IE policy in Ghana. Various education policies in Ghana were reviewed, and primary data were collected using quantitative surveys, in-depth interviews (IDIs) and field observations. Altogether, 325 CoE tutors, 389 student teachers, and 10 principals (represented in some cases by their vice principal or college secretary) were sampled from 10 of 46 public CoEs. In addition, 400 basic school teachers from sampled T-TEL partner and nonpartner schools were surveyed.

### Key findings

#### *Training on special needs and inclusive education*

Seventy-eight per cent of CoE tutors sampled have had training on SEN, the majority of whom acquired this training at the university or college of education. More than half of the tutors ranked the training in SEN as adequate. Regarding IE, nearly 80 per cent of the tutors have benefitted from such training. Unlike SEN, more than a third of tutors indicated that they received IE training through specialized training programmes. About 60 per cent of tutors considered the training in IE as adequate.

Assessment of the knowledge of student teachers in IE and SEN shows that student teachers are relatively more familiar with the concept of SEN (69 per cent) compared to IE (49 per cent). A statistically significant higher percentage of third-year student teachers are familiar with the concepts SEN and IE compared to first- and second-year student teachers, implying that as student teachers progress towards the end of their training, they would have been equipped with some level of skill to effectively manage pupils or students with SEN.

Eighty-two per cent of basic school teachers surveyed had received training on IE at the CoE. There is no statistically significant difference between teachers in T-TEL partner and nonpartner schools. Receipt of training on IE at the CoE is decreasing in the years of experience of the basic school teacher. Less than half of all the teachers who had received training on IE rated the training as adequate, while nearly a third rated it as inadequate. Sixty-three per cent of basic school teachers indicated that they

received training on SEN at the CoE. More than half of the teachers rated the training on SEN as adequate while about a quarter considered the training as inadequate.

#### *Awareness and knowledge of inclusive education policy*

More than 80 per cent of the basic school teachers indicated awareness of the existence of the policy. However, only 57 per cent know of the existence of standards and guidelines for its implementation. A higher proportion of partner school teachers than nonpartner school teachers are aware of the existence of the policy and this difference is statistically significant. In terms of the degree of knowledge of the policy, the majority (69 per cent) indicated moderate knowledge while more than a quarter had no knowledge of the contents of the policy. Only 6 per cent indicated that they were very knowledgeable about the policy.

A test of knowledge revealed that knowledge on universal design for learning (UDL) is relatively low as less than half of the teachers knew about this requirement, compared to an average of more than 95 per cent of the teachers exhibiting knowledge on other provisions in the policy. A similar knowledge testing exercise for tutors in 6 provisions of the policy indicate that apart from knowledge in the areas of provisions for UDL (64 per cent) and the requirement for concessionary admissions (70 per cent), more than 80 per cent of tutors indicated knowledge in the remaining four requirements.

#### *Compliance with IE policy*

An assessment of the level of compliance of the CoEs with the IE policy was conducted on the basis of a scoring rubric, IDIs with college principals as well as questionnaire interviews with tutors, student teachers and basic school teachers. In the use of the rubric, two levels of assessment were conducted: (i) college-specific policies and practices instituted by the CoEs in response to the policy as well as compliance with specific requirements of the policy, and (ii) assessment of the physical infrastructure and environment of the colleges. The results show that efforts are being made by colleges to be compliant with the IE policy. For example, some colleges are making changes to the physical environment and adapting the curriculum to suit the needs of student teachers with SEN. However, more needs to be done if the CoEs are to be fully compliant with the IE policy. For instance, none of the CoEs had any coherent or specific document that translated the national IE policy to the college level as a means of mainstreaming its implementation. Instead, most issues on inclusion were captured in a gender and inclusion policy of the colleges, which was the output from a collaborative effort between the CoEs and T-TEL. Thus, in addition to developing coherent policies to internalize the IE policy, there would also be the need for support with regard to the development of requisite physical infrastructure to enhance compliance.

By way of monitoring, the CoEs' quality assurance units, in conjunction with the office of the vice principal, the office of the counselling coordinator, the gender and inclusive committee, the office of the dean of student affairs and hall tutors, are responsible for internally monitoring compliance with the policy. External monitoring of the CoEs is primarily done by the National Accreditation Board (NAB) as part of its core mandate of quality assurance in tertiary education in Ghana. However, since the IE policy came into force, the NAB has not visited and assessed the CoEs with regard to their

adherence to the principle of UDL as required by the policy. The NAB cited human resource constraints as part of the reason for its inability to assess CoEs' compliance with this requirement since the policy came into force.

### *Prevalence of SEN among student-teachers and pupils*

Data on student teachers with SEN is virtually nonexistent as the CoEs and basic schools do not keep dedicated records on such cases. This makes it difficult to gauge the prevalence of learners with SEN at the CoEs, among student teachers as well as basic school pupils. Based on the surveys, 54 per cent of CoE tutors indicated that they presently have at least one student teacher with SEN in their classrooms. Tutors identified student teachers with physical disabilities (including mobility impairment) as the most prevalent condition, accounting for about 51 per cent of all the SEN cases, followed by visual impairment (36 per cent) and hearing impairment (30 per cent).

At the basic school level, about 70 per cent of teachers sampled indicated that they currently have at least one pupil with SEN in their respective classrooms. There is no statistically significant difference between the proportions of teachers in T-TEL partner and nonpartner schools reporting the presence of SEN pupils in their classroom. The most common types of SEN reported by the basic school teachers are pupils with intellectual disability (43 per cent), visual impairment (29 per cent), speech and communication disorder (23 per cent), and pupils with attention deficit (21 per cent). For most types of SEN, however, more than 50 per cent of the basic school teachers reported only one pupil exhibiting such trait.

### *Professional development requirements in IE and SEN*

To be more effective at handling pupils and students with SEN in their classrooms, basic school teachers in both partner and nonpartner schools pointed to training in managing persons with intellectual disability, persons with specific learning disabilities, persons with visual impairment, and persons with hearing impairment. Teachers at the lower and upper primary levels emphasized training in handling persons with speech and communication disorders while teachers in junior high schools identified training in handling persons with specific learning disorders and behaviour and emotion disorder.

### *Challenges to the implementation of IE policy*

The various challenges that impede the smooth implementation of the IE policy, from the perspectives of participants of the study, include infrastructural inadequacy, financial resource constraints, lack of instructional materials, lack of qualified SEN coordinators and limited teacher competencies in SEN. The proper identification and diagnosis of pupils and student teachers with special needs is another challenge affecting the policy's successful implementation.

## **Conclusion**

Overall, the study establishes that while there is a general support for the IE policy, more needs to be done in relation to the provision of needed financial and infrastructural resources, as well as intensifying the training of tutors, student teachers

and basic school teachers in SEN to facilitate its smooth implementation. The provision of support services to learners with special education needs is also crucial, towards a more inclusive educational framework.

# 1 Introduction

In March 2019, Research Trust Limited (RTL) was commissioned by T-TEL to undertake a study on *Inclusive Education: Learners with Disabilities and Special Education Needs in Ghana*. This report presents the findings from the research.

## 1.1 Background

Ghana's *Education Strategic Plan (ESP) 2018-2030* and its *Inclusive Education Policy (2015)* underscore the right to education of persons with disabilities and special educational needs as well as their right to equality of educational opportunities. The Ministry of Education's *Standards and Guidelines for Practice of Inclusive Education in Ghana, 2015* also enjoins all educational institutions in the country to adhere to these standards and guidelines. Inclusive education seeks to guarantee a learning environment that is barrier free and allows all learners – including those with disabilities – to move about safely and freely, use facilities and participate in learning and all aspects of school life.

To ensure that the right to inclusive education is honoured in practice and that learners with SEN are mainstreamed in the educational system, Ghana's education strategy documents identify a need to:

- Determine the prevalence rates of various disabilities and special educational needs;
- Conduct early comprehensive assessments of all learners experiencing educational difficulties for appropriate mainstream and special placement and intervention;
- Provide for and safeguard the rights of learners and young people with disabilities;
- Ensure that those with special educational needs acquire appropriate technical and vocational skills for full community integration;
- Strengthen and improve special educational planning and management; and,
- Promote the development of information and communication technology (ICT)-based solutions to enhance the educational opportunities of learners and young people with disabilities and special needs.

## 1.2 Objectives

The overall objective of the study is to assess the extent to which colleges of education in Ghana adequately address inclusive education for students with disabilities/special needs in their training curricula.

Four specific objectives are outlined in the terms of reference.

1. To assess the extent to which CoEs in Ghana adequately address inclusive education for students with disabilities/special needs in their training curriculum.
2. To provide an in-depth review of the policies for inclusive education and instruction relevant to special needs students.
3. To assess the knowledge and experience of teachers regarding the inclusion of learners with disabilities/special needs in regular classrooms.

4. To explore teachers' needs for professional development in various aspects of inclusive education including student behaviour, assessment, academic interventions, and accommodating learning challenges.

## 2 Review of inclusive education and national policies on inclusion

This section reviews literature on some pertinent issues concerning IE as well as various policy documents that guide the practice of IE in Ghana. The review is divided into three parts. The first part provides an overview of inclusive education, its prevalence in Ghana, as well as issues pertaining to its practice, such as curriculum adaptation, teaching methods, and accessibility arrangements. The second part focuses on selected policy documents that guide the implementation of inclusive education in Ghana. The last part discusses challenges to IE identified in the literature.

### 2.1 Overview of issues in inclusive education

#### 2.1.1 Definition of inclusive education

Globally, IE is promoted as the preferred approach to providing education for students with disabilities (Organisation for Economic Co-operation and Development, [OECD], 2011; UNICEF, 2003, 2007, 2011, 2013, 2017). Although there were preceding efforts through the Education for All (EFA) agenda by UNESCO in 1994, the Salamanca Statement<sup>1</sup> became a landmark document that enjoined all schools to “accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions”, including children with disabilities (United Nations Educational, Scientific and Cultural Organization, UNESCO, 1994, p. 6).

While several definitions of IE exist, there is consensus that it involves reorganizing regular schools and/or classrooms to cater for a diversity of children’s needs in their communities (Ackah and Deku, 2012). The Ghana Education Act (Act 778, 2008) describes IE as a value system that directs educational institutions in a manner such that persons who patronize the institution have equal opportunities (see section 5, sub-section 4). Overall, there is agreement to the fact that IE involves an on-going process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education (UNESCO, 2005; 2009).

In the UNICEF (2013) *State of the World’s Children* report, data from 13 low- and middle-income countries indicated that children with disabilities aged 6–17 years were significantly less likely to be enrolled in school than peers without disabilities and much less in regular schools. Consequently, “children with disabilities continue to be among the most disadvantaged in terms of missing out on education, being ‘invisible’ in the data and being overlooked...” (UNICEF Ghana, 2017, p. 4). For inclusive education to be successfully implemented, several elements need to be considered, including

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<sup>1</sup> In 1994 over 300 participants – including 92 governments and 25 international organizations – met in Salamanca, Spain, with the purpose of furthering the objectives of inclusive education. The resulting statement – the *Salamanca Statement* – was framed by a rights-based perspective on education. The statement affirmed the right to education of every individual, as enshrined in the 1948 Universal Declaration of Human Rights, and renewing the pledge made by the world community at the 1990 World Conference on Education for All to ensure that right for all regardless of individual differences.

pedagogy, ethics, justice, and leadership (Porter and Smith, 2011). Furthermore, it is the responsibility of the regular system to educate all children. However, it is important that the necessary changes and modifications in curriculum content, teaching approaches, structures and strategies required for successful inclusion are carried out by stakeholders (UNESCO, 2005).

### **2.1.2 Prevalence and educational attainment of persons with disability in Ghana**

The Ghana Statistical Service (GSS) estimates the prevalence of disability in the Ghanaian population at 3 per cent (GSS, 2014). The GSS further concludes that visual impairment accounts for more than a third (40.1 per cent) of all disabilities reported, followed by physical disability (25.4 per cent); emotional disability (18.6 per cent); intellectual disability (15.2 per cent); and hearing disability (15 per cent). The least observed form of disability is speech impairment (13.7 per cent).

Available data suggests that, 4 of 10 persons with disability (PWDs) aged 3 years and above have no formal education (GSS, 2014). A higher percentage of females with disabilities have never attended school compared to their male counterparts. Nearly a fifth of PWDs have had some form of primary education while about a quarter of PWDs in Ghana have up to junior high school (JHS) or middle school leaving certificate level of education. Cumulatively, less than a tenth of PWDs have high school or vocational/technical education.

In Ghana's IE policy, it is estimated that about 2 per cent of the country's school going age children have some form of disability' (Government of Ghana (GoG), 2015a). Similarly, persons with visual impairment are identified in the policy as the group with the most share of disability (28.7 per cent). There is a high tendency for persons with SEN to absent themselves from school for fear of stigmatization, leading to school dropout. Furthermore, the national policy on inclusive education estimates that about a quarter of all children ages 6-14 year, who are out of school have some form of disability including children with special educational needs (GoG, 2015a).

Despite the fact that Ghana has signed and ratified various international conventions on PWDs, as well as passing the Disability Act (Act, 715), the current Ghanaian educational system has not adequately addressed the plight of children with disability and SEN. This, coupled with stigma and intimidation, has invariably affected the enrolment rates of school-age children with disabilities and SEN (WHO, 2011; Slikker, 2009). For those who have found themselves in schools, learning becomes difficult while the school environment increasingly remains unfriendly. As a result, such students may not integrate well and may drop out along the way (Slikker, 2009).

### **2.1.3 Practice issues**

Studies conducted to investigate teaching and learning methods in inclusive settings (Buli-Holmberg and Jeyaprathaban, 2016; Kilinc, et al., 2017; Motitswe, 2011) have established that differentiated teaching, scaffolding of assessment standards, lesson

plans and activities aided in accommodating the diverse learning needs of all learners. However, when teachers lack the training or expertise to deliver adapted teaching and learning methods, it signifies a major practice challenge that needs to be addressed (Buli-Holmberg and Jeyaprathaban, 2016). In a much earlier but related study, Destefano, et al. (2001) reported that training teachers in accommodation, instructional needs and curriculum helps to improve teacher confidence in inclusive education practices. Agreeably, while there is abundant literature substantiating why inclusive education is the preferred approach to educating all learners, it is equally important to direct attention to the essential background conditions that are required to ensure “effective inclusive education practices” (Loreman, 2007, p. 23). The final report of the 48<sup>th</sup> session of the International Conference on Education, held in Geneva, Switzerland, under the theme “Inclusive education: the way of the future”, called on ministers of education and other participants to, among other recommendations;

Train teachers by equipping them with the appropriate skills and materials to teach diverse student populations and meet the diverse learning needs of different categories of learners through methods such as professional development at the school level, pre-service training about inclusion, and instruction attentive to the development and strengths of the individual learner; Support the strategic role of tertiary education in the pre-service and professional training of teachers on inclusive education practices through, *inter alia*, the provision of adequate resources. (UNESCO, 2009, p. 20)

Numerous studies across the world have examined teacher-related issues in inclusive education (e.g., Florian, 2008; Hatchel, 2009; Hodkinson and Devarakonda, 2009; Kuyini and Mangope, 2011; Loreman, 2007; Rae, Mckenzie and Murray, 2011; Shadreck, 2012; Stanovich and Jordan, 2002). In Ghana, some of the studies include: Ackah and Deku (2012); Agbenyega (2007); Gyimah, Sugden and Pearson (2009); Kuyini and Desai (2008 and 2007); Obi, Mamah and Avoke (2007); and Ocloo and Subbey (2008). UNICEF (2013) reports that from various examples around the world, “teacher training has proved effective in fostering commitment to inclusion” (p. 32). Rae, Mckenzie, and Murray (2011) studied the impact of training on teacher knowledge about children with intellectual disability and concluded that training was shown to improve teachers’ knowledge about significant intellectual disability both immediately after training and at a one-month follow-up. Kuyini and Desai (2007) also record that successful implementation of effective inclusive practices in schools is dependent on several key factors, including knowledge of inclusion by principals and teachers.

The need for professional teacher development for inclusive education may be attributed to the fact that learning to teach in an inclusive setting “is a highly complex and dynamic activity”, which requires the use of multiple strategies that have “a unifying purpose and reflect a common set of values” (Agbenyegah and Deku, 2011, p. 8). The Salamanca statement calls on governments to ensure that “... teacher education programmes, both preservice and in-service, address the provision of special needs education in inclusive schools” (UNESCO, 1994, p. x). To facilitate a broader knowledge base on special needs education among teachers, the government of Ghana in 1989, introduced special education content into the curriculum of initial teacher training colleges (currently referred to as CoEs) programmes, while

subsequently, university-based teacher education courses at the Universities in Cape Coast and Winneba increased offerings of special education electives at undergraduate and postgraduate levels (Kuyini and Mangope, 2011). While these initiatives have had some impact on educating learners with disabilities in Ghana, there is more that is required to foster inclusiveness in the country's educational system. One of the ways to ensure that the impetus for inclusive education in Ghana is nurtured and sustained has been through the formulation of various policies, as well as the recognition of inclusive education in broader education plans. The next section reviews some of these pertinent policies, laws, and guidelines.

## 2.2 Review of policy documents on inclusive education in Ghana

### 2.2.1 Inclusive education policy

Ghana's inclusive education policy of 2015 is the outcome of a series of discussions and broad consultations between the MoE and other key educational stakeholders, comprising of both state and non-state actors. The purpose of the policy is to define the strategic path for the government to provide education for all children with special educational needs (SEN). The policy builds on previous policies such as the Disability Act, the National Development Policy and sections of the 1992 Constitution of Ghana to respond to the changing priorities, aspirations, and international development trends in providing inclusive education.

The policy reiterates the right for all citizens of school age including those with disability to have access to quality education. Also, the policy recognises the varied needs of learners and the need to create learning environments that are responsive to the needs of all learners. Inclusive education approach is to create an education system that is responsive to learner diversity and ensure that all learners have the best possible opportunity to learn (GoG, 2015a). The policy broadly defines SEN children beyond children with various disabilities to include those with health impairments such as asthma, HIV/AIDS, street children, children exploited for financial puposes, among others.

The goal and objectives of the policy is captured under section three, which provides the strategic direction-goal, objectives and strategies for delivering inclusive education in Ghana. The overarching goal of the policy is *to redefine the delivery and manangement of education services to respond to the diverse needs of all pupils/students within the framework of the Universal Design for Learning (UDL)*. The policy is guided by four core objectives with key strategic deliverables for each objective:

1. Enhance participation of all stakeholders in planning, implementation, and coordination of IE through effective advocacy and dissemination strategies for persons with disabilities/SENs.
2. Promote child friendly environment for enhancing the quality of education for persons with disabilities/ SENs through UDL.
3. Increasing participation in educational access for disabilities/SENs.
4. Enhance management of education services for disabilities/SENs.

The MoE and its agencies, such as the GES are responsible for implementing the policy. In this regard, MoE is to collaborate with both state and nonstate agencies to ensure that the goal and objectives of the policy are attained.

### **2.2.2 Standards and guidelines for the practice of inclusive education in Ghana**

The standards and guidelines is a government document that seeks to provide assistance and guidance to educational institutions at all levels in their quest to provide inclusive education in Ghana. The document sets out the minimum access requirements in relation to school buildings, gadgets, learning equipment and materials as well as curriculum for the practice of inclusive education. It has four main standards or guidelines. The first standard deals with access to schools, the second standard focuses on providing health and safety in schools, provision of opportunities for all learners for quality education is under the third standard, and standard four has to do with monitoring and review of educational programmes and learners' progress.

The spirit of the document is to eliminate barriers in the learning environment for all learners, both in private and public educational institutions. The standards/guidelines in the documents are binding on all educational institutions, from early childhood development centres, through to tertiary institutions. Although the document mainly focuses on learners with disabilities, it is expected that the learning environment will become more convenient for all learners, including learners with chronic diseases such as HIV/AIDS. The primary targets of the guidelines are teachers, specialists who support providers in private and public schools, and the learners themselves. The secondary targets are parents and caregivers, community organisations, such as NGOs, Ghana Education Service (GES) officials, and traditional rulers, among others.

The first set of standards and guidelines, as contained in the policy's implementation plan, aims at eliminating all forms of physical barriers in the learning environment and to create access to educational buildings for all learners. It provides specific guidelines and standards for school buildings, including the site plan, the kinds of paths or sidewalks, and walkways, and the type of materials to be used. The implementation plan for the policy also specifies that all entrance paths/sidewalks and/or walkways shall be smooth, devoid of non-slip materials and shall have firm level surfaces suitable for walking and wheeling' (GoG, 2015b). It also encourages the elimination of obstacles such as manholes and trees from walkways and sets the standards for providing doors and doorways, stairways, ramps, handrails, water closets and toilet compartments, and grab bars in school buildings for all institutions, public and private.

The standards and guidelines document also focuses on the health and safety of learners in schools. It encourages educational institutions to provide safe and healthy learning environments. Every school is to have adequate first aid kits and sick bays, with trained first aiders. Roads leading to schools are to be well lighted. Also, safety measures such as zebra crossings, ramps and sound ambers are to be made available. Additionally, the document is to provide guidance in providing opportunities for quality learning for all. It calls for the practice of adapted curriculum, where educational institutions and teachers tailor their curriculum to suit the ability of each learner and encourages teachers to use diverse teaching strategies to ensure that each learner benefit as much as possible in the learning processes. Education officers

are to undertake continuous and regular review of education programmes and also review the progress of learners, and where possible modify their programmes.

### 2.2.3 Persons with Disability Act 2006

The Persons with Disability Act, 2006 (Act 715), highlights pertinent issues concerning education of persons with disability. Section 16, sub-section 1, states that a “parent, guardian or custodian of a child with disability of school going age shall enroll the child in a school” and that a parent, guardian or custodian who goes against this commits an offence and is liable on summary conviction to a fine or to a prison term (GoG, 2006).

Regarding *facilities and equipment in educational institutions*, section 17 mandates the minister of education to designate schools or institutions in each of the regions in Ghana to provide the necessary facilities and equipment that will enable persons with disability to fully benefit from the school or institution. Since *accessibility to education* is important for inclusive education, section 18, sub-sections 1 and 2 stipulate that government shall provide free education for persons with disabilities, as well as establish special schools or institutions for persons with disability who by reason of their disability cannot be enrolled in any formal schools in the country. In relation to *facilities and accessibility arrangements*, library facilities in public libraries are required to be fitted with facilities that will enable persons with disability to use the libraries. The Act further goes on to state that the MoE shall provide persons with disabilities who complete basic education but are unable to pursue further formal education the appropriate training (Section 19). The Act does not specifically state what kind of training that would be provided in such a case.

According to Section 20, sub-section 1 of the Persons with Disability Act, 2006, no heads of schools should refuse to give admission to a person with disability on account of the disability. Refusal should be done only on condition that the person with disability has been assessed by the Ministry of Education in collaboration with the Ministry of Health and Social Welfare to be a person who actually requires to be in a special school for persons with disability. Thus, refusal of admission on account of disability is an offence punishable by law (Section 20, sub-section 2). Moreover, the Persons with Disability Act, 2006 (Act 715) also makes room for *curriculum adaptation as well as the availability of alternative education opportunities to children with specific difficulties at home and special school settings*. Each region, according to the Act, should have a public technical, vocational and teacher training institutions to include in their curricula special education such as sign language, and Braille writing and reading (Section 21, sub-section 1 and 2).

A critical look at the Persons with Disability Act, 2006 (Act 715) shows that policies concerning curriculum adaptation, adapted teaching methods, accessibility arrangements, and the alternative education opportunities available to children with specific difficulties in the special school setting have been incorporated to ensure inclusive education. The question is, are these policies being implemented? Surprisingly, the Act does not elaborate on the study of disability and disability-related issues in the curricula of teacher training institutions or colleges for teaching professionals to train and equip teachers to teach in inclusive classrooms.

#### 2.2.4 UNESCO policy guidelines for inclusive education

The guidelines acknowledge the importance of inclusive education and its relevance to the Education for All (EFA) policy, which paves the way for inclusive education as a key strategy in addressing the challenge of marginalization and exclusion. It touches on the role of teachers and other key stakeholders in providing education for all learners and also provides some tools for policymakers and education managers to monitor and review educational programmes. The rationale for the guidelines is to assist countries in strengthening their focus of inclusive education and planning for education in general. It is also expected that the guidelines will help countries broaden their concept of inclusive education and highlight key areas of concern that need attention in order to promote inclusive education and strengthen policy development in the education sector.

According to the guidelines, an inclusive education takes place in an education system when ordinary schools become better at educating all children in their communities. Inclusion, therefore is “addressing and responding to the diversity of the needs of all children, youth and adults, through increasing participation in learning, culture and communities and eliminating exclusion within and from education” (UNESCO, 2009). Emphasis is also laid on the need to link inclusive education with quality education, that is, education that targets the cognitive development of learners as well as promoting values and attitudes for responsible citizenship.

#### 2.3 Challenges to inclusive education

Research evidence suggests that there are many challenges that inhibit the successful implementation of inclusive education. One notable challenge to IE in developing countries is the lack of funding. UNESCO (2009) observes that funding is a major constraint to the practice of inclusion. Teaching students with disabilities in inclusive classrooms require specialists and additional classrooms to support student needs. It has been noted that coordinating services and offering individual support to students with SEN and disability require additional financial resources that many schools in developing countries do not have. This also has the effect of hindering professional development that help provide specialists and classroom teachers up-to-date best practices on IE.

Inadequate educational resources also pose a challenge in the implementation of inclusive education. Cortiella (2009) asserts that a major constraint is a serious shortage of educational resources. In many schools, there has been shortage of resources, which include classrooms, desks, textbooks such as talking books for the blind, Braille machines for the blind as well as failure to embrace the assistive technology as most schools still use outdated technology (Akinyi, Nyangia, and Orodho, 2015).

In addition, lack of teachers and shortage of professionally trained qualified staff hinder inclusive education practices. Teachers are the primary resource for achieving the goal of an inclusive education. It must therefore be in the interest of stakeholders that teachers are adequately trained for new demands in education. Scruggs and Mastropieri (1996) asserts that for inclusive teaching, teachers need systematic and

intensive training, either as part of their initial training, or as well-planned in-service training by competent and experienced people. However, in many instances, this appears not to be the case. For instance, teachers in Kenya have minimal formal training in respect to the implementation of inclusive education from preservice or in-service (Gichura, 1999; Muchiri and Robertson, 2000; Oriedo, 2003). It can be argued that, the teachers are not likely to understand and cope with the multitude of demands required to handle learners with special needs. This is because of lack of adequate and effective training. Successful implementation of an inclusive system requires that teachers are committed and supported with in-service training (Swart et al. 2002).

Lack of appropriate facilities also serves as a challenge to inclusive education. Akinyi, Nyangia and Orodho (2015) note that in developing countries dilapidated structures used as classrooms cannot cater for lame students and also the poor construction strategies used by designers of some facilities in some schools including the library, laboratory, classrooms and toilets are not friendly to disabled students. This indicates how learners with disabilities are excluded from gaining access to buildings. Ramps and slopes should be built wherever necessary to ensure accessibility, especially for wheelchair users. The toilets should be made user-friendly. Students with disabilities should be able to move independently on the school compound and in the classrooms. For successful implementation of inclusive education in schools, each learner's needs are to be met through adaptation of equipment, specialised instructions and trained personnel (Kaufmann, 1995).

### 3 Methodology and approach

This section presents an overview of the study design, sampling technique, and the response rate from the field.

#### 3.1 Research design

The study employed a mixed-methods approach. Four categories of respondents were surveyed, namely, (i) principals of CoEs; (ii) tutors of CoEs; (iii) student-teachers at CoEs; and, (iv) teachers in public basic schools. In-depth interviews (IDIs) were conducted with college principals, while the remaining three categories of respondents were surveyed using structured questionnaires. A scoring rubric to assess the level of compliance of the CoEs with the inclusive education policy was administered to CoE principals and through direct observation of college premises and facilities. In addition, lesson observations were conducted for CoE tutors. The study instruments are presented in appendix AP1.

#### 3.2 Sampling and fieldwork

A random sample of 10 of the 46 public CoEs was taken (see Table 1)<sup>2</sup>. The 10 randomly sampled CoEs formed the basis for the in-depth review of CoEs and interviews with principals of CoEs as well as survey of college tutors and student-teachers. We applied probability proportional to size (PPS)<sup>3</sup> sampling to obtain a representative sample. This approach enables the generalization of findings to all public CoEs in Ghana. Similarly, using an estimated number of 365,568 public basic school teachers across the country obtained from T-TEL, a sample of 400 public basic school teachers, representative at 95 per cent confidence and 5 per cent error was selected from 40 T-TEL partner schools and 40 nonpartner schools. Appendix AP2 presents a summary of the sampling approach; appendix AP3 the list of CoEs sampled; and appendix AP4 the list of sampled T-TEL partner basic schools.

The fieldwork took place from March 25 to April 9, 2019. Data for the quantitative study was captured using computer-assisted personal interviewing. All in-depth interviews with CoE principals were recorded using digital audio recorders. Printed observation sheets were used to capture data from the lesson observations.

#### 3.3 Response rates

The achieved sample size for the study was 10, 325, 389 and 400 for CoE principals, CoE tutors, student-teachers and public basic school teachers respectively. The numbers represent a response rate of 100 per cent for both CoE principals and public

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<sup>2</sup> An initial sample of 10 CoEs was chosen using a population of 38 CoEs. However, T-TEL's comments on our inception report requested that the sampling be based on an updated list of 46 public CoEs. A resampling was therefore conducted, resulting in a different random sample compared with the originally selected CoEs.

<sup>3</sup> Probability proportional to size sampling is carried out in two stages. Stage 1 randomly samples clusters. Here larger clusters have a greater probability of being sampled. In stage 2 the same number of individuals is sampled per selected cluster. In this case, individuals in large clusters have a smaller probability of being sampled. The second stage compensates the first stage so that each individual tutor in the population has the same probability of being sampled.

basic school teachers, while a response rate of 101.6 per cent and 102.4 per cent is recorded for CoE tutors and student teachers respectively. Fifty CoE tutors were observed during lessons in the 10 CoEs, implying a 100 per cent success rate.

Table 1: Sample distribution across colleges of education

No.	Name of CoE (cluster)	District/Region	Sampled tutors per CoE	Sampled student-teachers per CoE	In-depth interview with principal	Application of scoring rubric
1	Accra College of Education	Accra Metropolitan / Greater Accra Region	32	40	1	1
2	Akrokerri College of Education	Adansi North District / Ashanti Region	33	38	1	1
3	Berekum College of Education	Berekum Municipal District / Brong Ahafo Region	32	38	1	1
4	Foso College of Education	Assin North District / Central Region	32	38	1	1
5	Jasikan College of Education	Jasikan District / Volta Region	33	37	1	1
6	Mount Mary College of Education	Somanya, (Yilo Krobo District) / Eastern Region	34	44	1	1
7	Komenda College of Education	Cape Coast Metropolitan / Central Region	30	39	1	1
8	Seventh Day Adventist (SDA) College of Education	Asokore-Koforidua, (New-Juaben Municipal District) / Eastern Region	32	38	1	1
9	St. Joseph College of Education	Bechem, (Tano South District) / Brong Ahafo Region	34	37	1	1
10	Tamale College of Education	Tamale Metropolitan District / Northern Region	33	40	1	1
	Total		325	389	10	10

## 4 Findings

This section discusses the findings from the survey of the CoEs and public basic schools. We report any differences between groups that are only statistically significant at the conventional .05 level.

### 4.1 Training on special needs and inclusive education

#### 4.1.1 College of education tutors

Table 2 shows that 78 per cent of CoE tutors sampled have had training in SEN (81 per cent female and 76 per cent male). The majority of tutors (86 per cent) received this training at their respective institutions of training (university or training college). More than half of the tutors rated the training in SEN as adequate. A greater proportion of male tutors (59 per cent) than female tutors (45 per cent) rated the training on SEN adequate; this difference is statistically significant. In terms of training on IE, nearly 80 per cent of the tutors have benefitted from such training (Table 2). However, unlike SEN, where the majority of tutors acquired training at the institutions they attended, more than a third of tutors indicated that they received IE training through specialized training programmes. A greater proportion of male tutors consider the training in IE adequate compared to female tutors, and this difference is statistically significant.

Tutors who had received training in SEN were asked to indicate the disabilities or SEN they have been trained to identify. Table 3 shows that except for student teachers living with HIV/AIDS, where less than 10 per cent responded in the affirmative, the proportion of tutors who indicated that they are able to identify various types of disabilities or SEN ranges from 46 per cent for student teachers with autism to 91 per cent for gifted and talented student teachers.

Table 2: Training on SEN and IE among CoE tutors (%)

	Female tutor		Male tutor		All	
	N	%	N	%	N	%
<i>Training on special needs education</i>						
Have had training on SEN	81	81.0	172	76.4	253	77.8
<i>Where received this training</i>						
Teacher training college	7	8.6	20	11.6	27	10.7
University	63	77.8	127	73.8	190	75.1
Special training programme on special needs education	11	13.6	20	11.6	31	12.3
Other specify	0	0.0	5	2.9	5	2.0
<i>Adequacy of the duration of training</i>						
Inadequate	16	19.8	33	19.2	49	19.3
Somewhat adequate or fair	29	35.8	38	22.1	67	26.5
Adequate	36	44.4	101	58.7	137	54.1
<i>Training on inclusive education</i>						
Have had training on IE	77	77.0	178	79.1	255	78.5
<i>Where received this training</i>						
Teacher training college	15	19.5	42	23.6	57	22.4
University	28	36.4	62	34.8	90	35.3
Special training programme on special needs education	30	39.0	60	33.7	90	35.3
Other specify	4	5.2	14	7.9	18	7.1
<i>Adequacy of the duration of training</i>						
Inadequate	15	19.5	32	18.0	47	18.4
Somewhat adequate or fair	23	29.9	35	19.7	58	22.7
Adequate	39	50.7	111	62.4	150	58.8

Table 3: Proportion of CoE tutors who can identify various types of SEN

<i>Type of disability / SEN</i>	Female tutor		Male tutor		All	
	N	%	N	%	N	%
Gifted and talented student teachers	73	90.1	156	90.7	229	90.5
Student teachers with physical disability (mobility impairment, hunch back, etc.)	68	84.0	159	92.4	227	89.7
Student teachers with visual impairment	70	86.4	153	89.0	223	88.1
Student teachers with hearing impairment	69	85.2	147	85.5	216	85.4
Student teachers with emotional and behaviour disorder	71	87.7	137	79.7	208	82.2
Student teachers with intellectual disability	68	84.0	137	79.7	205	81.0
Student teachers with speech and communication disorders	58	71.6	144	83.7	202	79.8
Student teachers with specific learning disability	61	75.3	134	77.9	195	77.1
Student teachers with attention deficit/hyperactivity disorder	59	72.8	135	78.5	194	76.7
Student teachers with multiple disabilities	55	67.9	122	70.9	177	70.0
Student teachers with other health impairment (asthma, sickle cell, epilepsy, etc.)	52	64.2	122	70.9	174	68.8
Student teachers with both hearing and visual impairment	51	63.0	114	66.3	165	65.2
Student teachers living in extreme social and economic deprivation	46	56.8	106	61.6	152	60.1
Student teachers who are not living with their biological parents	40	49.4	98	57.0	138	54.5
Student teachers exploited for financial purpose	41	50.6	91	52.9	132	52.2
Student teachers displaced by natural catastrophes and social conflicts	35	43.2	81	47.1	116	45.8
Student teachers with autism	34	42.0	81	47.1	115	45.5
Student teachers living with HIV/AIDS	3	3.7	17	9.9	20	7.9

#### 4.1.2 Student teachers

The study sought to ascertain the knowledge of student teachers in IE and SEN, and whether they have taken or are currently taking courses in IE/SEN to increase their effectiveness in teaching pupils and students with special educational needs in the future. The results presented in Table 4 show that student teachers are relatively more familiar with the concept of SEN (69 per cent) compared to IE (49 per cent). Thus, 51 per cent of student teachers either do not understand what IE means or are unsure of its meaning. Higher proportions of third year student teachers, however, are familiar with these concepts compared to first- and second-year student teachers, and this is statistically significant. For instance, while 88 per cent of third-year student teachers surveyed are familiar with the concept of IE, 50 per cent and 40 per cent of first- and second-year student teachers, respectively, indicated same. All third-year student teachers indicated an understanding of the concept of SEN compared to 66 per cent and 64 per cent for first-year and second-year student teachers, respectively. The aforementioned trend, whereby a statistically higher proportion of third-year student teachers have a better appreciation of IE and SEN compared to their juniors is also observed in the case where the student teacher is receiving training in IE/SEN or is

currently taking a course at the CoE specifically designed to increase their effectiveness in teaching students with SEN (see Table 4).

The implication of this finding is that as student teachers progress towards the end of their training, they would have been equipped with some level of skill to effectively manage pupils or students with SEN. This assertion may be buttressed to an extent by the greater proportions of second-year student teachers who responded in the affirmative to the question regarding the possibility of taking a course in SEN if they wanted to (see Table 4). Year two effectively ends the course work aspect of student teachers as the final year is typically devoted to teaching practice. A course in SEN is taught to student teachers in the second semester of year two of the training programme. Even so, mentors have a role to play in enhancing the skills of student teachers doing their teaching practice. Thus, it is expected that the SEN skills of student teachers would have been better developed by the end of the third year. As a result, third year student teachers seem to be more confident in identifying various types of SEN in their future classrooms (Table 5). From Table 5, the proportion of student teachers who can identify various types of SEN in their future classroom is generally increasing (although not monotonically) in the years spent at the CoE.

Against the backdrop of more than a third of the students teachers surveyed indicating that they were currently not receiving training in SEN, more effort needs to be put in by the CoEs to train student teachers in SEN.

Table 4: Student teachers' knowledge of and training on IE and SEN at the CoE (%)

	Female student teachers		Male student teachers		First year student teachers		Second year student teachers		Third year student teachers		All student teachers	
	N	%	N	%	N	%	N	%	N	%	N	%
<i>Do you know what inclusive education (IE) means</i>												
Yes	82	44.8	108	52.4	74	49.7	78	39.6	38	88.4	190	48.8
No	83	45.4	76	36.9	60	40.3	96	48.7	3	7.0	159	40.9
Not sure	18	9.8	22	10.7	15	10.1	23	11.7	2	4.7	40	10.3
<i>Do you know what students with special educational needs (SEN) means</i>												
Yes	126	68.9	141	68.4	98	65.8	126	64.0	43	100.0	267	68.6
No	46	25.1	48	23.3	39	26.2	55	27.9	0	0.0	94	24.2
Not sure	11	6.0	17	8.3	12	8.1	16	8.1	0	0.0	28	7.2
<i>Are you receiving training on IE at your CoE</i>												
Yes	67	81.7	79	73.1	55	74.3	57	73.1	34	89.5	146	76.8
No	13	15.9	20	18.5	12	16.2	17	21.8	4	10.5	33	17.4
Not sure	2	2.4	9	8.3	7	9.5	4	5.1	0	0.0	11	5.8
<i>Are you receiving training on SEN at your CoE</i>												
Yes	76	60.3	91	64.5	54	55.1	74	58.7	39	90.7	167	62.5
No	45	35.7	40	28.4	34	34.7	47	37.3	4	9.3	85	31.8
Not sure	5	4.0	10	7.1	10	10.2	5	4.0	0	0.0	15	5.6
<i>Are you currently taking/have you taken any course specifically designed to increase your effectiveness in teaching students with SEN</i>												
Yes	56	30.6	75	36.4	54	36.2	49	24.9	28	65.1	131	33.7
No	127	69.4	131	63.6	95	63.8	148	75.1	15	34.9	258	66.3
<i>If you wanted to take such a course do you know whether it would be possible</i>												
Yes	86	67.7	80	61.1	52	54.7	108	73.0	6	40.0	166	64.3
No	17	13.4	20	15.3	13	13.7	17	11.5	7	46.7	37	14.3
Don't know	24	18.9	31	23.7	30	31.6	23	15.5	2	13.3	55	21.3

Note: percentages may not sum up to 100 because of rounding up.

Table 5: Proportion of student teachers who can identify various types of SEN in their future classroom

Type of SEN/disability	First year student teachers		Second year student teachers		Third year student teachers		All student teachers	
	N	%	N	%	N	%	N	%
Pupils with hearing impairment	45	83.3	68	91.9	38	97.4	151	90.4
Pupils with visual impairment	50	92.6	72	97.3	38	97.4	160	95.8
Pupils with both hearing and visual impairment	45	83.3	58	78.4	31	79.5	134	80.2
Pupils with physical disability (mobility impairment, hunch back, etc.)	54	100.0	71	95.9	37	94.9	162	97.0
Pupils with intellectual disability	47	87.0	68	91.9	36	92.3	151	90.4
Pupils with speech and communication disorders	51	94.4	67	90.5	36	92.3	154	92.2
Pupils with attention deficit	46	85.2	63	85.1	35	89.7	144	86.2
Pupils with specific learning disability	47	87.0	59	79.7	33	84.6	139	83.2
Pupils with autism	23	42.6	45	60.8	26	66.7	94	56.3
Pupils with multiple disabilities	47	87.0	62	83.8	38	97.4	147	88.0
Pupils with emotional and behaviour disorder	46	85.2	65	87.8	38	97.4	149	89.2
Pupils with other health impairment and chronic diseases (rheumatism, epilepsy, sickle cell anaemia, etc.)	47	87.0	63	85.1	31	79.5	141	84.4
Street children/ pupils	37	68.5	58	78.4	29	74.4	124	74.3
Nomadic pupils (shepherd boys, fisher-folks children and domestic child workers)	30	55.6	56	75.7	20	51.3	106	63.5
Pupils exploited for financial purposes	34	63.0	61	82.4	30	76.9	125	74.9
Pupils living with HIV/AIDS	8	14.8	25	33.8	1	2.6	34	20.4
Pupils with hyperactivity disorder	27	50.0	52	70.3	29	74.4	108	64.7
Pupils displaced by natural catastrophes and social conflicts	27	50.0	52	70.3	18	46.2	97	58.1
Gifted and talented pupils	52	96.3	72	97.3	39	100.0	163	97.6
Pupils with albinism	47	87.0	66	89.2	36	92.3	149	89.2

#### 4.1.3 Basic school teachers

Table 6 shows that 82 per cent of basic school teachers surveyed had received training on IE at the CoE. Approximately the same percentage of teachers at the various grade levels indicated that they had received training on IE. Training on IE at the CoE is decreasing in the years of experience of the basic school teacher. This may be read as an indication that the curriculum at the CoEs in more recent years incorporates issues of inclusion. With respect to subject taught, the proportion of basic school teachers indicating training on IE ranges from 75 per cent for French teachers to 89 per cent for music teachers. Less than half of all the teachers who had received training on IE rated the training as adequate, while nearly a third rated it as inadequate.

Table 6: Proportion of basic school teachers who have received training on IE and SEN and their ratings of the adequacy of training

	Received IE training at CoE		Adequacy of training			Received SEN training at CoE		Adequacy of training		
			Inadequate	Somewhat adequate or fair	Adequate			Inadequate	Somewhat adequate or fair	Adequate
	N	%	%	%	%	N	%	%	%	%
All	326	81.5	29.1	24.2	46.6	251	62.7	23.1	23.5	53.4
Female	170	83.7	28.8	25.3	45.9	126	62.1	21.4	23.8	54.8
Male	156	79.2	29.5	23.1	47.4	125	63.5	24.8	23.2	52.0
Partner school teacher	164	80.4	29.9	25.0	45.1	121	59.3	21.5	25.6	52.9
Nonpartner school teacher	162	82.7	28.4	23.5	48.1	130	66.3	24.6	21.5	53.8
<b>Grade level taught by teacher</b>										
Lower primary	86	81.1	23.3	31.4	45.3	69	65.1	15.9	23.2	60.9
Upper primary	96	82.8	31.3	21.9	46.9	66	56.9	27.3	24.2	48.5
JHS	144	80.9	31.3	21.5	47.2	116	65.2	25.0	23.3	51.7
<b>Years of teaching experience</b>										
Less than 5 years	48	90.6	18.8	27.1	54.2	37	69.8	18.9	21.6	59.5
5-10 years	137	87.3	23.4	24.1	52.6	114	72.6	22.8	18.4	58.8
11-20 years	117	79.1	41.0	21.4	37.6	85	57.4	27.1	28.2	44.7
More than 20 years	24	57.1	25.0	33.3	41.7	15	35.7	13.3	40.0	46.7
<b>Subject taught</b>										
English Language	192	85.0	27.1	22.4	50.5	138	61.1	18.8	23.2	58.0
Mathematics	180	83.7	25.6	26.7	47.8	133	61.9	20.3	24.8	54.9
Religious and moral education	162	83.5	29.6	26.5	43.8	113	58.2	23.0	22.1	54.9
Information communication technology (ICT)	143	83.1	24.5	25.9	49.7	105	61.0	19.0	22.9	58.1
Social studies	39	78.0	23.1	25.6	51.3	36	72.0	25.0	16.7	58.3
Ghanaian language	132	80.0	22.7	24.2	53.0	100	60.6	17.0	18.0	65.0
Citizenship	76	82.6	28.9	17.1	53.9	49	53.3	22.4	22.4	55.1
Integrated science	148	81.8	27	23.0	50.0	108	59.7	22.2	22.2	55.6
French	6	75.0	33.3	66.7	0.0	6	75.0	16.7	16.7	66.7
Music	8	88.9	25	37.5	37.5	6	66.7	33.3	66.7	0.0
Basic design and technology	125	79.6	25.6	23.2	51.2	93	59.2	22.6	19.4	58.1

Compared to IE, a lesser percentage (63 per cent) of basic schools teachers indicated that they received training on SEN at the CoE (Table 6). There are no statistically significant differences across the various categorizations of the teachers. More than half of the teachers rated the training on SEN as adequate while about a quarter considered the training as inadequate.

To assess the role of mentors in advancing attention to and increasing skills related to pupils or students with SEN, the survey sought to find out from basic school teachers whether they benefitted from such training during teaching practice. The results presented in Table 7 indicate that less than half of the basic school teachers benefitted from such training as student teachers. There are no statistically significant differences across the various categorizations of the teachers. However, more than 60 per cent of those who received SEN training during teaching practice considered the training adequate.

From the responses of basic school teachers, it is evident that the training received by the teachers in IE/SEN at the CoE is unsatisfactory. As observed above, nearly a third of all the teachers who had received training on IE rated the training as inadequate while about a quarter considered the training on SEN as inadequate. More so less than half of the basic school teachers benefitted from such training as student teachers. Continuous professional development may therefore be necessary to bring basic school teachers up to speed with the requirements of the profession and any policy changes in their field of work such as the IE policy.

Accordingly, basic school teachers were asked if they had benefitted from in-service training on IE and SEN. The results are presented in Table 8. Thirty-six per cent and 29 per cent of the teachers have benefitted from in-service training on IE and SEN, respectively. A greater proportion of teachers from T-TEL partner basic schools benefitted from in-service training on IE and SEN compared to basic teachers from nonpartner school. These differences are statistically significant at .05 level. This can be read as an indication that the activities of T-TEL to ensure the transformation of teaching and learning may be having an impact. On average about half of the teachers benefitting from such in-service training rated their experience as adequate (Table 8).

Table 7: Proportion of basic schools teachers who benefitted from internship training on SEN at CoE

	Received internship training on SEN		Adequacy of training		
			Inadequate	Somewhat adequate or fair	Adequate
	N	%	%	%	%
All	170	42.5	16.5	20.6	62.9
Female teacher	88	43.3	19.3	21.6	59.1
Male teacher	82	41.6	13.4	19.5	67.1
Partner school teacher	86	42.2	17.4	20.9	61.6
Nonpartner school teacher	84	42.9	15.5	20.2	64.3
<b>Grade level taught by teacher</b>					
Lower primary	54	50.9	11.1	29.6	59.3
Upper primary	48	41.4	18.8	10.4	70.8
JHS	68	38.2	19.1	20.6	60.3
<b>Years of teaching experience of teacher</b>					
Less than 5 years	28	52.8	14.3	32.1	53.6
5-10 years	73	46.5	19.2	16.4	64.4
11-20 years	54	36.5	16.7	20.4	63.0
More than 20 years	15	35.7	6.7	20.0	73.3
<b>Subject taught by teacher</b>					
English Language	102	45.1	13.7	18.6	67.6
Mathematics	95	44.2	13.7	22.1	64.2
Religious and moral education (RME)	87	44.8	12.6	21.8	65.5
Information communication technology (ICT)	80	46.5	6.3	22.5	71.3
Social studies	24	48.0	29.2	25.0	45.8
Ghanaian language	74	44.8	16.2	10.8	73
Citizenship	39	42.4	10.3	15.4	74.4
Integrated science	84	46.4	11.9	17.9	70.2
French	3	37.5	66.7	33.3	0.0
Music	5	55.6	20.0	60.0	20.0
Basic design and technology (BDT)	67	42.7	10.4	22.4	67.2

Table 8: Proportion of basic school teachers who have benefitted from in-service training on IE and SEN

	Received in-service training on IE		Adequacy of training			Received in-service training on SEN		Adequacy of training		
			Inadequate	Somewhat adequate or fair	Adequate			Inadequate	Somewhat adequate or fair	Adequate
	N	%	%	%	%	N	%	%	%	%
All	143	35.8	29.4	18.9	51.7	114	28.5	34.2	19.3	46.5
Female teacher	64	31.5	34.4	21.9	43.8	58	28.6	36.2	20.7	43.1
Male teacher	79	40.1	25.3	16.5	58.2	56	28.4	32.1	17.9	50.0
Partner school teacher	87	42.6	32.2	17.2	50.6	67	32.8	34.3	19.4	46.3
Nonpartner school teacher	56	28.6	25.0	21.4	53.6	47	24.0	34.0	19.1	46.8
<b>Grade level taught by teacher</b>										
Lower primary	34	32.1	14.7	26.5	58.8	28	26.4	17.9	25.0	57.1
Upper primary	51	44.0	29.4	23.5	47.1	44	37.9	34.1	25.0	40.9
JHS	58	32.6	37.9	10.3	51.7	42	23.6	45.2	9.5	45.2
<b>Years of teaching experience of teacher</b>										
Less than 5 years	14	26.4	0.0	21.4	78.6	14	26.4	7.1	21.4	71.4
5-10 years	56	35.7	25.0	19.6	55.4	41	26.1	26.8	22.0	51.2
11-20 years	54	36.5	38.9	18.5	42.6	44	29.7	50.0	13.6	36.4
More than 20 years	19	45.2	36.8	15.8	47.4	15	35.7	33.3	26.7	40.0
<b>Subject taught by teacher</b>										
English Language	85	37.6	23.5	22.4	54.1	72	31.9	29.2	22.2	48.6
Mathematics	78	36.3	25.6	20.5	53.8	67	31.2	23.9	25.4	50.7
Religious and moral education	79	40.7	27.8	22.8	49.4	67	34.5	28.4	25.4	46.3
Information communication technology (ICT)	63	36.6	28.6	19.0	52.4	55	32.0	30.9	23.6	45.5
Social studies	20	40.0	45.0	10.0	45.0	16	32.0	43.8	12.5	43.8
Ghanaian language	67	40.6	26.9	19.4	53.7	54	32.7	29.6	20.4	50.0
Citizenship	45	48.9	31.1	24.4	44.4	38	41.3	31.6	28.9	39.5
Integrated science	65	35.9	20.0	26.2	53.8	54	29.8	29.6	25.9	44.4
French	5	62.5	40.0	60.0	0.0	5	62.5	60.0	40.0	0.0
Music	5	55.6	60.0	40.0	0.0	4	44.4	50.0	50.0	0.0
Basic design and technology	56	35.7	30.4	17.9	51.8	44	28.0	36.4	20.5	43.2

Basic school teachers were asked to indicate the various disabilities/SEN they have been trained to identify. The self-reported responses are presented in Table 9. The proportion of the basic school teachers who can identify pupils with various types of disability or SEN varies, ranging from children living with HIV/AIDS (19 per cent) to persons with visual impairment (86 per cent). Except for children exploited for financial purposes, there is no statistically significant difference between the proportion of partner and nonpartner basic school teachers in identifying pupils with various types of SEN/disability. In general, a higher percentage of basic teachers are able to identify disabilities or SEN that are manifested physically, such as visual impairment, speech and communication disorders, and physical disability (Table 9).

Table 9: Proportion of basic school teachers who can identify various types of SEN

Type of disability/SEN	Partner school		Nonpartner school		All	
	N	%	N	%	N	%
Persons with visual impairment	153	89.5	143	83.1	296	86.3
Persons with hearing impairment	146	85.9	143	83.6	289	84.8
Persons with intellectual disability	131	78.0	145	84.3	276	81.2
Gifted and talented persons	132	76.7	146	81.1	278	79.0
Persons with speech and communication disorders	116	72.5	120	72.7	236	72.6
Persons with physical disability (mobility impairment, hunch back, etc.)	124	73.8	119	71.3	243	72.5
Persons with attention deficit	118	72.4	120	69.4	238	70.8
Persons with emotional and behaviour disorder	113	69.8	120	71.9	233	70.8
Persons with specific learning disability	108	70.6	107	66.0	215	68.3
Persons with both hearing and visual impairment	110	68.8	97	62.2	207	65.5
Persons with multiple disabilities	80	55.9	84	53.5	164	54.7
Persons with other health impairment and chronic diseases (rheumatism, epilepsy, asthma, and sickle cell anaemia, etc.)	71	49.0	70	46.1	141	47.5
Hyperactivity disorder	69	46.3	67	45.0	136	45.6
Persons with autism	55	39.6	54	37.2	109	38.4
Street children	55	39.3	56	37.6	111	38.4
Children exploited for financial purposes	62	42.5	45	31.0	107	36.8
Nomadic children (shepherd boys, fisher-folks children and domestic child workers)	40	29.4	30	21.3	70	25.3
Children displaced by natural catastrophes and social conflicts	30	23.3	35	24.6	65	24.0
Children living with HIV/AIDS	23	17.8	28	20.4	51	19.2

#### 4.1.4 Tutor lesson observation

As a way of indirectly assessing the competencies of college tutors in teaching student teachers with SEN, we conducted lesson observations for a total of 50 tutors across the 10 CoEs. Five tutor lessons from each college were observed in a class that had at least one student teacher with SEN. Each lesson was scored based on 22 IE in-

classroom indicators including the allocation of more instructional time to student teachers with SEN, spending more time on the lesson in classes with SEN student teachers than classes without SEN student teachers, deployment of variety of teaching methods to student teachers with SEN, presence of educational assistants in the classroom to support student teachers with SEN, appropriately distributing questions to students teachers with SEN to test their understanding, encouraging active participation from student teachers with SEN, uses a variety of instructional materials appropriate to learner's diversity to motivate student teachers with SEN, providing appropriate classroom atmosphere that is non-threatening for student teachers with SEN, etc.

The mean scores as presented in Table 10 suggest that 4 out of 22 indicators were prominent. That is, the management of classrooms in a manner that is nonthreatening to student teachers with SEN, using appropriate pace during lessons that ensures the understanding of all students including student teachers with SEN, assigning students with or without SEN to work together in class activities, and creating a respectful classroom environment for all, including student teachers with SEN. In all, 82 per cent, 74 per cent, 72 per cent, and 66 per cent of college tutors, respectively, engaged in these practices during the lesson observations (Table 11).

On the contrary, the lack of presence of educational assistants to support student teachers with SEN; non-allocation of more instructional time for student teachers with SEN, inadequate time on the lesson relative to classes without SEN, and the lack of variety of instructional materials appropriate to learner's diversity were observed as having the least mean scores.

Table 10: Mean scores for college tutors lesson observation

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std. dev.</b>	<b>Min.</b>	<b>Max.</b>
Tutor manages the classroom in a manner that is non-threatening for student teachers with SEN	50	3.8	1.2	1	5
The pace of the lesson is appropriate for all students including student teachers with SEN	50	3.5	1.2	1	5
The tutor assigns students with and without SEN to work on class activities	50	3.4	1.5	1	5
The classroom atmosphere is respectful to student teachers with SEN	50	3.2	1.5	1	5
Tutor uses appropriate vocabulary and inflection when talking to student teachers with SEN	50	2.9	1.5	1	5
Students teachers with SEN collaborate with peers and demonstrate appropriate behavior during group and individual work	50	2.9	1.5	1	5
Tutor encourages active participation from student teachers with special educational needs by asking them questions	50	2.7	1.3	1	5
Tutor asks student teachers with SEN questions frequently to test their understanding of the lesson	50	2.6	1.2	1	5
Classroom allows for safe physical movement of student teachers with SEN	50	2.6	1.6	1	5
Tutor encourages active participation from student teachers with special educational needs by answering their questions	50	2.5	1.3	1	5
Tutor models and reinforces positive behavioral expectations of student teachers with SEN	50	2.4	1.3	1	5
Tutor deploys a variety of teaching methods to student teachers with SEN	50	2.3	1.2	1	5
Tutor reorganizes available resources at different points in the lesson to aid student teachers with SEN in class	50	2.2	1.2	1	5
The tutor facilitates smooth transitions from activity to activity within the lesson, with appropriate focus on student teachers with SEN	50	2.2	1.2	1	4
Tutor provides appropriate follow-up activity to student teachers with SEN	50	2.2	1.2	1	5
Tutor encourages above-average student teachers to work more independently while more time is spent with student teachers with SEN who may require it	50	2.0	1.1	1	4
Tutor provides multiple and varied options for student teachers with SEN to communicate and express themselves	50	2.0	1.1	1	5
Tutor adopts the use of multiple senses to assist student teachers with SEN in the teaching process	50	2.0	1.2	1	5
A variety of instructional materials appropriate to learner's diversity are used to engage and motivate student teachers with SEN	50	1.9	0.9	1	4
Tutor has more time on the lesson than classes without student teachers with SEN	50	1.8	1.2	1	5
Tutor allocates more instructional time to student teachers with SEN	50	1.8	1.1	1	4
Tutor has educational assistants in the classroom to support student teachers with SEN	50	1.5	1.0	1	4

Table 11: Proportion of college tutors using various inclusive education strategies in their classroom

Statement	Never		Rarely		Sometimes		Very often		Always	
	N	%	N	%	N	%	N	%	N	%
Tutor allocates more instructional time to student teachers with SEN	27	54	11	22	6	12	6	12		
Tutor has more time on the lesson than classes without student teachers with SEN	29	58	7	14	9	18	3	6	2	4
Tutor deploys a variety of teaching methods to student teachers with SEN	15	30	16	32	9	18	8	16	2	4
Tutor reorganizes available resources at different points in the lesson to aid student teachers with SEN in class	19	38	12	24	10	20	8	16	1	2
Tutor has educational assistants in the classroom to support student teachers with SEN	37	74	5	10	4	8	4	8		
Tutor encourages above-average student teachers to work more independently while more time is spent with student teachers with SEN who may require it	20	40	16	32	7	14	7	14		
Tutor asks student teachers with SEN questions frequently to test their understanding of the lesson	9	18	17	34	12	24	7	14	5	10
Tutor encourages active participation from student teachers with special educational needs by asking them questions	12	24	10	20	13	26	10	20	5	10
Tutor encourages active participation from student teachers with special educational needs by answering their questions	15	30	9	18	14	28	9	18	3	6
A variety of instructional materials appropriate to learner's diversity are used to engage and motivate student teachers with SEN	19	38	19	38	8	16	4	8		
Tutor provides multiple and varied options for student teachers with SEN to communicate and express themselves	23	46	10	20	12	24	4	8	1	2
The tutor facilitates smooth transitions from activity to activity within the lesson, with appropriate focus on student teachers with SEN	21	42	9	18	10	20	10	20		
Tutor provides appropriate follow-up activity to student teachers with SEN	19	38	14	28	11	22	2	4	4	8
Tutor models and reinforces positive behavioural expectations of student teachers with SEN	16	32	13	26	10	20	7	14	4	8
Tutor adopts the use of multiple senses to assist student teachers with SEN in the teaching process	25	50	9	18	10	20	4	8	2	4
Tutor uses appropriate vocabulary and inflection when talking to student teachers with SEN	13	26	9	18	7	14	12	24	9	18
The tutor assigns students with and without SEN to work on class activities	9	18	5	10	8	16	11	22	17	34
The pace of the lesson is appropriate for all students including student teachers with SEN	2	4	11	22	12	24	11	22	14	28
Students teachers with SEN collaborate with peers and demonstrate appropriate behaviour during group and individual work	14	28	7	14	9	18	11	22	9	18
Classroom allows for safe physical movement of student teachers with SEN	19	38	10	20	1	2	10	20	10	20
Tutor manages the classroom in a manner that is nonthreatening for student teachers with SEN	2	4	7	14	7	14	15	30	19	38
The classroom atmosphere is respectful to student teachers with SEN	11	22	6	12	9	18	11	22	13	26

## 4.2 Awareness and knowledge of inclusive education policy

Awareness and knowledge of the IE policy and its requirements can go a long way to enhance the way teachers relate to pupils or students with SEN. The study therefore sought to ascertain basic school teachers' and CoE tutors' level of awareness and knowledge of the IE policy. Table 12 presents the outcomes for basic school teachers and shows that while more than 80 per cent of the teachers indicated awareness of the existence of the policy, only 57 per cent confirmed awareness of the existence of the standards and guidelines for implementation. A higher proportion of partner school teachers than nonpartner school teachers are aware of the existence of the policy, and this difference is statistically significant. There is, however, no significant difference between the proportion of teachers from partner schools and nonpartner schools aware of the existence of standards and guidelines for implementation. Only about 6 per cent of the teachers indicated that they were very knowledgeable about the policy. Sixty nine per cent of basic school teachers indicated moderate knowledge while more than a quarter had no knowledge whatsoever about the contents of the policy (Table 12).

Basic school teachers who indicated moderate to very good knowledge were tested on some provisions in the policy. For instance, the IE policy requires teachers to use UDL to ensure that no pupil or student is left behind in education. The result (Table 12) reveals that knowledge on UDL is relatively low as less than half of the teachers knew about this requirement, compared to an average of more than 95 per cent of the teachers indicating knowledge on the provisions requiring that: (i) teachers at basic schools be trained on the identification of pupils with special educational needs; (ii) teachers at basic schools to collaborate with their local communities to create awareness on disability issues; and, (iii) basic schools must ensure that their learning environment is free from discrimination for students with special needs and that sanctions are in place for those who transgress this requirement.

Table 12: Proportion of basic school teachers demonstrating awareness and knowledge of the IE policy and its requirements

	Female		Male		Partner school		Nonpartner school		Lower primary		Upper primary		JHS		All	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Aware of existence of national policy on inclusive education	166	81.8	162	82.2	176	86.3	152	77.6	82	77.4	96	82.8	150	84.3	328	82.0
Aware of the existence of a national standards and guidelines on implementation of IE	121	59.6	117	59.4	127	62.3	111	56.6	60	56.6	71	61.2	107	60.1	238	59.5
<i>Knowledge of national policies and standards and guidelines</i>																
No knowledge	60	29.6	44	22.3	52	25.5	52	26.5	31	29.2	36	31.0	37	20.8	104	26.0
Moderately knowledgeable	134	66.0	140	71.1	142	69.6	132	67.3	70	66.0	74	63.8	130	73.0	274	68.5
Very knowledgeable	9	4.4	13	6.6	10	4.9	12	6.1	5	4.7	6	5.2	11	6.2	22	5.5
<i>Assessment of knowledge (% answering correctly)</i>																
Ghana's IE policy and related documents require that teachers at basic schools be trained on the identification of pupils with special educational needs	136	95.1	152	99.3	145	95.4	143	99.3	71	94.7	77	96.3	140	99.3	288	97.3
Ghana's IE policy and related documents require that teachers at basic schools to collaborate with their local communities to create awareness on disability issues	135	94.4	149	97.4	146	96.1	138	95.8	72	96.0	76	95.0	136	96.5	284	95.9
Basic schools must ensure that their learning environment is free from discrimination of students with special needs and that sanctions are in place for those who transgress this requirement	141	98.6	147	96.1	146	96.1	142	98.6	73	97.3	78	97.5	137	97.2	288	97.3
The use and implementation of UDL are not yet expectations for Ghana's schools	60	42.0	74	48.4	67	44.1	67	46.5	36	48.0	39	48.8	59	41.8	134	45.3

A similar knowledge testing exercise was conducted for tutors to ascertain their level of knowledge of some provisions in the IE policy. Apart from knowledge in the areas UDL (64 per cent) and the requirement for concessionary admissions (70 per cent), more than 80 per cent of tutors indicated knowledge in the remaining four requirements in Table 13. While these are subjective assessments of knowledge, it nevertheless signals the extent of awareness of the IE policy among CoE tutors.

Table 13: Proportion of tutors demonstrating knowledge of some requirements of IE policy

<i>Test of knowledge (% answering correctly)</i>	Female tutor		Male tutor		All	
	N	%	N	%	N	%
IE policy requires that tutors at colleges be trained in the diagnosis of student-teachers with SEN	91	91	206	91.6	297	91.4
IE policy does not require colleges to provide concessionary admission to candidates who manifest SEN	70	70	156	69.3	226	69.5
IE policy requires colleges of education to collaborate with their local communities to create awareness on disability issues	83	83	198	88.0	281	86.5
IE policy does not require partner schools to ensure that teaching practice internships focus on practices for IE	83	83	180	80.0	263	80.9
IE policy require colleges of education to ensure that their learning environment is free from discrimination for students with SEN	93	93	212	94.2	305	93.8
IE policy suggests that the use and implementation of UDL are not yet expectations for Ghana's schools	65	65	144	64.0	209	64.3

### 4.3 Compliance with IE policy at colleges of education

The IDIs provided further insights into how the CoEs are complying with the provisions of the IE policy. The CoEs' level of compliance was also assessed on the basis of a scoring rubric. Additionally, perspectives of tutors and student teachers were sought with regard to how the colleges were complying with the IE policy. Finally, basic school teachers' views were sought on the level of compliance of the basic schools with the policy.

#### 4.3.1 Assessment of compliance based on scoring rubric

Two levels of assessment, using the scoring rubric were conducted to ascertain the level of compliance of the CoEs with the IE policy. First, the college specific policies and practices that had been instituted were assessed. Second, the physical infrastructure and environment of the colleges was assessed.

On college specific policies and practices, college principals were asked a series of questions on their local policies and how these policies were in consonance with the national policy on IE. The questions ranged from policies guiding admissions, collaboration with communities to create awareness on IE and SEN, enforcement of nondiscriminatory policies for students with SEN, curriculum, to tutor and classroom interactions with student teachers with SEN. Each question was assessed on a scale of -1 to +1. If a particular activity occurred always or very often, it was assigned a value of 1. Activities that happened sometimes or rarely were coded zero. Any activity that had never been undertaken was seen as a drawback to the implementation of IE and SEN and thus scored -1.

In assessing the physical infrastructure of the colleges, six key college infrastructures were considered. These are the dormitory, classroom, library, workshop/laboratory, administration block, and any recreational facility on campus. Each of these facilities was scored from zero to 4 using a number of indicators including the provision of ramps to serve as alternative access routes, accessible doors that are wide enough for a wheelchair, provision of friendly handrails, adequate covering of gutters, clearly demarcated walkways, etc. A facility is scored 4 (clearly evident) if the description reflects in all of the observed items/spaces/buildings. A value of 3 (moderately evident) is assigned if the facility fits about half to three quarters of the items/spaces; while a score of 2 (little evidence) is awarded if about a quarter to a third of the observed facilities reflect the observed items/spaces/buildings; a value of 1 (virtually nonexistent) is assigned if the description fits in less than one tenth of the observed items; and 0 if not applicable. The scores of 4 (clearly evident) and 3 (moderately evident) were recoded as 1; score of 2 (little evidence) was recoded as 0; and score of 1 (virtually nonexistent) was recoded as -1. A total maximum net score of 48 could be obtained for the six focal facilities under consideration. However, any CoE that obtained a minimum net score of 28 was rated highly compliant under this subindicator, whilst those that were moderately compliant with respect to infrastructure obtained at least a net score of 14. All others with a score below 14 were rated poorly compliant. Overall, a CoE rated as highly compliant with IE policy supported by the necessary infrastructure scored at least 38, while CoEs with moderate performance obtained a minimum net score of 19. Table AP1.1A in appendix AP1 provides a summary of the scoring rubric that was used.

Seven of 10 colleges obtained excellent scores on the policy compliance section of the scoring rubric (Table 14). It is important to note that most principals or their representatives (vice or college secretary) noted that prior to the abolition of face-to-face interviews as part of the admission process they hardly admitted any applicant with a disability. This was because they could not accommodate the needs of most of such applicants. Knowledge of this practice also deterred interested persons with disabilities from applying to specific colleges. However, with the introduction of the online application system, scrapping of the face-to-face interviews, and advocacy for inclusive education, discriminatory practices associated with admissions have been curbed considerably.

Table 14: Policy and infrastructure compliance levels among CoEs

College of Education	Policy compliance	Physical compliance	Total compliance
Tamale	Excellent	Moderate	Moderate
Akrokerri	Moderate	Poor	Poor
Berekum	Excellent	Excellent	Excellent
St. Joseph	Excellent	Moderate	Moderate
Jasikan	Excellent	Moderate	Moderate
Accra	Excellent	Poor	Moderate
Mount Mary	Excellent	Poor	Poor
SDA	Moderate	Poor	Poor
Fosu	Moderate	Poor	Poor
Komenda	Excellent	Poor	Poor

All the sampled CoEs considered the needs of student teachers with special educational needs when decisions regarding assignment to residential facilities were being made. In addition, student teachers were provided with training on how to apply inclusive practices in their (future) classrooms. Furthermore, at least 80 per cent of the CoEs reported practicing the following: (i) enforcement of a nondiscrimination policy for students with special needs, (ii) consideration of the needs of student teachers with special educational needs when decisions are being made regarding assignment to a partner school; and, (iii) tutors employed instructional methods that accommodate the full range of diversity among student teachers (see appendix AP5 for detailed scoring on the compliance levels with the IE policy by the CoEs).

Only Berekum CoE was rated excellent with respect to its physical environment being compliant with inclusive education standards. Six colleges of education obtained a poor score on the rating of the physical environment compliance to inclusive education standards. More than half of the CoEs either did not have the required accommodations in their infrastructure, or had them but were not up to the standard recommended in the *Standards and guidelines for the practice of inclusive education in Ghana* document. Over half of the colleges of education had dormitories and recreational facilities that had no ramps as alternative access routes, while some ramps were not gentle. It was also observed in at least 50 per cent of the CoEs that the floor and ground surfaces of dormitories, classroom building and recreational facilities were not stable, firm and slip resistant. The compounds were also generally uneven, stony or sandy, all of which would make movement difficult for persons who use mobility aids.

It was observed that about half of the CoEs had gentle sloping ramps on campus which were clearly evident, and did not have obstructions such as trees, pillars and gutters on walkways. Furthermore, it was clearly evident for about half of the CoEs that recreational facilities were accessible to student teachers with special educational needs (see appendix AP5 Tables AP5.1 and AP5.2).

Overall, five colleges exhibited poor compliance while four exhibited moderate compliance. Only one CoE was assessed to be excellent. Thus, although the overall results indicate that some efforts are being made by all colleges to be compliant with

the IE policy, more needs to be done by way of improving the physical environment as well as enacting college specific policies to mainstream the IE policy requirements.

#### 4.3.2 College-specific compliance policies

As a way of assessing the colleges' specific policies, principals of CoEs (or their delegated representatives) were interviewed. The objective was to ascertain what was being done to make the colleges compliant with the national policy on IE. The study established that no single document existed on inclusive education in any of the CoEs. Rather, most issues on inclusive education were captured in the gender and inclusion policy of the colleges. This policy we note is the output of a collaborative effort between the colleges and T-TEL. The gender and inclusion policy is therefore expected to serve as a standard local policy to capture the needs of all persons, including those with disabilities or special educational needs. In this regard, it can be inferred that CoEs are making satisfactory efforts in complying with the national policy on inclusive education.

In the area of physical environment, it was noted that recent infrastructure and ongoing projects have been designed to accommodate the physical diversity of student teachers and staff. As such, CoEs are ensuring that all new structures are disability-friendly. This is considered somewhat easier in comparison to remodelling existing infrastructure, which may be capital intensive. The CoEs have however constructed ramps to selected lecture halls and other essential facilities (usually to the ground floor) on their premises like the libraries and administration blocks to facilitate access.

*...so far, the new projects we are undertaking, we ensure that they are disability friendly. For instance, the staircases, the doors, as well as the windows in the lecture halls are very accessible” (Participant, Akrokerri CoE)*

*...For instance, the new library and the classroom were constructed; we have disability friendly access at the place. So, after this interview we can go there so you can confirm” (Participant, SDA CoE).*

Two colleges visited admitted they had a lot to do in terms of making their physical space inclusive compliant. The hilly landscapes of these colleges make it extremely expensive for the construction of ramps and walkways. This notwithstanding, one such college indicated provisions had been made in its 2019 budget to commence work on existing infrastructure at the college to make it accessible to all.

These responses show that colleges are receptive to physical environment requirements contained in the government policy. Hitherto, little was done in preparing the physical environment to cater for disabled persons. Altering existing physical structures to be disability friendly was noted across colleges.

Another policy relates to assignment of rooms and lecture halls in situations where student teachers with disability are admitted to the college. Similar arrangements are made for the various hostel facilities at the colleges visited with persons with physical disability assigned to down beds. This we find to be the case in almost all colleges of education visited where they indicated having an uncodified policy of ensuring that ground floor lecture halls are assigned to programmes with students with special

educational needs like physical disability except one CoE. The challenge encountered by that CoE was that as a result of the sizes of their lecture halls, the decision to assign a class is based on the number of students in the programme and which lecture hall could accommodate the numbers.

*We don't have any basis for assigning students to lecture halls per se. They [student teachers] have their classes according to the programmes they are offering. We will usually allocate the bigger classrooms to the programme with the largest number of students* [Participant, Komenda College]

In two other CoEs, whereas the various considerations to improve accessibility were made, their science laboratory was situated on an upper floor, and there was little they could do about it although all the student teachers are expected to use the laboratory for lessons. This notwithstanding, deliberate efforts are made to assign students to lecture halls that will make them comfortable.

Although participants admitted that existing buildings were not friendly for disabled persons, they indicated that plans had been made to alter specific areas of existing buildings to accommodate student teachers with physical challenges. One such response was:

*"Honestly we have budgeted for it [renovation] this year. This year's budget, 2019, we will start looking at some of those things. To make existing offices, classrooms and auditorium accessible to disabled students"* (Participant, Mount Mary CoE).

This suggests that in the implementation of IE policies, certain measures have been taken and certain facilities have been put in place to ensure that physical environment requirements are complied with in the colleges. It is important to note that pre-implementation measures such as buildings and walkways appear not to have been accorded the deserved attention.

Whereas our assessment of facilities (i.e., access to library, administration blocks, classrooms, etc.) indicate that the CoEs are making satisfactory effort (see Table 14) to make their physical space accessible with the construction of ramps as alternative access routes, we find in most cases that, these ramps do not give complete access to the said facilities. That is, the ramps in most instances lead to the entrance of the facility which has a step or two before accessing the facility. This we find to be the case in all the colleges visited. This pattern, we note, has been so because none of the colleges visited had a student with severe form of disability. As a result, the challenges of accessing the facility in its current form remained abstract. We however note that little was required to make such facilities accessible.

#### **4.3.3 College curriculum and the training of student teachers on inclusive education**

In assessing whether it is possible for a student teacher to specialize in inclusive education, all the principals indicated this was not possible, at least at the time of the study. However, a number of the colleges had tutors who had been trained as special education tutors who played pivotal roles in the training and identification of student teachers with special educational needs.

Sampled views of the participants include the following:

*“We don’t have special educational needs coordinator but there are three staff members who took special education needs as a course to the masters’ level so we use their expertise...”* (Participant, Jasikan CoE).

*“Not really, but we have education department and we have tutors who are special education tutors”* (Participant, Mount Mary CoE); *“We don’t have a coordinator per say but we have tutors who have specialized in special needs education”* (Participant, Tamale CoE).

Given this understanding on the part of the participants, we can reasonably assume that such tutors with knowledge in special education are aware of the element of diversity in any classroom and would therefore conduct classroom instructions in ways that address the broad spectrum of students’ diversity. Such instruction would invariably provide opportunities for student teachers to assimilate critical issues in inclusive education.

The course is designed to be taught by specialists but in most of the colleges, the tutors who are not experts in inclusive education have had some form of training in the area of special needs and so are able to teach that subject. The course introduces student teachers to the general concepts in inclusive education and serves as a foundation for the students to build on in the future. The course also assists student teachers to identify prospective pupils that may have special needs at the various basic schools they would handle in their future classrooms. This professional preparation of student teachers should therefore acquaint them with the history and philosophy of special education, sharpen their tools in pedagogy, and enable them to acquire scientific tools so that they can look at their pupils from a scientific perspective. It should also groom them in the concepts, content, skills and methods of the special education course to enable them select useful content, appropriate teaching and learning strategies, purposeful activities and meaningful problems to guide the teaching-learning enterprise and also develop the right kind of attitude towards pupils with special education needs.

*...it is a semester course compulsory for all students that basically talks about what the special educational needs entails”* (Participant, Komenda CoE)

*Every semester, there is a course. Even the tutor who came here right now, he teaches special education”* (Participant, Seventh Day Adventist (SDA) CoE).

*“There is a course for all student teachers on how to handle pupils with SEN. And, it is mandatory for all students”* (Participant, Akrokerri CoE).

Data from interviews further suggests that the amount of time spent on the special needs course is inadequate and remains largely abstract. It would have been ideal to complement the classroom experience with field trips. The challenge however remains with the large numbers and the inadequacy of resources, including time to effectively achieve this.

#### 4.3.4 Admission protocols for students teachers with SEN

Admissions to the colleges of education are centralized. The CoEs have a common admission brochure that outlines admission requirements together with national requirements. This document clearly indicates to applicants with special educational needs to apply to specific colleges that have the facilities to support their studies. The colleges however expressed optimism that with the current efforts being made to make their physical infrastructure inclusive compliant and friendly to all persons, the current system of admitting students with pronounced disability to specific colleges of education may be a thing of the past.

The following comments are illustrative:

*“And I want to add that we are limited because Cape Coast [University] controls the admissions, the advert and all that, so like, is a form, which is designed from Cape Coast. So, I think we are limited as to what to put on that form”* (Participant, Accra CoE);

*“the admission is generally done at the national level so we don’t have any specific brochure”* (Participant, Berekum CoE).

This suggests that colleges do not have control over the specific requirements of the admission processes. One participant’s illustration is used to sum up their views.

*“The guidelines are such that some colleges have facilities for people with specific needs and so those are catered for at the point that they are going to apply for admission. This means that at the publication, which actually begins the registration for the admission process, specifies some of the colleges and the special needs that they can accommodate and attend to”* (Participant, Fosu CoE).

This means that applicants have the opportunity to find out colleges that have facilities for various forms of disabilities. However, apart from applicants with severe forms of disability, most applicants with special educational needs do not usually indicate them during the application processes. They are therefore admitted as regular students until such a time that a tutor or another person at the college identifies them and bring it to the attention of management. This comment was provided:

*“The students are also our informants, so, if we had someone who is disabled, it is the students that inform us that this person is disable so that the college can take an action”* (Participant, SDA CoE).

Regarding concessionary admissions, all colleges indicated that they had no such provisions in their admission protocols as all admissions were centralized. Two of such responses were that:

*“For now, our admission is controlled by a central body. If you meet the basic requirement, you’re given admission. If you don’t meet the basic requirement your name is not even selected”* (Participant, Jasikan CoE);

One college, however, indicated that it had a relationship with the federation of the disabled who submit a list of qualified applicants to be considered for admission.

Efforts are made to admit such students provided they meet the minimum admission requirements as stated by law.

*We have this association [the federation for the disabled] who periodically come here for assistance especially in the area of admissions. Every year they submit a list of members who want to be admitted here and we compile the list and forward to the appropriate place for considerations (Participant, Berekum CoE)*

Judging from the responses, we are inclined to conclude that the policy requirement for concessionary admission is largely not adhered to.

It was noted from the study that student teachers with special educational needs do not usually make any effort to self-disclose. Rather, what happens is that when tutors suspect the possibility of SEN, they refer such student(s) to the college counsellor. In addition, the study notes that of all the colleges visited, there was no data on student teachers with special educational needs for both past and present students. There was however some appreciable amount of information on SEN scattered across various units of the college, i.e., the vice principal's office, the college counsellor, gender and inclusive committee, tutors, among others. One way of enhancing college-level compliance with the IE policy would be to synchronize available data, and for those who do not take records at all to do so. The appointment of a special educational needs coordinator, which we found to be nonexistent in all the colleges visited, would be very useful in this direction.

#### **4.3.5 College policy on discrimination**

As part of mechanisms to ensure that the college environment is free from discrimination, safe and friendly to all persons, college principals indicated they have codified rules of engagement at the colleges of education. These rules guide both students and staff on what is permissible or otherwise. Through the effort of the gender and inclusion committee, staff and students continue to be sensitized to celebrate the uniqueness of persons with disability. As such, it is an offense for anyone to discriminate against another person because of their gender or disability. This position was averred to by all college level participants engaged in the study.

*We encourage the student body as well as the tutors to use the right words when describing them. For instance, we don't use disabled person, instead, we say persons with disability. The idea is not to stigmatize their condition (Participant, Komenda College)*

Discrimination against another person attracts sanctions ranging from manual related work to suspension from school depending on the gravity of the offense. The suspension clause is only triggered after a disciplinary proceeding had been duly concluded, however. In addition, various reporting channels have been instituted to bring to the fore any student teacher who discriminates against another depending on where the act took place.

*We have the disciplinary committee so when that [discrimination] happens the disciplinary committee will take that up (Participant, Accra College)*

For instance, if a student teacher is discriminated against in the dormitory, the first point of reporting will be the warden or master of the particular dormitory.

*We have hall tutors who are responsible for the monitoring at the halls. They ensure that student teachers follow the IE policies of the college (Participant, Akrokerri College)*

Similarly, if the act takes place in the lecture hall, the tutor available is expected to take it up or bring it to the attention of the vice principal of the college. These officers have been given the power to decide appropriate punishment to offenders. In addition, an aggrieved student teacher who has been discriminated against has the option of writing formally to the vice principal of the college to seek redress. The vice principal may decide to address the concern directly or forward it to the gender and inclusion committee or the disciplinary committee for redress.

*If student teachers with SEN feel that their concerns are not satisfactorily addressed, there are formal mechanism through which their issues will be heard and addressed...the two major ones are the college counsellor and the dean of students' affairs (Participant, Akrokerri College)*

#### **4.3.6 Teaching practice and inclusive education**

As part of efforts to make CoEs inclusive compliant, colleges embark on collaborative community exercises especially in communities where teaching practices are carried out. This is done to sensitize stakeholders in the communities to have an appreciation for persons with disability and support student teachers with disability in particular. In addition, colleges continue to organize workshops for partner schools. This is usually done to create awareness as a way to foster a safe and friendly environment for student teachers during their teaching practices with the community. For specific student teachers with disabilities that require some special attention, they are usually placed in the college's experimental/model school for their teaching practice. This way, the college is able to monitor their progress and provide any form of support as may be needed.

*When it comes to [student teachers with SEN], we send them during their teaching practices to places closer to Akrokerri CoE (Participant, Akrokerri College)*

Even though colleges are expected to facilitate teaching practice to student teachers in an inclusive setting, we note that pupils with visual and hearing impairment are usually encouraged to sit in the front rows in the classroom. These classrooms are generally overcrowded and make it difficult to rearrange for specific lessons. In addition, the classrooms do not have the requisite teaching and learning aids and support staff that will assist student teachers with SEN.

#### **4.3.7 Monitoring and evaluation of compliance**

The IE policy requires that CoEs and other educational institutions set up a monitoring and evaluation unit for dealing with issues of students with SEN. Interviews with college principals indicate that the colleges do not have units specifically for monitoring

compliance with the IE policy. However, monitoring of inclusive education policies at the colleges is by various units of the college. While the colleges' quality assurance units play a lead role in the monitoring process, other units such as the office of the vice principal, the office of the counselling coordinator, the gender and inclusive committee, the office of the dean of students' affairs, and hall tutors also play supporting roles. However, there is little coordination across the various units. This level of disconnect could be a partial explanation for the lack of consistent and coherent data on persons with SEN at the CoEs.

*We have an appraisal system in place where students are to appraise us if our practices are gender responsive and inclusive (Participant, Accra College)*

*I'm part of the [gender and inclusion] team that makes sure that we follow-up to do the evaluation and monitoring of the gender and inclusion policy (Participant, Mount Mary College)*

*We have different levels of monitoring, we have the quality assurance unit, we have the principal and vice principal, tutors, the academic board and then college council... we don't have monitoring and evaluation unit but their duties are performed by the quality assurance unit (Participant, Berekum College)*

Ghana's IE policy requires the NAB to ensure that all tertiary institutions, including the CoEs, adhere to the principle of UDL. External monitoring of the CoEs is primarily done by the NAB as part of its core mandate of quality assurance in tertiary education in Ghana. We sought to ascertain from the NAB its role in ensuring that the CoEs adhere to the requirements of the IE policy. According to the executive director of NAB, while the NAB in collaboration with T-TEL has visited 40 of the 46 CoEs to evaluate their programmes in line with its mandate as of 2018, it is yet to conduct any assessment on the CoEs with regard to their adherence to the principle of UDL in accordance with the IE policy. The NAB cited human resource constraints as part of the reason for its inability to carry out this assessment since the policy came into force.

From the foregoing, it is clear that more needs to be done for the CoEs to be in meaningful compliance in relation to monitoring of the IE policy. Given the mandate of the quality assurance unit to monitor policies at the colleges, including the inclusive education policy, there would be the need to strengthen these units at the various college with the requisite skilled personnel to deliver on their mandate. This should include monitoring compliance of auxiliary staff at the colleges as this group also has an important role to play. Such an approach will go a long way in enhancing compliance efforts at the CoEs.

### 4.3.8 Compliance with IE: perspectives of college tutors, student teachers and basic school teachers

#### College tutors

In the quantitative survey, tutors and basic school teachers were asked to rate their colleges' and schools' commitment to IE and SEN. Nearly half of tutors at the CoEs rated their institutions' efforts at making the college IE compliant as good or very good. Similar results were recorded for their rating in terms of efforts regarding SEN. Over a quarter, and nearly a fifth of tutors at two CoEs respectively rated their college's commitment to IE as poor. Similar results were observed for their ratings in terms of policies on SEN, with more than a third of tutors rating the CoE as poor (Table 15). These findings were consistent with the data obtained from the qualitative interviews with principals of these colleges.

The perspectives of tutors were also sought to ascertain the extent of compliance of the CoE with the IE policy and its requirements. Table 16 presents the results. About 80 per cent or more of tutors were of the view that their college monitors its compliance with the IE policy and also trains student teachers in inclusive education. About two thirds of colleges were also of the view that their college did not have qualified special educational needs coordinator or have records of student teachers with special educational needs.

Table 15: Tutors assessment of their colleges' commitment to IE and SEN

	Female tutor		Male tutor		All	
	N	%	N	%	N	%
<i>Rating for college's commitment to inclusive education</i>						
Poor	9	9.0	20	8.9	29	8.9
Satisfactory	42	42.0	97	43.1	139	42.8
Good	39	39.0	87	38.7	126	38.8
Very good	10	10.0	21	9.3	31	9.5
<i>Rating for college's commitment to special educational needs</i>						
Poor	10	10.0	20	8.9	30	9.2
Satisfactory	44	44.0	94	41.8	138	42.5
Good	43	43.0	101	44.9	144	44.3
Very good	3	3.0	10	4.4	13	4.0

Note: some row cells may exceed 100 per cent due to approximation.

Table 16: Tutors' assessment of their college's level of compliance with IE policy

	Female tutor		Male tutor		All	
	N	%	N	%	N	%
College monitors its compliance with the government's policy on inclusive education	78	78.0	190	84.4	268	82.5
College has a person(s) or office responsible for monitoring compliance with the government's policy on inclusive education	46	46.0	126	56.0	172	52.9
College has qualified special educational needs coordinator(s)	34	34.0	76	33.8	110	33.8
College's admission procedures are suitable for prospective students with special educational needs	68	68.0	148	65.8	216	66.5
College has a record of all the types of special educational needs among its student-teachers	37	37.0	73	32.4	110	33.8
There formal mechanisms within the college to address concerns or complaints of student-teachers with special educational needs	64	64.0	139	61.8	203	62.5
College has written policies on IE, particularly relating to student-teachers with special educational needs	61	61.0	127	56.4	188	57.8
College has a unit or department that focuses specifically on the training of student-teachers with SEN	19	19.0	57	25.3	76	23.4
College provides training to student-teachers on inclusive education	85	85.0	175	77.8	260	80.0
College provides training to student-teachers on special educational needs	80	80.0	167	74.2	247	76.0

### *Student teachers*

The views of student teachers were also sought to ascertain the level of compliance at the respective colleges (Table 17). On average, about a third of student teachers were of the view that their college had a SEN coordinator. A higher percentage of student teachers in year three indicated there was a SEN coordinator than their counterparts in the lower levels. In addition, less than a third of student teachers indicated knowledge of their college collaborating with the community to create awareness on disability issues. Nearly half of student teachers agreed with the statement that their college has a formal mechanism to discuss and address concerns and complaints from student teachers with SEN. More than half (58 per cent) of third-year student teachers shared the same position. Only about a fifth of student teachers agree that their college has a unit that specifically focuses on students with SEN. The percentage of third-year student who share this position is 11 per cent. However though less than two thirds of student teachers agree their college provides training in IE and SEN, over 80 per cent of third-year student teachers agree with the statement that, their college train student teachers in IE and SEN. This is indicative that final year

student teachers are in a better position to give a fairer assessment of the kind of training their colleges offer them.

Table 17: Proportion of student teachers indicating presence or otherwise of SEN coordinator in their schools

	Female student teachers		Male student teachers		1st year student teachers		2nd year student teachers		3rd year student teachers		All student teachers	
	N	%	N	%	N	%	N	%	N	%	N	%
<i>College has a qualified special educational needs coordinator</i>												
Yes	56	30.6	73	35.4	41	27.5	70	35.5	18	41.9	129	33.2
No	48	26.2	51	24.8	32	21.5	51	25.9	16	37.2	99	25.4
Don't know	79	43.2	82	39.8	76	51.0	76	38.6	9	20.9	161	41.4
<i>College collaborates with the community to create awareness on disability issues to foster attitudinal change</i>												
Yes	43	23.5	58	28.2	45	30.2	48	24.4	8	18.6	101	26.0
No	68	37.2	70	34.0	44	29.5	75	38.1	19	44.2	138	35.5
Don't know	72	39.3	78	37.9	60	40.3	74	37.6	16	37.2	150	38.6
<i>There are formal mechanisms within the college to consider and address concerns or complaints of student teachers with SEN</i>												
Yes	72	39.3	99	48.1	66	44.3	80	40.6	25	58.1	171	44.0
No	55	30.1	46	22.3	32	21.5	62	31.5	7	16.3	101	26.0
Don't know	56	30.6	61	29.6	51	34.2	55	27.9	11	25.6	117	30.1
<i>College has policy on Inclusive Education</i>												
Yes	72	39.3	84	40.8	66	44.3	77	39.1	13	30.2	156	40.1
No	26	14.2	28	13.6	15	10.1	32	16.2	7	16.3	54	13.9
Don't know	85	46.4	94	45.6	68	45.6	88	44.7	23	53.5	179	46.0
<i>College has a written policy on student-teachers with SEN</i>												
Yes	50	27.3	61	29.6	48	32.2	54	27.4	9	20.9	111	28.5
No	41	22.4	39	18.9	27	18.1	43	21.8	10	23.3	80	20.6
Don't know	92	50.3	106	51.5	74	49.7	100	50.8	24	55.8	198	50.9
<i>College has a unit or department that focuses specifically on supporting student teachers with SEN</i>												
Yes	36	19.7	50	24.3	36	24.2	45	22.8	5	11.6	86	22.1
No	93	50.8	98	47.6	63	42.3	100	50.8	28	65.1	191	49.1
Don't know	54	29.5	58	28.2	50	33.6	52	26.4	10	23.3	112	28.8
<i>College provides training to student-teachers in inclusive education</i>												
Yes	109	59.6	134	65.0	91	61.1	114	57.9	38	88.4	243	62.5
No	43	23.5	38	18.4	28	18.8	51	25.9	2	4.7	81	20.8
Don't know	31	16.9	34	16.5	30	20.1	32	16.2	3	7.0	65	16.7
<i>College provides training to student-teachers in special educational needs, once those needs are disclosed</i>												
Yes	110	60.1	136	66.0	83	55.7	127	64.5	36	83.7	246	63.2
No	45	24.6	40	19.4	37	24.8	43	21.8	5	11.6	85	21.9
Don't know	28	15.3	30	14.6	29	19.5	27	13.7	2	4.7	58	14.9

### *Basic school teachers*

At the basic school level, less than half of teachers rated their schools as either good or very good in their school's efforts at becoming compliant with the inclusive education policy (Table 18).

Table 18: Basic school teachers rating of their school's commitment to IE

Commitment to IE	Female		Male		All	
	N	%	N	%	N	%
<b>Poor</b>	23	11.3	17	8.6	40	10
<b>Satisfactory</b>	87	42.9	92	46.7	179	44.8
<b>Good</b>	64	31.5	75	38.1	139	34.8
<b>Very good</b>	29	14.3	13	6.6	42	10.5

Note: some row cells may exceed 100 per cent due to approximation.

One of the compliance requirements of the IE is for schools to have SEN coordinators. Basic school teachers were therefore asked if their school had a SEN coordinator. Eighty three per cent of the teachers responded in the negative while only about 10 per cent responded in the affirmative (Table 19). The remainder indicated lack of knowledge. There are statistically significant differences in the responses across sexes, partner versus nonpartner school as well as grade taught by the teacher. Of the 10 per cent who responded in the affirmative, 92 per cent can identify the SEN coordinator while 95 per cent are certain of his/her responsibilities.

Table 19: Proportion of basic school teachers indicating presence or otherwise of SEN coordinator in their schools

	Female		Male		Partner school		Non-partner school		Lower primary		Upper primary		JHS		All	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<i>School has qualified SEN coordinator(s)</i>																
Yes	27	13.3	11	5.6	27	13.2	11	5.6	15	14.2	13	11.2	10	5.6	38	9.5
No	155	76.4	176	89.3	159	77.9	172	87.8	78	73.6	98	84.5	155	87.1	331	82.8
Don't know	21	10.3	10	5.1	18	8.8	13	6.6	13	12.3	5	4.3	13	7.3	31	7.8
<i>Can identify SEN coordinator</i>																
Yes	25	92.6	10	90.9	24	88.9	11	100.0	13	86.7	12	92.3	10	100.0	35	92.1
No	2	7.4	1	9.1	3	11.1	0	0.0	2	13.3	1	7.7	0	0.0	3	7.9
<i>Know what their responsibilities are</i>																
Yes	26	96.3	10	90.9	26	96.3	10	90.9	15	100.0	12	92.3	9	90.0	36	94.7
No	1	3.7	1	9.1	1	3.7	1	9.1	0	0.0	1	7.7	1	10.0	2	5.3

#### 4.4 Prevalence of SEN among student teachers and pupils

One of the sub-objectives of this study is to estimate the prevalence of SEN at colleges of education and at the basic school levels. However, as observed in section 4.3, colleges do not keep a database on persons with special educational needs. Moreover, apart from the severe forms of disability, individuals may require a specialist diagnosis to classify their condition appropriately. These services may be unavailable to the CoEs. At best, tutors, teachers and school management could suspect, identify, and classify a student/pupil only as a special needs student based on their knowledge and experience of working with persons with SEN. As a result, the proportions of student teachers identified as having various types of SEN in the survey is largely based on the subjective assessments of tutors and basic school teachers.

At the CoEs, 54 per cent of the tutors indicated that they presently have student teachers with SEN in their class (Table 20). Tutors identified student teachers with physical disabilities (including mobility impairment) as the most prevalent condition, accounting for about 51 per cent of all the SEN cases (Table 20). This is followed by visual impairment (36 per cent) and hearing impairment (30 per cent). Other student teachers identified by tutors with SEN include those with intellectual disability (27 per cent), gifted and talented students (26 per cent) as well as those with attention deficit (21 per cent). The observed pattern in prevalence is the same for both male and female tutors. (See Table 20 for details).

We also sought to have an indication of the number of students with SEN at the CoEs. In so doing, tutors who reported a particular SEN in their class were asked to indicate the number of student teachers with such special needs. We focus on reporting the proportion of tutors indicating at most one, at most two or at most three student teachers with a particular SEN in their class (Table 21). Except for students with intellectual disability, student not living with biological parents and gifted and talented students, at least 50 per cent of college tutors reported at most 3 student teachers with SEN in their class.

Table 20: Proportion of CoE tutors reporting various types of disabilities/SEN in their classrooms

	Female tutor		Male tutor		All	
	N	%	N	%	N	%
Proportion of tutors reporting student teachers with SEN in their class currently	51	51.0	123	54.7	174	53.5
<i>Type of SEN they have</i>						
Student teachers with physical disability (mobility impairment, hunch back, etc.)	21	41.2	67	54.5	88	50.6
Student teachers with visual impairment	17	33.3	45	36.6	62	35.6
Student teachers with hearing impairment	16	31.4	36	29.3	52	29.9
Gifted and talented student teachers	15	29.4	32	26.0	47	27.0
Student teachers with intellectual disability	12	23.5	34	27.6	46	26.4
Student teachers with attention deficit/hyperactivity disorder	12	23.5	24	19.5	36	20.7
Student teachers with emotional and behaviour disorder	10	19.6	19	15.4	29	16.7
Student teachers with specific learning disability	10	19.6	16	13.0	26	14.9
Student teachers with other health impairment (asthma, sickle cell, epilepsy, etc.)	7	13.7	18	14.6	25	14.4
Student teachers with speech and communication disorders	8	15.7	13	10.6	21	12.1
Student teachers exploited for financial purpose	1	2.0	7	5.7	8	4.6
Student teachers with both hearing and visual impairment	2	3.9	5	4.1	7	4.0
Student teachers with multiple disabilities	5	9.8	2	1.6	7	4.0
Student teachers with autism	1	2.0	4	3.3	5	2.9
Student teachers displaced by natural catastrophes and social conflicts	2	3.9	3	2.4	5	2.9
Student teachers living in extreme social and economic deprivation	1	2.0	1	0.8	2	1.1
Student teachers who are not living with their biological parents	0	0.0	1	0.8	1	0.6
Student teachers living with HIV/AIDS	1	2.0	0	0.0	1	0.6

Table 21: Proportion of tutors reporting student teachers with SEN in their classroom

<i>Type of SEN</i>	Number of tutors reporting	Per cent tutors reporting at most:			Mean number of student teachers reported with SEN	Minimum number of student teachers reported with SEN	Maximum number of student teachers reported with SEN
		1 student teacher with SEN	2 student teachers with SEN	3 student teachers with SEN			
Student teachers with hearing impairment	52	51.9	73.1	84.6	2.1	1	8
Student teachers with visual impairment	62	45.2	58.1	66.1	3.0	1	20
Student teachers with both hearing and visual impairment	7	71.4	85.7	100.0	1.4	1	3
Student teachers with physical disability (mobility impairment, hunch back, etc.)	88	55.7	75.0	89.8	1.9	1	6
Student teachers with intellectual disability	46	21.7	39.1	47.8	5.5	1	40
Student teachers with speech and communication disorders	21	42.9	57.1	71.4	3.0	1	10
Student teachers with attention deficit/ hyperactivity disorder	36	33.3	52.8	61.1	4.2	1	24
Student teachers with specific learning disability	26	42.3	61.5	76.9	3.5	1	24
Student teachers with autism	5	80.0	80.0	80.0	3.2	1	12
Student teachers with multiple disabilities	7	71.4	85.7	85.7	1.7	1	5
Student teachers with emotional and behaviour disorder	29	41.4	65.5	75.9	2.4	1	8
Student teachers with other health impairment (asthma, sickle cell, epilepsy, etc.)	25	36.0	72.0	80.0	2.8	1	20
Student teachers who are not living with their biological parents	1	0.0	0.0	0.0	6.0	6	6
Student teachers living in extreme social and economic deprivation	2	50.0	50.0	50.0	5.0	2	8
Student teachers exploited for financial purpose	8	37.5	50.0	75.0	2.6	1	5
Student teachers living with HIV/AIDS	1	100.0	100.0	100.0	1.0	1	1
Student teachers displaced by natural catastrophes and social conflicts	5	40.0	60.0	80.0	7.4	1	30
Gifted and talented student teachers	47	10.6	40.4	48.9	4.7	1	15

The study also sought to gauge the prevalence of SEN at the basic schools. About 70 per cent of basic school teachers in the sample indicated that they currently have at least one pupil with SEN in their respective classrooms (Table 22). There is no statistically significant difference between the proportions of teachers in T-TEL partner- and non-partner schools reporting the presence of SEN pupils in their classroom. The most common types of SEN reported by the basic school teachers are pupils with intellectual disability (43 per cent), visual impairment (29 per cent), speech and communication disorder (23 per cent), and pupils with attention deficit (21 per cent), in that order (Table 22). For most types of SEN, however, more than 50 per cent of the basic school teachers reported only one pupil exhibiting such trait (see Table 23).

Table 22: Proportion of basic school teachers reporting various types of SEN in their classrooms

	Partner school		Nonpartner school		All	
	N	%	N	%	N	%
<i>Pupil with SEN currently in basic teacher's class</i>						
Yes	146	71.6	133	67.9	279	69.8
No	56	27.5	61	31.1	117	29.3
Don't know	2	1.0	2	1.0	4	1.0
<i>Type of special educational needs they have</i>						
Pupils with intellectual disability	51	34.9	70	52.6	121	43.4
Pupils with visual impairment	45	30.8	35	26.3	80	28.7
Pupils with speech and communication disorders	34	23.3	29	21.8	63	22.6
Pupils with attention deficit	33	22.6	26	19.5	59	21.1
Pupils with emotional and behaviour disorder	23	15.8	30	22.6	53	19.0
Gifted and talented pupils	25	17.1	28	21.1	53	19.0
Pupils with specific learning disability	30	20.5	16	12.0	46	16.5
Pupils with hearing impairment	22	15.1	21	15.8	43	15.4
Pupils with hyperactivity disorder	19	13.0	18	13.5	37	13.3
Pupils with physical disability (mobility impairment, hunch back, etc.)	9	6.2	12	9.0	21	7.5
Pupils with other health impairment and chronic diseases (epilepsy, asthma, sickle cell anaemia, etc.)	5	3.4	12	9.0	17	6.1
Pupils with multiple disabilities	5	3.4	7	5.3	12	4.3
Pupils with autism	8	5.5	2	1.5	10	3.6
Street children/ pupils	4	2.7	6	4.5	10	3.6
Pupils exploited for financial purposes	3	2.1	4	3.0	7	2.5
Nomadic pupils (shepherd boys, fisher-folks children and domestic child workers)	4	2.7	2	1.5	6	2.2
Pupils with both hearing and visual impairment	2	1.4	2	1.5	4	1.4
Other	2	1.4	1	0.8	3	1.1
Pupils displaced by natural catastrophes and social conflicts	1	0.7	0	0.0	1	0.4
Pupils living with HIV/AIDS	0	0.0	0	0.0	0	0.0

Table 23: Proportion of basic school teachers reporting pupils with SEN in their classroom

<i>Type of SEN</i>	Number of basic school teachers reporting	Per cent basic teachers reporting at most			Mean number of pupils reported with SEN	Minimum number of pupils reported with SEN	Maximum number of pupils reported with SEN
		1 pupil with SEN	2 pupils with SEN	3 pupils with SEN			
Pupils with hearing impairment	43	65.1	83.7	90.7	1.7	1	8
Pupils with visual impairment	80	58.8	72.5	86.3	2.2	1	15
Pupils with both hearing and visual impairment	4	50.0	75.0	75.0	2.3	1	5
Pupils with physical disability (mobility impairment, hunch back, etc.)	21	85.7	95.2	95.2	1.5	1	9
Pupils with intellectual disability	121	42.2	59.5	76.9	4.1	1	40
Pupils with speech and communication disorders	63	74.6	92.1	96.8	1.4	1	5
Pupils with attention deficit	59	40.7	55.9	71.2	3.4	1	20
Pupils with specific learning disability	46	30.4	54.4	73.9	4.0	1	30
Pupils with autism	10	100.0	100.0	100.0	1.0	1	1
Pupils with multiple disabilities	12	83.3	100.0	100.0	1.2	1	2
Pupils with emotional and behaviour disorder	53	54.7	75.5	84.9	2.2	1	11
Pupils with other health impairment and chronic diseases (epilepsy, asthma, sickle cell anaemia, etc.)	17	94.1	94.1	100.0	1.1	1	3
Street children/ pupils	10	40.0	60.0	70.0	3.2	1	12
Nomadic pupils (shepherd boys, fisher-folks children and domestic child workers)	6	33.3	66.7	66.7	2.5	1	5
Pupils exploited for financial purposes	7	57.1	71.4	100.0	1.7	1	3
Pupils living with HIV/AIDS	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Pupils with hyperactivity disorder	37	43.2	67.6	78.3	2.9	1	13
Pupils displaced by natural catastrophes and social conflicts	1	100.0	100.0	100.0	1.0	1	1
Gifted and talented pupils	53	39.6	56.6	73.6	3.3	1	30
Other	3	66.7	100.0	100.0	1.3	1	2

## 4.5 Professional development needs

In assessing the professional development needs of basic school teachers to equip them to effectively handle students with SEN, we first sought to ascertain the proportion of teachers that have had previous postqualification development training. As Table 24 indicates, a fifth of basic school teachers responded in the affirmative. The most popular type of postqualification development training received was in classroom management/ managing student behaviour as indicated by 88 per cent of the teachers. Forty nine per cent of the teachers had received previous training in instructional methods while training in student assessments and academic interventions was reported by 39 per cent and 29 per cent of teachers, respectively. A higher proportion of teachers from nonpartner schools than partner schools benefitted from training in classroom management/ managing student behaviour and this difference is significant at .05 level. Ninety per cent of basic school teachers affirmed (agreed or strongly agreed) that the professional training they received helped them work better with students with SEN (Table 24). Yet, 94 per cent of the teachers expressed need for further training in SEN.

Assessment of the professional development needs of basic school teachers to enable them to effectively handle students with SEN reveals that knowledge and skills are needed in managing students' behaviour, providing appropriate academic interventions, assessing students with SEN, and accommodating learning challenges in inclusive classrooms in that order (Table 25). In terms of skills required, a greater proportion of male teachers than female teachers expressed training needs in accommodating learning challenges in inclusion teaching and this difference is significant. Similarly, a statistically higher proportion of JHS teachers indicated need for training to accommodate learning challenges in inclusion teaching compared to primary level teachers.

Table 24: Proportion of basic school teachers who have participated in postqualification development training

	Female		Male		Partner school		Nonpartner school		Lower primary		Upper primary		JHS		All	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<i>Have you ever participated in any post-qualification professional development</i>																
Yes	37	18.2	43	21.8	46	22.5	34	17.3	18	17	26	22.4	36	20.2	80	20
<i>Type of professional development training received</i>																
Classroom management/ managing student behaviour	34	91.9	36	83.7	36	78.3	34	100.0	15	83.3	23	88.5	32	88.9	70	87.5
Assistive technology	6	16.2	8	18.6	9	19.6	5	14.7	5	27.8	6	23.1	3	8.3	14	17.5
Assessment of students	14	37.8	16	37.2	18	39.1	12	35.3	9	50.0	10	38.5	11	30.6	30	37.5
Instructional methods	15	40.5	24	55.8	19	41.3	20	58.8	7	38.9	14	53.8	18	50.0	39	48.8
Academic interventions	9	24.3	14	32.6	13	28.3	10	29.4	4	22.2	9	34.6	10	27.8	23	28.7
Other	1	2.7	2	4.7	2	4.3	1	2.9	0	0.0	2	7.7	1	2.8	3	3.8
<i>The professional training received helped to work better with students with SEN</i>																
Disagree	3	8.1	1	2.3	3	6.5	1	2.9	2	11.1	1	3.8	1	2.8	4	5.0
Neither agree nor disagree	1	2.7	3	7.0	2	4.3	2	5.9	2	11.1	0	0.0	2	5.6	4	5.0
Agree	28	75.7	31	72.1	33	71.7	26	76.5	11	61.1	20	76.9	28	77.8	59	73.8
Strongly agree	5	13.5	8	18.6	8	17.4	5	14.7	3	16.7	5	19.2	5	13.9	13	16.3
<i>Do you have need for further training on special educational needs</i>																
Yes	35	94.6	40	93.0	44	95.7	31	91.2	17	94.4	24	92.3	34	94.4	75	93.8

Table 25: Proportion of basic school teachers indicating need for professional development training to teach students with SEN

	Female		Male		Partner school		Nonpartner school		Lower primary		Upper primary		JHS		All	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<i>What knowledge do you feel you need to be more effective in teaching a class that includes students with SEN</i>																
Managing student behaviour	132	65.0	127	64.5	131	64.2	128	65.3	77	72.6	72	62.1	110	61.8	259	64.8
Assessing students with special needs	109	53.7	115	58.4	114	55.9	110	56.1	53	50.0	65	56.0	106	59.6	224	56.0
Providing appropriate academic interventions	120	59.1	124	62.9	123	60.3	121	61.7	60	56.6	69	59.5	115	64.6	244	61.0
Accommodating learning challenges in inclusion teaching	86	42.4	103	52.3	99	48.5	90	45.9	49	46.2	48	41.4	92	51.7	189	47.3
Other	3	1.5	3	1.5	5	2.5	1	0.5	1	0.9	5	4.3	0	0.0	6	1.5
<i>What skills do you feel you need to be more effective in teaching a class that includes students with SEN</i>																
Managing student behaviour	129	63.5	136	69.0	132	64.7	133	67.9	70	66.0	79	68.1	116	65.2	265	66.3
Assessing students with special needs	108	53.2	122	61.9	117	57.4	113	57.7	58	54.7	63	54.3	109	61.2	230	57.5
Providing appropriate academic interventions	128	63.1	118	59.9	125	61.3	121	61.7	59	55.7	68	58.6	119	66.9	246	61.5
Accommodating learning challenges in inclusion teaching	92	45.3	111	56.3	98	48.0	105	53.6	51	48.1	49	42.2	103	57.9	203	50.7
Other	4	2.0	4	2.0	5	2.5	3	1.5	3	2.8	4	3.4	1	0.6	8	2.0

Basic school teachers were presented with a list of SEN and asked to identify specific issues that they will require further training to be effective in their respective classrooms. The result is presented in Table 26 and disaggregated along the grades currently taught and partner versus nonpartner schools. Partner school teachers identify training in managing persons with intellectual disability, persons with specific learning disabilities, persons with visual impairment, and persons with hearing impairment as the key areas requiring additional training. Similarly, nonpartner schools identify training to handle persons with intellectual disability, persons with hearing impairment, persons with visual impairment, and persons with attention deficit. Similar results are found for teachers at the lower and upper primaries, and JHS levels. In addition, teachers at the lower and upper primary levels indicated that training in handling persons with speech and communication disorders would enhance their work. At the JHS level, teachers identify training to handle persons with specific learning disorders, and behaviour and emotional disorders.

Table 26: Per cent of basic school teachers who require training in specific SEN

Specific areas basic school teachers will require further training	Lower primary		Upper primary		JHS		Partner school		Nonpartner school		Total	
	N	% of cases	N	% of cases	N	% of cases	N	% of cases	N	% of cases	N	% of cases
Persons with Hearing Impairment	5 6	53.3	4 9	43.0	89	50.6	93	46.0	101	52.3	19 4	49.1
Persons with Visual Impairment	5 5	52.4	5 3	46.5	77	43.8	93	46.0	92	47.7	18 5	46.8
Persons with both Hearing and Visual Impairment	4 1	39.1	4 6	40.4	72	40.9	83	41.1	76	39.4	15 9	40.3
Persons with Physical Disability (mobility impairment, hunch back, etc.)	4 1	39.1	4 2	36.8	73	41.5	79	39.1	77	39.9	15 6	39.5
Persons with Intellectual Disability	6 2	59.1	5 5	48.3	10 4	59.1	10 8	53.5	113	58.6	22 1	56.0
Persons with Speech and Communication Disorder	5 5	52.4	4 7	41.2	73	41.5	90	44.6	85	44.0	17 5	44.3
Persons with Attention Deficit	4 9	46.7	4 2	36.8	78	44.3	79	39.1	90	46.6	16 9	42.8
Persons with Specific Learning Disability	4 7	44.8	4 6	40.4	88	50.0	96	47.5	85	44.0	18 1	45.8
Persons with Autism	4 0	38.1	2 8	24.6	60	34.1	69	34.2	59	30.6	12 8	32.4
Persons with Multiple Disabilities	3 6	34.3	3 8	33.3	66	37.5	76	37.6	64	33.2	14 0	35.4
Persons with Emotional and Behaviour Disorder	4 2	40.0	4 5	39.5	80	45.5	81	40.1	86	44.6	16 7	42.3
Persons with other health impairment and chronic diseases (Rheumatism, Epilepsy)	3 0	28.6	2 9	25.4	57	32.4	64	31.7	52	26.9	11 6	29.4
Street Children	2 7	25.7	3 5	30.7	56	31.8	60	29.7	58	30.1	11 8	29.9
Nomadic children (shepherd boys, fisher folk children, domestic child workers)	2 3	21.9	2 3	20.2	39	22.2	47	23.3	38	19.7	85	21.5
Children exploited for financial purposes	2 2	21.0	2 3	20.2	48	27.3	48	23.8	45	23.3	93	23.5
Children living with HIV/AIDS	2 6	24.8	2 7	23.7	58	33.0	60	29.7	51	26.4	11 1	28.1
Hyperactivity Disorder	3 2	30.5	2 8	24.6	65	36.9	59	29.2	66	34.2	12 5	31.7
Children displaced by Natural Catastrophes and Social Conflicts	2 4	22.9	2 1	18.4	41	23.3	48	23.8	38	19.7	86	21.8
Gifted and Talented Persons	3 6	34.3	3 9	34.2	72	40.9	74	36.6	73	37.8	14 7	37.2

## 4.6 Challenges to the implementation of IE policies

Interviews with college principals identified the challenges to the implementation of the IE policy. These include lack of instructional materials such as assistive devices, infrastructure, lack of funding, and teachers' competency. The absence of the above would limit colleges' ability in the implementation process. For instance, lack of adequate resources to meet the educational needs of disabled student teachers in regular schools may cause most stakeholders to have doubts as to whether the needs of students would be adequately met at the colleges.

The perceptions of basic school teachers and CoE tutors with regard to the challenges facing the implementation of IE policy in their respective institutions corroborate the findings from the qualitative data. Tables 27 and 28 present the results for basic school teachers and tutors, respectively. Both basic teachers and tutors unanimously ranked inadequate school unit infrastructure and inadequate specialised training in special education as the first and second most important barriers, respectively. Thus, from the perspective of tutors (60 per cent) and basic school teachers (55 per cent) infrastructure remains an important barrier to achieving inclusion in the country. As emphasised by the IDIs, nearly all existing infrastructure was constructed without considerations for persons with special needs. As a result, colleges require capital investments to remodel infrastructure to accommodate everyone.

About half of tutors and basic schools teachers interviewed also mentioned inadequate specialised training in special education as a key constraint. Other barriers to implementation from the perspective of basic school teachers are curriculum (41 per cent), attitude of parents (29 per cent), inadequate funding (29 per cent), and failure to provide appropriate special education staff (29 per cent). A greater proportion of nonpartner school teachers (35 per cent) compared to partner school teachers (23 per cent) rated funding as a barrier. This difference is significant at the .05 level. Aside infrastructure and specialised training in special education, 42 per cent of college tutors noted inadequate funding while another 39 per cent indicated failure to provide appropriate special education staff. A statistically greater proportion of male tutors (43 per cent) were of the view that failure to provide appropriate special education staff constituted a barrier to the success of IE compared to female tutors (30 per cent). Other barriers noted by tutors are curriculum issues (32 per cent) and large number of student teachers in the class room (27 per cent).

Table 27: Teachers' perception of barriers to implementing IE in the basic schools

Type of constraint	Partner school		Nonpartner school		Lower primary		Upper primary		JHS		All	
	N	%	N	%	N	%	N	%	N	%	N	%
School unit infrastructure	119	58.3	101	51.5	62	58.5	62	53.4	96	53.9	220	55.0
Specialized training in special education	98	48.0	96	49.0	49	46.2	57	49.1	88	49.4	194	48.5
Curriculum	79	38.7	84	42.9	42	39.6	50	43.1	71	39.9	163	40.8
Parents' attitudes	63	30.9	53	27.0	35	33.0	37	31.9	44	24.7	116	29.0
Incomplete funding	47	23.0	69	35.2	29	27.4	34	29.3	53	29.8	116	29.0
Failure to provide appropriate special education staff	57	27.9	58	29.6	29	27.4	25	21.6	61	34.3	115	28.7
Large number of pupils in the classroom	60	29.4	46	23.5	23	21.7	33	28.4	50	28.1	106	26.5
Teacher's reluctance	32	15.7	29	14.8	13	12.3	21	18.1	27	15.2	61	15.3
Special and general teacher collaboration	22	10.8	24	12.2	14	13.2	10	8.6	22	12.4	46	11.5
Legislative framework	13	6.4	7	3.6	5	4.7	5	4.3	10	5.6	20	5.0
Other	3	1.5	0	0.0	1	0.9	1	0.9	1	0.6	3	0.8

Note: Percentages sum up to more than 100 because of multiple responses.

Table 28: CoE tutors' perception of barriers to implementing IE at the CoEs

	Female tutor		Male tutor		All	
	N	%	N	%	N	%
School unit infrastructure	60	60.0	135	60.0	195	60.0
Specialized training in special education	55	55.0	105	46.7	160	49.2
Incomplete funding	41	41.0	94	41.8	135	41.5
Failure to provide appropriate special education staff	30	30.0	97	43.1	127	39.1
Curriculum	39	39.0	66	29.3	105	32.3
Large number of student teachers in the classroom	22	22.0	65	28.9	87	26.8
Legislative framework	17	17.0	35	15.6	52	16.0
Teachers' reluctance	12	12.0	22	9.8	34	10.5
Special and general teacher collaboration	11	11.0	23	10.2	34	10.5
Parents' attitudes	6	6.0	18	8.0	24	7.4
Other	0	0.0	2	0.9	2	0.6

Note: Percentages sum to more than 100 per cent due to multiple responses.

Participants in the IDIs further provided suggestions to help meet IE needs at the colleges. These included the provision of appropriate instructional materials, the construction of special infrastructure for better inclusive education practices, training of tutors, among others. For instance, one principal intimated: *"If I take you round our campus, you will realise that there are no ramps for wheel chairs for instance. All we have are steps. The toilets are also not conducive for students with special education needs. A lot needs to be done."* This comment is in line with UNESCO's (2004) assertion that the successful accommodation of learners with special educational

needs require facilities, assistive devices and accessible buildings appropriate to learners with SENs. Similarly, the government of Ghana's IE policy (2015) also put emphasis on learning institutions to ensure that learners with SEN are provided with appropriate resources for quality learning.

With the development of a new curriculum for the CoEs, there will be the need to organize continuous professional development trainings for tutors to be abreast with issues of IE and SEN. This is important because not all tutors are familiar with such policies. One participant communicated the concern this way:

*The next issue I'll want address has to do with the curriculum...I know they are working on a new curriculum for the colleges of education. Once that is done, we need to organize refresher training for our tutors, student teachers, and partner schools. A similar thing was done for gender with support from T-TEL. [Participant, Mount Mary College]*

Another obstacle identified as having the potential to hinder the implementation of the inclusive education policy relates to the lack of training in special needs education for teaching and nonteaching staff at the basic schools and colleges of education. Some of these important stakeholders do not have an understanding of IE and SEN and may hinder their approach and attitude towards such students. One way of handling this will be to increase awareness at the colleges. It is thus important to train the entire community to be familiar with the policy on inclusive education and what is expected of all stakeholders to actualize it:

*There is the need to create awareness among both the teaching and nonteaching staff because the attitude of some people towards persons with disability is bad... so these people will need to be educated ....we still need to have posters around campus to create awareness...it should be posted in the classrooms too and all other notice boards [Participant, Mount Mary College]*

*...there is the need for more sensitization on issues of disability and the physically challenged... if we are able to do the sensitization that means people will accept them as part of us. The sensitization can be done by maybe a body set up by the NCTE. T-TEL has done a lot by helping us with policies...but they will soon wrap up their work in Ghana so the NCTE has to take it up [Participant, Berekum College]*

Another challenge to the smooth implementation of IE policies has to do with the identification and diagnosis of pupils and student teachers with special educational needs. In instances where teachers and tutors identify a student requiring special needs based on experience and knowledge, the extent of support required by such pupils or student teachers is usually unknown. This is so or because teachers and tutors do not have the skills and expertise to diagnose such pupils/student teachers.

*At times the inability to identify some of these needs is a big problem. The other one is about the tutor and staff understanding of these special educational needs. [Participant, Komenda College]*

*There is a second-year student in this college who has mobility impairment. His dormitory bed was initially upstairs but when our attention was drawn to his condition, we decided to relocate him to the ground floor and to a lower bed. This student came here and protested the decision. He said he had not complained that he couldn't*

*access the facility. In effect, we had to allow him to keep to the first floor [Participant, St. Joseph College]*

The other challenge relates to funding the implementation of the IE policy. Although the policy helps to bring everyone on board to explore their full potentials, finding the needed resources remains a challenge to its smooth implementation. Some of the compliance requirements are capital intensive and colleges have to make tough decisions of allocating scarce resources to competing urgent needs. This sometimes leaves very little or nothing at all to finance some of these capital expenditures.

*In fact, we have a challenge with infrastructure. At the moment our classrooms do not provide easy access and comfort for students with special needs. In the Central region, Komenda College has been earmarked for the practice of inclusive education by NCTE. They advised that we change the face of some of our infrastructure but we are financially constrained [Participant, Komenda College].*

## 5. Conclusions and recommendations

### 5.1 Conclusion

This report presents findings from a study to assess the extent to which public CoEs in Ghana are adhering to the national policy and guidelines on inclusive education. It also assesses the knowledge level of college tutors and basic school teachers in IE and the level of training being given student teachers at the CoEs. Based on interviews of college principals and assessments of the college environment using a scoring rubric, it is evident that efforts are being made by colleges to be in meaningful compliance. This is by way of college-specific initiatives that are being pursued. While altering existing infrastructure requires resources, there is the need for colleges to prioritise in the area of resource allocation if they are to increase their level of compliance with the national IE policy.

Training programmes have been instituted as a means to prepare prospective teachers in identifying and teaching students with SEN in their future classrooms. The tutor lesson observations suggest that little is done in terms of classroom setting in teaching student teachers with and without SEN. While colleges of education are making efforts to be IE compliant, much of the efforts have concentrated on student teachers and tutors.

We further conclude on the general lack of data on students with SEN at both CoEs and basic schools, even though there exist students with SEN in these institutions. The lack of data makes it difficult to estimate the prevalence of students with SEN across basic schools and CoEs. This could be partly due to the inadequate training of the teaching and nonteaching staff of these institutions. Another probable reason is the absence of special needs coordinators at both CoEs and basic schools. The lack of dedicated tutors and teachers impede the implementation of classroom protocols.

Finally, in many instances we do not find statistically significant differences between T-TEL partner and nonpartner schools with respect to IE issues discussed in the study. Apart from awareness of the existence of an IE policy, in-service training on IE and SEN, presence of a SEN coordinator in the school, participation in postqualification training and funding as a constraint to the implementation of IE policy, partner and nonpartner schools are similar with regard to IE issues.

### 5.2 Recommendations

First, awareness about the IE policy and its requirements and provisions, particularly, the IE implementation guidelines and standards is required for all CoEs and basic public schools. As revealed by the study, while tutors and basic school teachers self-reported knowledge of the policy, they were generally unaware of the guidelines and standards. In particular, knowledge seems to be weak in specific requirements such as universal design for learning.

Second, the establishment of the office of students with special needs and subsequent appointment of a coordinator should be given urgent attention to give meaning to the IE policy's requirement for the establishment of SEN monitoring and evaluation units

in all educational institutions. This has the potential of facilitating activities relating to the implementation of the IE policy in all CoEs and basic schools. The coordinator and his/her office must be tasked with ensuring the implementation of the provisions of the policy to enhance compliance. In addition, this unit can serve as a data collation unit for students with SEN and disabilities.

Third, the Persons with Disability Act in its current state does not elaborate on the study of disability and disability-related issues in the curricula of teacher training institutions or colleges for teaching professionals to train and equip teachers to teach in inclusive classrooms. There is, therefore, the need for action by the MoE, the GES and other stakeholders to ensure the curricula of the CoEs incorporate components relating to teaching in inclusive settings.

Fourth, although 80 per cent of basic school teachers indicated knowledge about SEN, about half of the teachers surveyed cited lack of specialised training in SEN as a barrier to the successful implementation of IE. Clearly, knowledge does not necessarily translate into skill in handling students with SEN. There must be increased efforts at the CoEs to train student teachers in IE and SEN. In particular, the teaching practice component must be strengthened to ensure that student teachers benefit immensely from mentorship that will enhance their knowledge and skills at teaching and handling students and pupils with SEN. Additionally, training on SEN should be part of continuous professional development, through workshops and seminars, for basic school teachers and CoE tutors so as to keep them abreast with current developments in handling students and pupils with SEN as it is clear from the study that the level of training received by teachers at the CoE might not be adequate. In this regard, it is recommended that, the MoE and GES in collaboration with other stakeholders should design and rollout a professional development programme for tutors of CoEs and teachers of basic schools to ensure that they are constantly abreast with current developments in IE and the handling of students with SEN.

Fifth, it is recommended that CoEs sensitise both teaching and nonteaching staff as well as the partner schools about the contents of the IE policy and what is expected of all stakeholders to engender meaningful compliance. One way is to have posters at strategic locations on college campuses to draw attention about the need to have all hands on deck. In addition, gender and inclusion clubs could be formed to champion the concerns of student teachers with SEN.

Sixth, the Ministry of Education through the NCTE and GES should work together to ensure that colleges are well resourced to enable them to build user friendly infrastructure for learners with SEN and provide essential support services including the provision of assistive devices. That said, there is much that CoEs and basic schools can do without additional funding, such as being aware of which of their students have disabilities or special needs and creating awareness about SEN in their institutions,

Seventh, partner and nonpartner schools are similar with regard to IE issues. While differences exist, which can be read as an indication of the impact of T-TEL's activities, more needs to be done if partner schools are to exhibit greater compliance with the IE policy and serve as a model for emulation.

Finally, it is recommended that the NAB conducts an assessment of the CoEs to ensure that the CoEs are in compliance with UDL in accordance with the IE policy.

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## Appendix AP1: Research Instruments

**Table AP1.1 Scoring Rubric**

**National Council for Tertiary Education (NCTE)  
and  
Transforming Teacher Education and Learning (T-TEL)  
Study on  
Inclusive Education: Learners with Disabilities and Special Education Needs in Ghana**

**SCORING RUBRIC**

A rubric is designed to assess CoEs' compliance with the government's substantive requirements for its policies and practices on inclusive education.

### ***Introduction and Consent***

Good morning/ afternoon. My name is ..... I work with Research Trust Limited and we are conducting research on behalf of the National Council for Tertiary Education (NCTE) and Transforming Teacher Education and Learning (T-TEL), Ghana, on *Inclusive Education* practices at Colleges of Education (CoEs) in Ghana. The information we collect will help the government (Ministry of Education) and other stakeholders to plan education delivery, especially as it relates to learners with disabilities and special educational needs. Your college of education was selected for the study. I would like to ask you to respond to some issues pertaining to the compliance of your college with the requirements of the inclusive education policy particularly, with respect to learners with disabilities and special educational needs. The session will last about 30 to 40 minutes. Your responses will be treated with utmost confidentiality, and no information that identifies you will be included in our report. All the information you provide shall be stored, used and processed only for research purposes. The findings of the study will provide empirical evidence to guide policies that would enhance the provision of inclusive education for learners with disabilities and special educational needs.

In case you need more information about the study, you may contact the person(s) listed on this card.

Would you be willing to help us with our research and participate in our study/survey?

Yes

No

---

Name of Participant

---

Date

---

Signature

### **Definitions:**

For the purpose of this using this rubric, it is important you understand some terminologies or definitions so as to ensure mutual understanding of these terminologies throughout the interview.

### **Learners with Special Educational Needs (SEN)**

Learners with special educational needs include persons with hearing impairment, persons with visual impairment, persons with intellectual disability, persons with physical disability, persons with deaf-blindness, persons with multiple disabilities, persons with speech and communication disorders, persons with attention deficit, hyperactivity disorder, gifted and talented persons, persons with specific learning disability, persons with autism, persons with other health impairment (asthma, etc), children displaced by natural catastrophes and social conflicts, nomadic children (shepherd boys, fisher-folks' children and domestic child workers), children living in extreme social and economic deprivation, children exploited for financial purpose, orphans and children who are not living with their biological parents. It also includes a wide variety of reasons that are known to act as barriers to the optimal progress in learning and development of the child.

**Inclusive Education (IE)**

Inclusion is defined in its broadest sense as ensuring access and learning for all children: especially those disadvantaged from linguistic, ethnic, gender, geographic or religious minority, from an economically impoverished background as well as children with special needs including those with disabilities.

**Learners with Disabilities**

Persons pursuing education in a formal, non-formal or informal, public or private education setting, who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.

**Accessibility**

Accessibility refers to the design of products, devices, services, or environments for people with disabilities, so that barriers that limit their movements, senses, or activities are removed.

**Universal Design for Learning**

The architectural principles of *Universal Design for Learning (UDL)* serve the general purpose of making learning accessible to more learners in inclusionary programmes. The idea is that with modifications of *representation* (materials), *expression* (methods of communication), and *engagement* (how learners respond to curriculum) a much wider range of learners can be included in regular classroom instruction. The principle of Universal Design for Learning (UDL) offers:

- *Multiple means of representation*, to give learners various ways of acquiring information and knowledge;
- *Multiple means of expression*, to provide learners alternatives for demonstration of what they know; and
- *Multiple means of engagement*, to tap into learners’ interests, offer appropriate challenges, and increase motivation.

**College of Education (CoE)**

A college of education refers to a professional institution where school teachers are trained.

**College Principal (CP)**

This refers to a member of staff with the most responsibility for the day to day management of the college. He/she is also the administrative head of the college of education.

The College Principal instrument will be admin

**College Tutor (CT)**

A college tutor is an individual charged with the responsibility to instruct and guide students in a particular subject area. Tutors also have the responsibility to encourage and assist their students to gain mastery in the subjects they are taught so as to make them competent and prepared as professional teachers.

**Student Teacher (ST)**

These are individuals who have gained admission to a college of education to be instructed and guided into becoming professional teachers.

**NAME OF COLLEGE:** .....

**COLLEGE**

**ID:** \_|\_|\_|\_

Region: |\_|\_|\_|  
 District: |\_|\_|\_|\_|  
 Date of interview: |\_|/|\_|/|\_|  
 Enumerator’s name: |\_|\_|\_|  
 Supervisor’s name: |\_|\_|\_|

**Section A: General Information**

1	What is your position in this college	1. Principal 2. Assistant principal 3. Other (specify) .....
2	How many years have you been in this role/position?	/_/_/_/
3	Does the college have students with special educational needs?	<b>1. Yes</b> <b>2. No</b>
4	If Yes, how many?	.....

\*(Someone in the college's admission office can be asked a few questions about the # of applicants with special needs and their acceptance rate compared with applicants without special needs)

**SECTION B: Compliance with Inclusive Education Policy (and accompanying Standards and Guidelines)**

		Always	Very Often	Sometimes	Rarely	Never
1	The college admits applicants with special educational needs.	1	1	0	0	-1
2	Admission of students with special needs to this college is on a concessionary basis.	1	1	0	0	-1
3	The college collaborates with local communities to create awareness on disability issues.  Kindly Provide examples: .....	1	1	0	0	-1
4	The college collaborates with local communities to create awareness on inclusive education.  Kindly Provide examples: .....	1	1	0	0	-1
5	The college enforces a non-discrimination policy for students with special needs.	1	1	0	0	-1
6	This college has sanctions in place for discriminating against students with special needs.	1	1	0	0	-1

7	The college has a qualified special educational needs coordinator.	1	1	0	0	-1
8	"Person First" language is used by members of the college in making reference to persons with special educational needs in the college (e.g. 'person with disability' and not 'disabled person').	1	1	0	0	-1
9	The curricular used in the college reflect Universal Design for Learning (See List of Definitions)	1	1	0	0	-1
10	Student teachers are trained in applying inclusive practices in their (future) classrooms.	1	1	0	0	-1
11	Student teachers with special educational needs are given more time to complete assessment tasks (depending on their unique needs).	1	1	0	0	-1
12	Student teachers who require assistive technology (e.g. white canes, special computers, hearing aids, etc.) are allowed to use them without restriction.	1	1	0	0	-1
13	Student teachers with special educational needs have their needs considered when decisions regarding assignment to residential facilities are being made (including the hall, the floor (level), the room, bed, etc.)	1	1	0	0	-1
14	Student teachers with special educational needs have their needs considered when decisions regarding assignment to a partner school are being made	1	1	0	0	-1
15	Tutors in this college are trained to identify student teachers with special educational needs.	1	1	0	0	-1
16	Tutors employ instructional methods that accommodate the full range of diversity among student teachers.	1	1	0	0	-1
17	Tutors provide student teachers with special educational needs with non-	1	1	0	0	-1

	stigmatizing attention during instructional periods.					
18	Tutors provide formative feedback to student teachers with special educational needs.	1	1	0	0	-1
19	Tutors employ alternative assessment tasks to help students with special educational needs work better.	1	1	0	0	-1

**SECTION C: Observation of the Physical Environment (To be completed through observation by the enumerator)**

**Clearly evident means (4)** - The description fits in all or most of the observed item(s) /space(s)/ building(s) (80-100%)

**Moderately evident means (3)**– The description fits in about half to three-quarters of the observed item(s)/space(s)/building(s) (40-80%) time, etc.

**Little evidence means (2)** - The description fits in only about a quarter to one-third of the observed item(s)/space(s)/building(s) (10-40%)

**Virtually Non-existent means (1)** – The description fits in less than one-tenth of the observed item(s)/space(s)/building(s) (0-10 %)

**Not Applicable (0)** – The item(s)/space(s)/building(s) to be observed is not available on the college premises

		Dormitory					Classroom building					Library					Workshop/Laboratory					Administration building					Recreational facility									
		# Observed.....					# Observed.....					# Observed .....					# Observed					# Observed					# Observed									
	Observation codes	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0
1	There are ramps (or elevators) that serve as alternative access routes to this place.	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0
2	Ramps are gentle (i.e. not steep)	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0
3	Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0
4	There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0
5	Floor or ground surfaces are stable, firm and slip resistant	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0
6	Toilet facilities have grab bars for users who would require them.	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0	1	1	0	-1	0

		<b>Clearly Evident</b>	<b>Moderately Evident</b>	<b>Little evidence</b>	<b>Virtually Non-existent</b>	<b>Not Applicable</b>
1	There are ramps (or elevators) as alternative access routes to places that staircases lead to.	1	1	0	-1	0
2	There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	1	1	0	-1	0
3	All ramps on campus are gentle (i.e. not steep)	1	1	0	-1	0
4	Ramps have landings at appropriate intervals, at both the top and bottom of the ramp.	1	1	0	-1	0
5	Each accessible entrance to a building has at least one accessible door or doorway (e.g. wide enough for a wheelchair user).	1	1	0	-1	0
6	Gutters on the college compound are adequately covered (particularly along routes that members of the college community use on a daily basis).	1	1	0	-1	0
7	Obstructions like trees, pillars and gutters are not on walkways.	1	1	0	-1	0
8	Recreational facilities are accessible to student teachers with special educational needs.	1	1	0	-1	0
9	Wheelchair users can safely use walkways/ pavements without obstructions.	1	1	0	-1	0
10	Car parks have special allotments for persons with disabilities.	1	1	0	-1	0
11	Vehicles are not parked in a manner that obstructs pedestrians (e.g. along routes that are designated as walkways for pedestrians).	1	1	0	-1	0
12	Ground surfaces on the college compound (where observed) are stable, firm and slip resistant	1	1	0	-1	0

**SCORING RUBRIC**

The following scores shall be assigned to Always (1), Very often (1), Sometimes (0), Rarely (-1) and Never (-1). A highly compliant college of education (CoE) should have a minimum net score of 10 and a moderately compliant CoE should have a minimum net score of 5. Any school that fails to obtain a minimum net score of 5 shall be rated as poor in its compliance with inclusive education (IE) policy.

Both “Clearly evident” and “Moderately evident” under the physical environment section shall be assigned a score of 1, “Virtually non-existent” shall be assigned a score of -1 whilst “Little evidence” and “Not applicable” get a score of 0. A total maximum net score of 48 could be obtained for the six focal facilities under consideration. However, any college of education that obtains a minimum net score of 28 shall be rated highly compliant under this sub-indicator, whilst colleges moderately compliant with IE with respect to infrastructure should obtain at least a net score of 14 and all others shall be rated poorly compliant.

Overall, a college of education shall be rated as highly compliant with IE policy supported by the necessary infrastructure when it scores at least 38, whilst colleges with moderate performance should have a minimum net score of 19. The table below provides a summary of the scoring rubric.

**Table AP1.1A Summary of scoring rubric for CoEs**

<b>Indicator</b>	<b>Excellent</b>	<b>Moderate</b>	<b>Poor</b>
Compliance with Inclusive Education Policy (and accompanying Standards and Guidelines)	10 - 19	5 - 9	Less than 5
Observed physical environment	28 - 48	14 - 27	Less than 14
Total	38 - 67	19 - 36	Less than 19

## **Table AP 1.2: Student Teacher Instrument**

**National Council for Tertiary Education (NCTE)  
and  
Transforming Teacher Education and Learning (T-TEL)  
Study on  
Inclusive Education: Learners with Disabilities and Special Education Needs in Ghana  
Questionnaire for Student-Teachers at Colleges of Education**

### ***Introduction and Consent***

This research is being conducted on behalf of the National Council for Tertiary Education (NCTE) and Transforming Teacher Education and Learning (T-TEL), Ghana, on *Inclusive Education* practices at Colleges of Education (CoEs) in Ghana. The information we collect will help the government (Ministry of Education) and other stakeholders to plan education delivery, especially as it relates to learners with disabilities and special educational needs. Your college of education was selected for the study. I would like you to answer the questions in this questionnaire. The items are related to your college and its practices relating to inclusive education, particularly, with respect to learners with disabilities and special educational needs. Your responses will be treated with utmost confidentiality, and no information that identifies you will be included in our report. All the information you provide, shall be stored, used and processed only for research purposes. The study will provide empirical evidence to guide policies that will enhance inclusive education for learners with disabilities and special educational needs.

### **Definitions:**

For the purpose of this questionnaire, it is important you understand some terminologies or definitions so as to ensure mutual understanding of these terminologies throughout the interview.

#### **1) Learners with Disabilities**

Persons pursuing education in a formal, non-formal or informal, public or private education setting at all educational levels who have long-term physical, mental, intellectual or sensory impairments that, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.

#### **2) Learners with Special Educational Needs (SEN)**

For the purpose of this study, learners with special educational needs are people who have a disability, including visual, hearing, locomotor, or intellectual impairments and those people who are failing in school, as well as a wide variety of reasons that are known to act as barriers to their optimal progress in learning and development. [*Please see Table 1 attached*]

#### **3) Inclusive Education (IE)**

Inclusion is defined in its broadest sense as ensuring access and learning for all students, especially those disadvantaged from linguistic, ethnic, gender, geographic or religious minority, from an economically impoverished background as well as children (and student teachers) with special needs including those with disabilities.

### **Section A: Demographic Data**

1. What is your age? ..... years
2. What is your sex?
  - Female
  - Male
3. A) What teacher training certification are you studying for?
  - DBE
  - BEd
  - Other (please specify) .....

B) Which year of college are you in?

- First year
- Second year
- Third year

**Section B: Knowledge of and Training on Special Needs/Inclusive Education**

4. What are you training to become?
- General education teacher
  - Early childhood education teacher
  - ICT Teacher
  - Other (please specify).....
5. A) Do you have any idea what inclusive education (IE) means? [
- Yes
  - No
  - Not sure
- B) Do you have any idea what special educational needs (SEN) means?
- Yes
  - No [Skip to Q8?]
  - Not sure
6. Are you receiving training in special educational needs at your CoE?
- Yes
  - No
  - Don't know
7. Are you receiving training in inclusive education at your CoE?
- Yes
  - No
  - Don't know
8. A) Are you currently taking (or have you taken) any course specifically designed to increase your effectiveness in teaching students with special educational needs?
- Yes. [If yes, skip to Question 9].
  - No.
- B) If you wanted to take such a course, do you know whether it would be possible to do so at your college?
- Yes
  - No
  - Don't know
9. With which of the following special educational needs can you identify when present in your future classroom?
- |  |                          |
|--|--------------------------|
| a) Pupils with Hearing Impairment  | <input type="checkbox"/> |
| b) Pupils with Visual Impairment   | <input type="checkbox"/> |
| c) Pupils with both Hearing and Visual Impairment                          | <input type="checkbox"/> |
| d) Pupils with Physical Disability (mobility impairment, hunch back, etc.) | <input type="checkbox"/> |
| e) Pupils with Intellectual Disability                                     | <input type="checkbox"/> |
| f) Pupils with Speech and Communication Disorders                          | <input type="checkbox"/> |
| g) Pupils with Attention Deficit   | <input type="checkbox"/> |
| h) Pupils with Specific Learning Disability                                | <input type="checkbox"/> |
| i) Pupils with Autism  | <input type="checkbox"/> |

- j) Pupils with Multiple Disabilities
  - k) Pupils with Emotional and Behaviour Disorder
  - l) Pupils with other health impairment and chronic diseases (Rheumatism, Epilepsy, Asthma, Spina Bifida and Sickle Cell Anaemia, etc.)
  - m) Street Children
  - n) Nomadic children (shepherd boys, fisher-folks' children and domestic child workers)
  - o) Children exploited for financial purposes
  - p) Children living with HIV/AIDS
  - q) Hyperactivity Disorder
  - r) Children displaced by Natural Catastrophes and Social Conflicts
  - s) Gifted and Talented Pupils
  - t) Pupils with Albinism
  - u) Other, please specify
- .....

**Section C: Student-Teachers awareness**

[Enumerator: I am about to list a number of items to which you should kindly indicate the extent to which you agree with them. Please answer using this rating scale:

**SD=Strongly Disagree; D=Disagree; DN=Don't know; A=Agree; SA=Strongly Agree; NA=Not Applicable**

	Statement	SD 1	D 2	DN 3	A 4	SA 5
1	The college's assessment procedures are fair for all student teachers, including those with special educational needs.					
2	The college's learning materials are accessible and appropriate for all student-teachers, including those with special educational needs.					
3	The training you are receiving in your college includes training on inclusive education that is sufficiently broad to enable you to provide a quality education to students with special educational needs in your future classroom.					
4	The training you are receiving in your college equips you with relevant teaching and learning strategies to meet the needs of all learners in your future classroom.					
5	I personally know one or more colleagues who have special educational needs in this college					
6	Teaching practice internships for all student teachers are organised in inclusive settings.					
7	The college permits student-teachers to record their answers on tape recorder, or word processor where the student-teacher has difficulty in writing.					
8	The college provides large print question papers for student-teachers with low vision.					
9	The college provides Braille versions of question papers for the blind.					

10	The college provides computers on which student teachers with visual impairments can use to take examinations.					
11	Since the time you were admitted into this college, the college has modified its physical infrastructure to enhance opportunities for student teachers with special educational needs.					
12	The college has made it known to all student teachers that supports can be provided for student teachers with special educational needs, once those needs are disclosed.					

[Enumerator: I am about ask a number of questions to which you should kindly respond. Please answer by indicating **either 'yes', 'no' or 'don't know'**

	<b>Statement</b>	<b>Yes 1</b>	<b>No 2</b>	<b>Don't Know 3</b>
13	Does your college have a qualified special educational needs coordinator? [ If Yes, Skip to 15]			
14	If so, who is that person?.....			
15	Does your college collaborate with the community to create awareness on disability issues to foster attitudinal change?			
16	Are there formal mechanisms within your college to consider and address concerns or complaints of student-teachers with special educational needs?			
17	Does your college have any policy on Inclusive Education (IE)?			
18	Does your college have a written policy on student-teachers with special educational needs (SEN)?			
19	Does your college have a unit or department that focuses specifically on supporting student-teachers with SEN?			
20	Does your college provide training to student-teachers in inclusive education?			
21	Does your college provide training to student-teachers in special educational needs?			

**Table AP1.3: College Tutor Instrument**  
**National Council for Tertiary Education (NCTE)**  
**and**  
**Transforming Teacher Education and Learning (T-TEL)**  
**Study on**  
**Inclusive Education: Learners with Disabilities and Special Education Needs in Ghana**  
**Questionnaire for Tutors at Colleges of Education**

***Introduction and Consent***

This research is being conducted on behalf of the National Council for Tertiary Education (NCTE) and Transforming Teacher Education and Learning (T-TEL), Ghana, on *Inclusive Education* practices at Colleges of Education (CoEs) in Ghana. The information we collect will help the Ministry of Education and other stakeholders to plan education delivery, especially as it relates to learners with disabilities and special educational needs. Your college of education was selected for the study. I would like to ask you some questions about your college and its practices relating to inclusive education, particularly, with respect to learners with disabilities and special educational needs. The interview will last about 20 to 30 minutes. Your responses will be treated with utmost confidentiality, and no information that identifies you will be included in our report. All the information you provide, shall be stored, used and processed only for research purposes. It is anticipated that the findings of the study will provide empirical evidence to guide policies that will enhance inclusive education for learners with disabilities and special educational needs.

**Definitions:**

For the purpose of this interview, it is important you understand some terminologies or definitions so as to ensure mutual understanding of these terminologies throughout the interview.

**Learners with Disabilities**

Persons pursuing education in a formal, non-formal or informal, public or private education setting at all educational levels who have long-term physical, mental, intellectual or sensory impairments that in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

**Learners with Special Educational Needs (SEN)**

Learners with special educational needs include persons with hearing impairment, persons with visual impairment, persons with intellectual disability, persons with physical disability, persons with deaf-blindness, persons with multiple disabilities, persons with speech and communication disorders, persons with attention deficit, hyperactivity disorder, gifted and talented persons, persons with specific learning disability, persons with autism, persons with other health impairment (asthma, etc), children displaced by natural catastrophes and social conflicts, nomadic children (shepherd boys, fisher-folks' children and domestic child workers), children living in extreme social and economic deprivation, children exploited for financial purpose, orphans and children who are not living with their biological parents. It also includes a wide variety of reasons that are known to act as barriers to the optimal progress in learning and development of the child

**Inclusive Education (IE)**

Inclusion is defined in its broadest sense as ensuring access and learning for all students, especially those disadvantaged from linguistic, ethnic, gender, geographic or religious minority, from an economically impoverished background as well as children (and student teachers) with special needs including those with disabilities.

**Section A: Demographic data**

1-What is your age?

- 20-29
- 30-39
- 40-49

- 50 or over

2-What is your sex?

- Female
- Male

3-Are you a trained teacher?

- Yes
- No [Skip to Q5]

4 What is your training status?

- General education teacher
- Special educational needs teacher
- Early childhood development
- ICT

5-What is the highest level of education you have completed?

- Diploma in Basic Education
- Bachelor's degree in Education
- Bachelor's degree other than BEd
- Post-Graduate Diploma in Education
- 
- Master's degree
- Other (please specify) .....

6- How many years of experience do you have as a tutor?.....years

**Section B: Knowledge of and Training in Inclusive/Special Educational Needs**

1. Have you had any training in special education needs?

- Yes
- No [skip to Q4]

2. Where did you receive this training?

- Teacher training college
- University
- Special training programme on special needs education
- Other (please specify) .....

3. What was the duration of the training? [days/months/years]

3.b How would you rate the adequacy of the duration of the training

- Very inadequate
- Inadequate
- Somewhat adequate or Fair
- Adequate
- Very Adequate

3c. Which of the following disabilities and/or special educational needs have you been trained to identify? [Tick all that apply]

	Disability	
i	Student-teachers with Hearing Impairment	
ii	Student-teachers with Visual Impairment	
iii	Student-teachers with Intellectual Disability	
iv	Student-teachers with physical disability	
v	Student-teachers with Deaf-blindness	
vi	Student-teachers with Multiple disabilities.	
vii	Student-teachers with Speech and Communication disorders	
viii	Student-teachers with Attention Deficit Hyperactivity Disorder	
ix	Gifted and Talented student-teachers	

x	Student-teachers with Specific Learning Disability	
xi	Student-teachers with Autism	
xii	Student-teachers with Emotional and behaviour order	
xiii	Student-teachers with other health impairment (asthma, etc)	
xiv	Student-teachers displaced by natural catastrophes and social conflicts	
xv	Student-teachers living in extreme social and economic deprivation	
xvi	Student-teachers exploited for financial purpose	
xvii	Student-teachers who are not living with their biological parents	
xviii	Student-teachers living with HIV/AIDS	

4. Have you had any training in inclusive education?

- Yes
- No [skip to Q7]

5. Where did you receive this training?

- Teacher training college
- University
- Special training programme on special needs education
- Other (please specify).....

6a. What was the duration of the training? [days/months/years]

6b. How would you rate the adequacy of the duration of the training

- Very inadequate
- Inadequate
- Somewhat adequate or Fair
- Adequate
- Very Adequate

7. Did you take a CoE or university course specifically designed for working with students with special educational needs?

- Yes
- No

8. Do you currently have any student-teachers with special educational needs in your classroom?

- Yes
- No [skip to 9]

8b. What type of special educational needs do they have?

	Disability	Tick all that apply	Number
i	Student-teachers with Hearing Impairment		
ii	Student-teachers with Visual Impairment		
iii	Student-teachers with Intellectual Disability		
iv	Student-teachers with physical disability		
v	Student-teachers with Deaf-blindness		
vi	Student-teachers with Multiple disabilities.		
vii	Student-teachers with Speech and Communication disorders		
viii	Student-teachers with Attention Deficit Hyperactivity Disorder		
ix	Gifted and Talented student-teachers		
x	Student-teachers with Specific Learning Disability		
xi	Student-teachers with Autism		
xii	Student-teachers with Emotional and behaviour order		
xiii	Student-teachers with other health impairment (asthma, etc)		

xiv	Student-teachers displaced by natural catastrophes and social conflicts		
xv	Student-teachers living in extreme social and economic deprivation		
xvi	Student-teachers exploited for financial purpose		
xvii	Student-teachers who are not living with their biological parents		
xviii	Student-teachers living with HIV/AIDS		

9. Have you ever had student-teachers with special educational needs in your classroom?

- Yes
- No [skip to next section]

10. In a typical year, about how many students with special educational needs would you have in any of your classes? .....

### Section C: Tutors' knowledge and awareness

11	Ghana's Inclusive Education Policy and related documents...	True	False
a	require that tutors at colleges be trained in the diagnosis of student-teachers with special educational needs		
b	do not require colleges to provide concessionary admission to candidates who manifest or disclose special needs when colleges are not able to accommodate these needs.		
c	require colleges of education to collaborate with their local communities to create awareness on disability issues		
d	do not require partner schools to ensure that teaching practice internships focus on practices for inclusive education.		
e	require colleges of education to ensure that their learning environment is free from discrimination for students with special educational needs and that sanctions are in place for those who transgress this requirement		
f	suggest that the use and implementation of Universal Design for Learning are not yet expectations for Ghana's schools		

12	Colleges' compliance with national policies and requirements	Yes	No
a	Does your college monitor its compliance with the government's policy on inclusive education?		
b	Does your college have a person or office responsible for monitoring compliance with the government's policy on inclusive education?		
c	Does your college have a qualified special educational needs coordinator? If yes, who is that person?		
d	Are your college's admission procedures suitable for prospective students with special educational needs?		
e	Does your college have a record of all the types of special educational needs among your student-teachers?		
f	Are there formal mechanisms within your college to address concerns or complaints of student-teachers with special educational needs?		
g	Does your college have written policies on Inclusive Education (IE), particularly relating to student-teachers with special educational needs (SEN)?		
h	Does your college have a unit or department that focuses specifically on the training of student-teachers with SEN?		
i	Does your college provide training to student-teachers on		

	inclusive education?		
j	Does your college provide training to student-teachers on special educational needs?		

To what extent do you agree with the statements below? Please rate the following statements by checking the box corresponding to your response using this scale:

SD=Strongly Disagree; D=Disagree; NS=Not sure; A=Agree; SA=Strongly Agree

	<b>Colleges' commitment to the needs of student-teachers with special educational needs</b>	SD	D	NS	A	SA	NA
1	The college's curriculum is appropriate for all student-teachers, including those with special educational needs.						
2	The college's assessment procedures are fair to all student-teachers, including those with special educational needs.						
3	The college's learning materials are accessible and appropriate for all student-teachers, including those with special educational needs.						
4	The training of student-teachers includes training on inclusive education that is sufficiently broad to enable student-teachers to provide a quality education to students with special educational needs.						
5	The training of student-teachers at your college equips them with relevant teaching strategies to meet the needs of all learners, including those with special educational needs.						
6	The college makes use of support services (resource teachers, assessment personnel, health workers, psychologists, etc.) to identify and work with student-teachers with special educational needs.						
9							
10	Teaching practice internships for all student-teachers include sessions on inclusive education.						
11	The college, where appropriate, provides appropriate assistive devices to support classroom teaching in an inclusive school environment.						
12	The college makes use of sign language interpreters to sign for the hearing-impaired during classroom instruction and examination.						
13	The college permits student-teachers to record their answers on tape recorder, or word processor where the student-teacher has difficulty in writing.						
14	The college provides large print question papers for student-teachers with low vision.						
15	The college provides Braille versions of question papers for the blind.						
16	Since the time that you began working at this college, the college has modified its physical infrastructure to enhance opportunities for student-teachers with special educational needs.						

34a. How would you rate your college's commitment to Inclusive Education?

- Poor

- Satisfactory
- Good
- Very good

34b. How would you rate your college's commitment to SEN?

- Poor
- Satisfactory
- Good
- Very good

53. What do you consider to be some of the barriers to the implementation of Inclusive Education practices in your college? [Please check 3 most important]

- Specialized Training in Special Education
- Teacher's reluctance
- Curriculum
- School Unit Infrastructure
- Parents' attitudes
- Incomplete Funding
- Legislative framework
- Special and General teacher collaboration
- Large number of children in the classroom
- Failure to provide appropriate special education staff
- Other (please specify) .....

## **Table AP1.4: Basic School Teacher**

### **National Council for Tertiary Education (NCTE) Transforming Teacher Education and Learning (T-TEL) Study on**

### ***Inclusive Education: Learners with Disabilities and Special Educational Needs in Ghana***

#### **Questionnaire for Teachers in Public Basic Schools**

#### ***Introduction and Consent***

Good morning/ afternoon. My name is ..... I work with Research Trust Limited and we are conducting research on behalf of the National Council for Tertiary Education (NCTE) and Transforming Teacher Education and Learning (T-TEL), Ghana, on *Inclusive Education* practices at Colleges of Education (CoEs) in Ghana. The information we collect will help the Ministry of Education and other stakeholders to plan education delivery, especially as it relates to learners with disabilities and special educational needs. Your school was selected for the study. I would like to ask you some questions about your school and its practices relating to inclusive education, particularly, with respect to learners with disabilities and special educational needs. The interview will last about 20 to 30 minutes. Your responses will be treated with utmost confidentiality, and no information that identifies you will be included in our report. All the information you provide, shall be stored, used and processed only for research purposes. It is anticipated that the findings of the study will provide empirical evidence to guide policies that will enhance inclusive education for learners with disabilities and special educational needs.

If you need more information about the study, you may contact the person(s) listed on this card.

Would you be willing to help us with our research and participate in our study/survey? Yes/ No.

#### **Definitions:**

For the purpose of this interview, it is important you understand some terminologies or definitions so as to ensure mutual understanding of these terminologies throughout the interview.

#### **Learners with Disabilities**

Persons pursuing education in a formal, non-formal or informal, public or private education setting at all educational levels who have long-term physical, mental, intellectual or sensory impairments that, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.

#### **Learners with Special Educational Needs (SEN)**

Learners with special educational needs include persons with hearing impairment, persons with visual impairment, persons with intellectual disability, persons with physical disability, persons with deaf-blindness, persons with multiple disabilities, persons with speech and communication disorders, persons with attention deficit, hyperactivity disorder, gifted and talented persons, persons with specific learning disability, persons with autism, persons with other health impairment (asthma, etc), children displaced by natural catastrophes and social conflicts, nomadic children (shepherd boys, fisher-folks' children and domestic child workers), children living in extreme social and economic deprivation, children exploited for financial purpose, orphans and children who are not living with their biological parents. It also includes a wide variety of reasons that are known to act as barriers to the optimal progress in learning and development of the child

#### **Inclusive Education (IE)**

Inclusion is defined in its broadest sense as ensuring access and learning for all children: especially those disadvantaged from linguistic, ethnic, gender, geographic or religious minority, from an economically impoverished background as well as children with special needs including those with disabilities.

## Questionnaire for Teachers in Public Basic Schools

Name of school:

School is partner school:

1. Yes

2. No

Name of CoE affiliated to:

Date of interview:

\_\_/\_\_/\_\_

Enumerator's name:

Supervisor's name:

### Section A: Demographic data

1. What is your age?

20-29

30-39

40-49

50 or over

2. What is your sex?

Female

Male

3a. Are you a trained teacher?

Yes

No [Skip to Q4a]

3b. What is your training status?

General education teacher

Special needs teacher

Early childhood development

ICT

4a. What certification do you have?

DBE

BEd

Bachelor's degree other than BEd

Post-Graduate Diploma in Education

Master's degree

Other (please specify) .....

4b. At which college of education or university did you receive this certification?.

6. How many years of experience do you have as a teacher? ..... years

7. Grade level that you currently teach:

Lower primary

Upper primary

JHS

8. Subject(s) that you currently teach (*Please check all that apply*)

English Language

Mathematics

Religious and moral education (RME)

Information communication technology (ICT)

- Social studies
- Ghanaian language
- Citizenship
- Integrated science
- French
- Music
- Basic design and technology (BDT)
- Other (please specify) .....
- Other (please specify) .....

**Section B: Training and Experience in Inclusive Education and Special Educational Needs**

- 9a. Did you receive training at your CoE on Inclusive Education?
- Yes
  - No [Skip to Q10a]
- 9b. What was the duration of the training?
- Week
  - Month
  - Year
- 9c. How would you rate the adequacy of the duration of the training
- Very inadequate
  - Inadequate
  - Somewhat adequate or Fair
  - Adequate
  - Very Adequate
- 10a. Did you receive training at your CoE on how to teach pupils with SEN effectively?
- Yes
  - No [Skip to Q12]
- 10b. What was the duration of the training?
- Week
  - Month
  - Year
- 10c. How would you rate the adequacy of the duration of the training
- Very inadequate
  - Inadequate
  - Somewhat adequate or Fair
  - Adequate
  - Very Adequate
12. Did you benefit from teaching practice/internships on IE, including how to teach pupils with SEN?
- Yes
  - No [Skip to Q16a]
14. What was the duration of the training?
- Week
  - Month
  - Year
15. How would you rate the adequacy of the duration of the training
- Very inadequate
  - Inadequate
  - Somewhat adequate or Fair

- Adequate
- Very Adequate

16a. Have you received any in-service training on Inclusive Education?

- Yes
- No [Skip to Q17a]

16b. What was the duration of the training?

- Week
- Month
- Year

16c. How would you rate the adequacy of the duration of the training

- Very inadequate
- Inadequate
- Somewhat adequate or Fair
- Adequate
- Very Adequate

17a. Have you received any in-service training on IE, including how to handle pupils with SEN?

- Yes
- No

17b. What was the duration of the training?

- Week
- Month
- Year

17c. How would you rate the adequacy of the duration of the training

- Very inadequate
- Inadequate
- Somewhat adequate or Fair
- Adequate
- Very Adequate

19. In which of the following disabilities and/or special educational needs have you been trained to identify? [*Tick all that apply*]

- |  |                          |
|--|--------------------------|
| a) Pupils with Hearing Impairment  | <input type="checkbox"/> |
| b) Persons with Visual Impairment  | <input type="checkbox"/> |
| c) Pupils with Deaf-Blindness  | <input type="checkbox"/> |
| d) Pupils with Physical Disability   | <input type="checkbox"/> |
| e) Pupils with Intellectual Disability   | <input type="checkbox"/> |
| f) Pupils with Speech and Communication Disorders  | <input type="checkbox"/> |
| g) Pupils with Attention Deficit   | <input type="checkbox"/> |
| h) Pupils with Specific Learning Disability  | <input type="checkbox"/> |
| i) Pupils with Autism  | <input type="checkbox"/> |
| j) Pupils with Multiple Disabilities   | <input type="checkbox"/> |
| k) Pupils with Emotional and Behaviour Disorder  | <input type="checkbox"/> |
| l) Pupils with other health impairment and chronic diseases (such as Rheumatism, Epilepsy, Asthma, Spina Bifida or Sickle Cell Anaemia, Albinism etc.) | <input type="checkbox"/> |
| m) Street Children   | <input type="checkbox"/> |
| n) Nomadic children (shepherd boys, fisher-folks' children and   | <input type="checkbox"/> |

domestic child workers)

- o) Children exploited for financial purposes
  - p) Children living with HIV/AIDS
  - q) Pupils with Hyperactivity Disorder
  - r) Children displaced by Natural Catastrophes and Social Conflicts
  - s) Gifted and Talented Pupils
  - t) Other, please specify
- .....

20. Do you currently have any pupils with special educational needs in your classroom?
- o Yes
  - o No [skip to Q22]
  - o Don't know [skip to Q22]

21. What type of special educational needs do they have?

	Tick all that apply	Number
a) Pupils with Hearing Impairment	<input type="checkbox"/>	<input type="checkbox"/>
b) Pupils with Visual Impairment	<input type="checkbox"/>	<input type="checkbox"/>
c) Pupils with Deaf-Blindness	<input type="checkbox"/>	<input type="checkbox"/>
d) Pupils with Physical Disability	<input type="checkbox"/>	<input type="checkbox"/>
e) Pupils with Intellectual Disability	<input type="checkbox"/>	<input type="checkbox"/>
f) Pupils with Speech and Communication Disorders	<input type="checkbox"/>	<input type="checkbox"/>
g) Pupils with Attention Deficit	<input type="checkbox"/>	<input type="checkbox"/>
h) Pupils with Specific Learning Disability	<input type="checkbox"/>	<input type="checkbox"/>
i) Pupils with Autism	<input type="checkbox"/>	<input type="checkbox"/>
j) Pupils with Multiple Disabilities	<input type="checkbox"/>	<input type="checkbox"/>
k) Pupils with Emotional and Behaviour Disorder	<input type="checkbox"/>	<input type="checkbox"/>
l) Pupils with other health impairment and chronic diseases (such as Rheumatism, Epilepsy, Asthma, Spina Bifida and Sickle Cell Anaemia, Albinism, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
m) Street Children	<input type="checkbox"/>	<input type="checkbox"/>
n) Nomadic children (shepherd boys, fisher-folks' children and domestic child workers)	<input type="checkbox"/>	<input type="checkbox"/>
o) Children exploited for financial purposes	<input type="checkbox"/>	<input type="checkbox"/>
p) Children living with HIV/AIDS	<input type="checkbox"/>	<input type="checkbox"/>
q) Pupils with Hyperactivity Disorder	<input type="checkbox"/>	<input type="checkbox"/>
r) Children displaced by Natural Catastrophes and Social Conflicts	<input type="checkbox"/>	<input type="checkbox"/>
s) Gifted and Talented Pupils	<input type="checkbox"/>	<input type="checkbox"/>
t) Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>

.....

22. Have you ever taught students with SEN?

- Yes
  - No [skip to next section]
23. At which grade?
- Lower primary
  - Upper primary
  - JHS
24. For how many years? .....
25. In a typical week, about how many students with SEN would you have in any of your classes? [Count all, but not the same pupils twice]. ..... number

**Section C: Awareness and Knowledge of National Policies on Inclusive Education**

26. Are you aware of the existence of a national policy on inclusive education?
- Yes
  - No
27. Are you aware of the existence of a national standards and guidelines on the practice of inclusive education?
- Yes
  - No
28. How knowledgeable are you about national policies and standards and guidelines on inclusive education (IE) and students with special educational needs (SEN)?
- No knowledge [skip to Q33]
  - Moderately knowledgeable
  - Knowledgeable
  - Very knowledgeable
29. Ghana's Inclusive Education Policy and related documents require that teachers at basic schools be trained on the identification of pupils with special educational needs. *True or false?*
- True
  - False
30. Ghana's Inclusive Education Policy and related documents require that teachers at basic schools to collaborate with their local communities to create awareness on disability issues. *True or false?*
- True
  - False
31. Basic schools must ensure that their learning environment is free from discrimination for students with special needs and that sanctions are in place for those who transgress this requirement. *True or false?*
- True
  - False
32. The use and implementation of Universal Design for Learning are not yet expectations for Ghana's schools. *True or false?*
- True
  - False
33. . Does your school have a qualified special educational needs coordinator(s)?
- Yes. No. [skip to Q35b]
34. Don't knowWho is this person? [name].
- 
35. Do you know what their responsibilities are?
- Yes

- No

35b. To what extent do you agree with the statements below? Please rate the following by circling your most appropriate answer using the response scale given below:

SD=Strongly Disagree; D=Disagree; NS=Not sure; A=Agree; SA=Strongly Agree

		1 SD	2 D	3 NS	4 A	5 SA
(i)	I have had adequate training to meet the needs of students with special needs in my classroom					
ii	I am confident in my ability to teach children with special needs					
iii	I become easily frustrated when teaching students with special needs					
iv	I become anxious when I learn that a student with special needs will be in my classroom					
v	I believe that students with special needs learn better with their peers (classmates) in inclusive class					
vi	I have noticed that the inclusion of students with special needs in regular classroom is beneficial to other students					
vii	I have noticed that students with special needs benefit from the inclusive programme in regular classrooms					
viii	I believe that teachers should use different methods of teaching to satisfy the needs of students with different abilities					
ix	I believe that teachers should have opportunities to make modification to the syllabus and teaching materials while teaching in inclusive class					
x	I feel that inclusive practices will be easier to carry out in a smaller class					
xi	I am able to manage the behaviour of students with special needs in the classroom					
xii	Assessing students with special needs is difficult					
xiii	I am able to provide appropriate academic interventions for students with special needs in inclusion teaching					
xiv	I provide academic interventions for a certain number of weeks or months and is reviewed at set intervals					
xv	Students with special needs in the regular education classroom hinder the academic progress of the regular education student					
xvi	Special in-service training in teaching special needs students should be required for all regular education teachers					
xvii	I do not mind making physical arrangements in my room to meet the needs of students with special needs					
xviii	Adaptive materials and equipment are easily acquired for meeting the needs of students with special needs					
xix	My head teacher/master is supportive in making needed accommodations for teaching children with special needs					
xx	Students with special needs should be included in regular education classrooms					

#### Section D: Professional Development and Challenges to Inclusive Education

36. Have you ever participated in any post-qualification professional development training on how to teach students with SEN?

- Yes
- No [skip to Q39]

37. What type of professional development training did you receive? [Please check all that apply]

- Classroom management/Managing students' behaviour

- Assistive technology
- Assessment of students
- Instructional methods
- Academic interventions
- Other, please specify .....

38. The professional training received helped you to work better with students with SEN?

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

39. Do you have need for further training on SEN?

- Yes
- No [skip to 43]

40. What knowledge do you feel you need to be more effective in teaching a class that includes students with SEN (Please check as many as apply)

- Managing students' behaviour
- Assessing students' with SEN
- Providing appropriate academic interventions
- Accommodating learning challenges in inclusion teaching
- Other (Please specify) .....

41. What skills do you feel you need to be more effective in teaching a class that includes students with SEN (Please check as many as apply)

- Managing students' behaviour
- Assessing students' with special needs
- Providing appropriate academic interventions
- Accommodating learning challenges in inclusion teaching
- Other (Please specify) .....

42. In which of the following areas of SEN do you think you would benefit from training to teach pupils with SEN more effectively? [*Tick all that apply*]

- |   |                          |
|---|--------------------------|
| a) Pupils with Hearing Impairment   | <input type="checkbox"/> |
| b) Pupils with Visual Impairment  | <input type="checkbox"/> |
| c) Pupils with both Hearing and Visual Impairment   | <input type="checkbox"/> |
| d) Pupils with Physical Disability (mobility impairment, hunch back, etc.)  | <input type="checkbox"/> |
| e) Pupils with Intellectual Disability  | <input type="checkbox"/> |
| f) Pupils with Speech and Communication Disorders   | <input type="checkbox"/> |
| g) Pupils with Attention Deficit  | <input type="checkbox"/> |
| h) Pupils with Specific Learning Disability   | <input type="checkbox"/> |
| i) Pupils with Autism   | <input type="checkbox"/> |
| j) Pupils with Multiple Disabilities  | <input type="checkbox"/> |
| k) Pupils with Emotional and Behaviour Disorder   | <input type="checkbox"/> |
| l) Pupils with other health impairment and chronic diseases<br>(Rheumatism, Epilepsy, Asthma, Spina Bifida and Sickle Cell Anaemia, Albinism, etc.) | <input type="checkbox"/> |
| m) Street Children  | <input type="checkbox"/> |
| n) Nomadic children (shepherd boys, fisher-folks' children and  | <input type="checkbox"/> |

domestic child workers)

- o) Children exploited for financial purposes
  - p) Children living with HIV/AIDS
  - q) Pupils with Hyperactivity Disorder
  - r) Children displaced by Natural Catastrophes and Social Conflicts
  - s) Gifted and Talented Pupils
  - t) Other, please specify
- .....

43a. How would you rate your school's commitment to IE?

- o Poor
- o Satisfactory
- o Good
- o Very good

43b. How would you rate your school's commitment to SEN?

- o Poor
- o Satisfactory
- o Good
- o Very good

44. What do you consider to be some of the barriers to the implementation of Inclusive Education practices in your school? [*Please check 3 most important*]

- o Specialized Training in Special Education
- o Teacher's reluctance
- o Curriculum
- o School Unit Infrastructure
- o Parents' attitudes
- o Incomplete Funding
- o Legislative framework
- o Special and General teacher collaboration
- o Large number of children in the classroom
- o Failure to provide appropriate special education staff
- o Other (please specify) .....



school, as well as a wide variety of reasons that are known to act as barriers to their optimal progress in learning and development. [Please see Table 1 attached]

### **Inclusive Education (IE)**

Inclusion is defined in its broadest sense as ensuring access and learning for all students, especially those disadvantaged from linguistic, ethnic, gender, geographic or religious minority, from an economically impoverished background as well as children (and student teachers) with special needs including those with disabilities.

### **Accessibility**

Accessibility refers to the design of products, devices, services, or environments for people with disabilities, so that barriers that limit their movements, senses, or activities are removed.

### **Universal Design for Learning**

The architectural principles of *Universal Design for Learning (UDL)* serve the general purpose of making learning accessible to more learners in inclusionary programmes. The idea is that with modifications of *representation* (materials), *expression* (methods of communication), and *engagement* (how learners respond to curriculum) a much wider range of learners can be included in regular classroom instruction. The principle of Universal Design for Learning (UDL) offers:

- *Multiple means of representation*, to give learners various ways of acquiring information and knowledge;
- *Multiple means of expression*, to provide learners alternatives for demonstration of what they know; and
- *Multiple means of engagement*, to tap into learners' interests, offer appropriate challenges, and increase motivation.

### **College of Education (CoE)**

A college of education refers to a professional institution where school teachers are trained.

### **College Principal (CP)**

This refers to a member of staff with the most responsibility for the day to day management of the college. He/she is also the administrative head of the college of education.

### **College Tutor (CT)**

A college tutor is an individual charged with the responsibility to instruct and guide students in a particular subject area. Tutors also have the responsibility to encourage and assist their students to gain mastery in the subjects they are taught so as to make them competent and prepared as professional teachers.

### **Student Teacher (ST)**

These are individuals who have gained admission to a college of education to be instructed and guided into becoming professional teachers.

NAME OF COLLEGE: .....  
ID: |\_|\_|\_|

COLLEGE

2. Please tell me your name.  
[Ask about position or designation if not college principal but rather his/her delegated representative]
3. How long have you been at this position?
4. How knowledgeable are you [principal or senior administration] about national policies and standards and guidelines on inclusive education (IE) and students with special educational needs (SEN)? [Use the following scales]  
  
i) No information      (ii) Some information      (iii) Know      (iv) Know well      (v) Know very well
4. Please tell me whether you think the following statements are **true** or **false**.  
*Ghana's Inclusive Education Policy and related documents,*
  - i. Require that tutors at CoEs be trained in the diagnosis of student-teachers with special educational needs. *True or false?*
  - ii. Do not require colleges to provide concessionary admission to candidates who manifest or disclose special needs when colleges are not able to accommodate these needs. *True or false?*
  - iii. CoEs are required to collaborate with their local communities to create awareness on disability issues. *True or false?*
  - iv. Although desirable, partner schools are not required to ensure that teaching practice internships focus on practices for inclusive education. *True or false?*
  - v. CoEs must ensure that their learning environment is free from discrimination for students with special needs and that sanctions are in place for those who transgress this requirement. *True or false?*
  - vi. The use and implementation of Universal Design for Learning are not yet expectations for Ghana's schools. *True or false?*
  - vii. The Ministry of Education's *Standards and Guidelines for Practice of Inclusive Education in Ghana* require that all colleges have a qualified special educational needs coordinator. *True or False?*
5. If "True" for item (vii), who is this person at your college?
6. What has your college done since the operationalization of the Inclusive Education Policy and the standards and guidelines to ensure compliance?
7. Is there mechanism in place at your college to monitor compliance with the government's policy on inclusive education? **If No, skip to question 10**
8. How does your college monitor its compliance with the government's policy on inclusive education? Please explain.
9. How effective is the monitoring? Please explain.
10. Is there a person or office at your college responsible for monitoring compliance? If yes, who is this person at your college? If no, why not?
11. Has there been any external or independent review of your college's compliance with the government's Inclusive Education Policy? If yes, please ask when, by whom, and if RTL can have a copy of the review report.
12. The IE Policy requires the National Accreditation Board (NAB) to ensure that all tertiary institutions adhere to the principle of universal design for learning (UDL). Has the NAB ever visited your college to assess compliance with the principle? If yes, when was this visit?.

13. Do you know whether the government has issued an Implementation Plan for the Inclusive Education Policy? **If No, skip to question 15.**
- 14a. If yes, how familiar are you with the requirements for CoEs in the Implementation Plan? [*Use the following scales*]  
 i) No information ii) Some information iii) Know iv) Know well v) Know very well
- 14b. What are some of these requirements?
- 14c. How and to what extent is your college implementing these requirements?
15. For tertiary institutions, Ghana's Inclusive Education Policy requires that:  
 a) "Concessionary admission should be given to candidates who manifest special needs."  
 b) "The school should collaborate with the community to create awareness on disability issues to foster attitudinal change."
- How and to what extent have you operationalized these requirements and how do you assess your success in implementing these requirements? [*Be sure to obtain responses related to both requirements.*]
16. Does your college have any written policies on Inclusive Education, particularly relating to student-teachers with special educational needs? **If no, skip to Question 18a.** If yes, which policies? [*Please ask for copies of the policies.*]
- 17a. To what extent are the policies consistent with *current* national policies and standards.
- 17b. How does your college monitor and evaluate the implementation of these policies?
- 18a. Do your college's admission procedures make accommodations for students with special educational needs (SEN)? [*Probe both yes and no answers. For example, if yes, ask how.*]
- 18b. How would people with special educational needs (SEN) who are interested in attending your college learn whether your college can accommodate their needs? [*Probe what measures are in place for this to happen*]
- 18c. Has your college ever declined admission to a person with SEN? If yes, why? If no, why? *If respondent is unsure, ask who can answer this question and follow up with this person.*
- 19a. Do you have any student-teachers with special educational needs in your college? **If no, skip to Question 19c.**
- 19b. If yes, how many? Please complete the attached data sheet for the various kinds of special educational needs (SEN). [**Please ask respondent to complete the data sheet attached as Table 1**]. *If respondent cannot provide this information, ask who can and then obtain the information from that person.*
- 19c. What is the process by which a student-teacher with SEN would inform the college of these needs?
- 19d. If student-teachers do not self-disclose SEN, what mechanisms are in place at your college to identify student-teachers with special educational needs?
20. Does your college have a record of all the types of SEN among your student-teachers, from past years to date? Can I get a document that shows the special needs without the accompanying names of student-teachers?
21. If student-teachers with SEN do not feel their needs are addressed satisfactorily, are there *formal* mechanisms within your college to consider and address concerns or complaints? If yes, can you please describe the mechanisms? If not, why not?

22. If you have any student-teachers in your college with SEN, what are three of the most significant challenges you face having these persons in your college?
23. Are there any factors you consider in placing student-teachers with SEN in a class? If yes, what are these? If no, why not?
24. How does the school ensure that student-teachers with SEN are proportionally represented in classes, clubs, and co-curricular activities?
25. Do you have a unit or department that focuses specifically on training for student-teachers with SEN? If yes, how many full-time staff people are in this unit or department?
26. Does your college provide training to student-teachers in inclusive education? **If no, skip to Question 28.**
- 27a. Can you please describe this training?
- 27b. Is this training mandatory for all student teachers?
- 27c. How much training is provided (for example, number of courses, number of classroom hours)?
- 27d. Is it possible for a student teacher to specialize in inclusive education at your college?
28. Does your college provide training to student-teachers in SEN? **If no, skip to Question 30.**
- 29a. Can you please describe this training?
- 29b. Is this training mandatory for all student teachers?
- 29c. How much training is provided (for example, number of courses, number of classroom hours)?
- 29d. Is it possible for a student teacher to specialize in teaching children with SEN at your college?
30. Apart from student-teachers, do you have any tutors and/or staff with SEN or any form of disabilities in your college? If yes, about how many?
31. Are there any problems your college faces in training student-teachers in SEN? [*For example, attitude and availability of tutors, funding issues, curriculum issues, and coordination issues, etc.*]?
32. What are the most important factor(s) you would attribute any successes with inclusive education practices at your college?
33. What do you consider to be some of the barriers to the implementation of Inclusive Education practices in your college? [*Probe around the following factors: Specialized Training in Special Education; Teacher's reluctance; Curriculum; School Unit Infrastructure;; Incomplete Funding; Legislative framework; Special and General teacher collaboration; failure of government to provide appropriate special education staff*]
34. What suggestions do you have for improving Inclusive Education, particularly, to meet the needs of students with special educational need in Ghana?
35. How problematic is the physical accessibility of the following for persons with disabilities in your
- a) *Walkways, paths and roads*
- i) Not at all a problem    ii) Minor problem    iii) Moderate problem    iv) Serious problem

*b) Buildings*

- i) Not at all a problem    ii) Minor problem    iii) Moderate problem    iv) Serious problem

*c) Stairways*

- i) Not at all a problem    ii) Minor problem    iii) Moderate problem    iv) Serious problem

*d) Handrails*

- i) Not at all a problem    ii) Minor problem    iii) Moderate problem    iv) Serious problem

*e) Water closets and toilet compartments*

- i) Not at all a problem    ii) Minor problem    iii) Moderate problem    iv) Serious problem

36. How many student-teachers are enrolled at your college?

Thank you.

**Date of interview: [day/month/year]**

\_\_/\_\_/\_\_

**Enumerator's name and code: .....** \_\_|\_\_

Name of College:

.....

**Note: If the Principal cannot fill out this form, ask who can and follow up with that person**

Do you have learners with the following disabilities and/or special educational needs at you college? [ <i>Please tick as appropriate, and provide number if "Yes" is ticked</i> ]	Don't know	No	Yes	Number
a) Persons with Hearing Impairment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Persons with Visual Impairment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Persons with both Hearing and Visual Impairment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Persons with Physical Disability (mobility impairment, hunch back, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Persons with Intellectual Disability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Persons with Speech and Communication Disorders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Persons with Attention Deficit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Persons with Specific Learning Disability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Persons with Autism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Persons with Multiple Disabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Persons with Emotional and Behaviour Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Persons with other health impairment and chronic diseases (Rheumatism, Epilepsy, Asthma, Spina Bifida and Sickle Cell Anaemia, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Hyperactivity Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Children displaced by Natural Catastrophes and Social Conflicts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o) Gifted and Talented Persons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

.....

## Appendix AP2: Steps in Probability Proportional to Size Sampling of CoEs and Tutors

Population 1678 tutors in 46 CoEs (clusters).

Sample 320 from 10 sampled CoEs (clusters) using PPS

Calculate Prob. 1 = probability of selection of each sampled CoE

Calculate Prob. 2 = probability of selection of each individual tutor in each of sampled CoEs

Calculate the overall weight = inverse of the probability of each individual tutor being sampled in the population

Number of clusters (**d**) = 10

Sampling interval (**SI**) = Cumulative population (**b**) / Number of clusters (**d**) = 1678/10 = 168

Choose a random number between 1 and **SI** (i.e. 168) as the Random start (**RS**) point (i.e. first selected CoE or cluster). Using the Excel command: =RAND()\*168, we obtained **RS** = 86

Generate series numbers to determine the 10 CoEs (clusters) inusing:

- 1) RS = 86
- 2) RS+(1\*SI) =
- 3) RS+(2\*SI) =
- 4) RS+(3\*SI) =
- 5) RS+(4\*SI) =
- 6) RS+(5\*SI) =
- 7) RS+(6\*SI) =
- 8) RS+(7\*SI) =
- 9) RS+(8\*SI) =
- 10) RS+(9\*SI) =

Thus, the randomly selected CoEs are those whose cumulated population of tutors coincide with the 10 series of numbers above.

### Calculate probabilities:

Probability 1 =  $(a*d) / b$  i. e. Probability of selection for each sampled CoE

Probability 2 =  $c / a$  i. e. Probability of selection for each tutor in each of the sampled CoEs

Overall weight =  $1 / (\text{Prob1} * \text{Prob2})$  i. e. Inverse of the probability of each tutor being sampled from the population of CoE tutors

Where

a= number individuals in each cluster

b=sum individuals in all clusters

c=number individuals sampled per cluster

d=number sampled clusters

Table A1 presents the sampling outcomes.

### Appendix AP3: Sampled CoEs and tutors based on PPS sampling

No.	Name of CoE (cluster)	Male tutor	Female tutor	Population of tutors (a)	Cumulative population of tutors	Sampled CoEs	Prob 1	Tutors per CoE	Prob 2	Overall weight
1	Abetifi Presbyterian College of Education	33	13	46	46					
2	Accra College of Education	20	21	41	87	49	24%	32	78%	5.2
3	Ada College of Education	38	7	45	132					
4	Agogo Presbyterian College of Education	34	15	49	181					
5	Akatsi College of Education	42	7	49	230					
6	Akrokerrri College of Education	33	10	43	273	240	26%	32	74%	5.2
7	Al Farouq College of Education	24	3	27	300					
8	Atebubu College of Education	32	5	37	337					
9	Bagabaga College of Education	52	7	59	396					
10	Berekum College of Education	39	8	47	443	431	28%	32	68%	5.2
11	Bia Lamplighter College of Education	19	4	23	466					
12	Dambai College of Education	30	4	34	500					
13	E.P. College of Education, Amedzofe	29	9	38	538					
14	E.P. College of Education, Bimbila	40	4	44	582					
15	Enchi College of Education	28	1	29	611					
16	Foso College of Education	37	10	47	658	622	28%	32	68%	5.2
17	Gambaga College of Education	25	3	28	686					
18	Gbewaa College of Education	34	9	43	729					
19	Holy Child College of Education	16	17	33	762					
20	Jasikan College of Education	46	5	51	813	813	30%	32	63%	5.2
21	Kibi Presbyterian College of Education	26	9	35	848					
22	Komenda College of Education	35	9	44	892					
23	Mampong Technical College of Education	33	9	42	934					

### Appendix AP3: Sampled CoEs and tutors based on PPS sampling (cont'd)

No.	Name of CoE (cluster)	Male tutor	Female tutor	Population of tutors (a)	Cumulative population of tutors	Sampled CoEs	Prob 1	Tutors per CoE	Prob 2	Overall weight
24	McCoy College of Education	24	2	26	960					
25	Methodist College of Education	23	7	30	990					
26	Mount Mary College of Education	45	12	57	1047	1004	34%	32	56%	5.2
27	Nusrat Jahan Ahmadiyya College of Education	45	9	54	1101					
28	Ofinso College of Education	36	12	48	1149					
29	Ola College of Education	30	29	59	1208	1195	35%	32	54%	5.2
30	Peki College of Education	32	9	41	1249					
31	Presbyterian College of Education	38	25	63	1312					
32	Presbyterian Women's College of Education	16	9	25	1337					
33	SDA College of Education, Agona	25	6	31	1368					
34	SDA College of Education	30	19	49	1417	1386	29%	32	65%	5.2
35	St. Ambrose College of Education	19	4	23	1440					
36	St. Francis' College of Education	43	7	50	1490					
37	St. John Bosco College	54	7	61	1551					
38	St. Joseph College of Education	39	11	50	1601	1577	30%	32	64%	5.2
39	St. Louis College of Education	24	24	48	1649					
40	St. Monica's College of Education	22	16	38	1687					
41	St. Teresa's College of Education	28	12	40	1727					
42	St. Vincent College of Education	17	5	22	1749					
43	Tamale College of Education	38	6	44	1793	1768	26%	32	73%	5.2
44	Tumu College of Education	22	5	27	1820					
45	Wesley College of Education	32	18	50	1870					
46	Wiawso College of Education	35	8	43	1913					
	<b>Total</b>	<b>1,462</b>	<b>451</b>	<b>1,913</b>				<b>320</b>		

## Appendix AP4: List of sampled partner basic schools

No.	Name of College of Education	Name of Partner School	Region	District
1	ACCRA COLLEGE OF EDUCATION	ATOMIC HILLS BASICS 1	GREATER ACCRA	GA EAST
	ACCRA COLLEGE OF EDUCATION	PANTANG M/A JHS A and B	GREATER ACCRA	LA NKWANTANANG
	ACCRA COLLEGE OF EDUCATION	ST. JAMES ANGLICAN, TEIMAN	GREATER ACCRA	ADENTA
	ACCRA COLLEGE OF EDUCATION	ADENTA COMMUNITY BASIC A, B and C	GREATER ACCRA	ADENTA
2	AKROKERRI COLLEGE OF EDUCATION	OBUASI AGA SCHOOL	ASHANTI	OBUASI MUNI
	AKROKERRI COLLEGE OF EDUCATION	OBUASI ANGLICAN	ASHANTI	OBUASI MUNI
	AKROKERRI COLLEGE OF EDUCATION	OBUASI PRESBY PRIMARY	ASHANTI	OBUASI MUNI
	AKROKERRI COLLEGE OF EDUCATION	NANA PONKO PRIMARY	ASHANTI	OBUASI MUNI
3	BEREKUM COLLEGE OF EDUCATION	ST. MONICA'S 'A' BASIC	BRONG AHAFO	BEREKUM MUNICIPAL
	BEREKUM COLLEGE OF EDUCATION	YIADOM BOAKYE EXP. 'B' BASIC	BRONG AHAFO	BEREKUM MUNICIPAL
	BEREKUM COLLEGE OF EDUCATION	NSOATRE R/C JHS	BRONG AHAFO	SUNYANI WEST
	BEREKUM COLLEGE OF EDUCATION	NSOATRE T. I AHEMADIYA	BRONG AHAFO	SUNYANI WEST
4	FOSO COLLEGE OF EDUCATION	ANYINABRIM METHODIST PRI/JHS	CENTRAL	ASSIN SOUTH
	FOSO COLLEGE OF EDUCATION	AKROFUOM D/A PRI/JHS	CENTRAL	ASSIN SOUTH
	FOSO COLLEGE OF EDUCATION	DOMINASE BASIC SCHOOL	CENTRAL	ASSIN NORTH
	FOSO COLLEGE OF EDUCATION	FOSCO DEMONSTRATION A	CENTRAL	ASSIN NORTH
5	JASIKAN COLLEGE OF EDUCATION	JASIKAN DEMO JHS	VOLTA	
	JASIKAN COLLEGE OF EDUCATION	JASIKAN DEMO. KG/PRIMARY "A"	VOLTA	
	JASIKAN COLLEGE OF EDUCATION	AKAA D/A JHS	VOLTA	
	JASIKAN COLLEGE OF EDUCATION	AKAA R.C KG/PRIM	VOLTA	
6	MT MARY COLLEGE OF EDUCATION	SOUTH SENCHI L/A BASIC	EASTERN	ASOUGYAMAN
	MT MARY COLLEGE OF EDUCATION	SIKABENG M/A BASIC SCHOOLS	EASTERN	YILO KROBO
	MT MARY COLLEGE OF EDUCATION	ABIRIW PRESBY JHS	EASTERN	AKWAPIM NORTH
	MT MARY COLLEGE OF EDUCATION	AKROPONG DA BASIC	EASTERN	AKWAPIM NORTH
7	OLA COLLEGE OF EDUCATION	EFUTU M/A BASIC 'B'	CENTRAL	Cape coast
	OLA COLLEGE OF EDUCATION	SHERIFF ISLAMIC BASIC	CENTRAL	Elmina
	OLA COLLEGE OF EDUCATION	ABURANSA	CENTRAL	Komenda
	OLA COLLEGE OF EDUCATION	SALTPOND METHODIST 'A' BASIC SCHOOL	CENTRAL	Mfantseman

### Appendix AP4: List of sampled partner basic schools (cont'd)

No.	Name of College of Education	Name of Partner School	Region	District
8	SDA, ASOKORE	JUMAPO METHODIST PRIMARY	EASTERN	NEW JUABEN NORTH
	SDA, ASOKORE	NEW TAFO SDA JHS	EASTERN	AKIM AKIM
	SDA, ASOKORE	OYOKO METHODIST PRIMARY 'A'	EASTERN	NEW JUABEN NORTH
	SDA, ASOKORE	SDA DEMONSTRATION PRIMARY 'A'	EASTERN	NEW JUABEN NORTH
9	ST JOSEPH'S COLLEGE OF EDUCATION, BECHEM	ST. JOSEPH'S PRACTICE JHS- BECHEM	BRONG AHAFO	TANO SOUTH
	ST JOSEPH'S COLLEGE OF EDUCATION, BECHEM	D/A PRIMARY- KOFORIDUA	BRONG AHAFO	TANO NORTH
	ST JOSEPH'S COLLEGE OF EDUCATION, BECHEM	METHODIST PRIMARY- POKUKROM	ASHANTI	AHAFO ANO SOUTH
	ST JOSEPH'S COLLEGE OF EDUCATION, BECHEM	R/C PRIMARY'B'- TEPA	ASHANTI	AHAFO ANO NORTH
10	TAMALE COLLEGE OF EDUCATION	YENDI PRESBY PRIMARY SCHOOL	NORTHERN	YENDI
	TAMALE COLLEGE OF EDUCATION	KPATULI ZAHARIA ISLAMIC JHS	NORTHERN	SAVELUGU
	TAMALE COLLEGE OF EDUCATION	DAKPEMAH PRIMARY	NORTHERN	TAMALE
	TAMALE COLLEGE OF EDUCATION	ST. PETERS JHS	NORTHERN	TAMALE

## Appendix AP5: Detailed scorings on compliance with IE policy

**Table AP5.1: Compliance with inclusive education policy (% of CoEs)**

<i>Statement</i>	Always	Very Often	Sometimes	Rarely	Never
The college admits applicants with special educational needs.	70.0	-	20.0	10.0	-
Admission of students with special needs to this college is on a concessionary basis.	33.4	-	11.1	33.3	22.2
The college collaborates with local communities to create awareness on disability issues.	20.0	30.0	40.0	-	10.0
The college collaborates with local communities to create awareness on inclusive education.	11.1	44.5	33.3	-	11.1
The college enforces a non-discrimination policy for students with special needs	90.0	10.0	-	-	-
This college has sanctions in place for discriminating against students with special needs	70.0	10.0	-	20.0	-
The college has a qualified special educational needs coordinator	20.0	-	10.0	-	70.0
“Person First” language is used by members of the college in making reference to persons with special educational needs in the college (e.g. ‘person with disability’ and not ‘disabled person’).	11.1	55.6	33.3	-	-
The curricular used in the college reflect Universal Design for Learning	70.0	20.0	10.0	-	-
Student teachers are trained in applying inclusive practices in their (future) classrooms	100.0	-	-	-	-
Student teachers with special educational needs are given more time to complete assessment tasks (depending on their unique needs)	30.0	10.0	-	50.0	10.0
Student teachers who require assistive technology (e.g. white canes, special computers, hearing aids, etc.) are allowed to use them without restriction	-	10.0	-	40.0	50.0
Student teachers with special educational needs have their needs considered when decisions regarding assignment to residential facilities are being made	100.0	-	-	-	-

(including the hall, the floor (level), the room, bed, etc.)

Student teachers with special educational needs have their needs considered when decisions regarding assignment to a partner school are being made	80.0	20.0	-	-	-
Tutors in this college are trained to identify student teachers with special educational needs	30.0	50.0	10.0	10.0	-
Tutors employ instructional methods that accommodate the full range of diversity among student teachers	80.0	10.0	10.0	-	-
Tutors provide student teachers with special educational needs with non-stigmatizing attention during instructional periods	70.0	10.0	20.0	-	-
Tutors provide formative feedback to student teachers with special educational needs	70.0	20.0	10.0	-	-
Tutors employ alternative assessment tasks to help students with special educational needs work better	50.0	30.0	10.0	10.0	-

**Table AP5.2: Observation of the physical environment (I) (% CoEs)**

<i>Statement</i>	Not applicable	Virtually non-existent	Little evidence	Moderately evident	Clearly evident
<b><i>Dormitory</i></b>					
There are ramps (or elevators) that serve as alternative access routes to this place.	11.1	55.6	11.1	11.1	11.1
Ramps are gentle (i.e. not steep)	20.0	50.0	-	20.0	10.0
Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	11.1	11.1	11.1	44.5	22.2
There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	33.3	33.3	-	11.1	22.3
Floor or ground surfaces are stable, firm and slip resistant	-	50.0	10.0	20.0	20.0
Toilet facilities have grab bars for users who would require them.	30.0	20.0	30.0	10.0	10.0
<b><i>Classroom building</i></b>					
There are ramps (or elevators) that serve as alternative access routes to this place.	33.4	22.2	11.1	11.1	22.2
Ramps are gentle (i.e. not steep)	20.0	40.0	-	20.0	20.0
Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	10.0	20.0	10.0	20.0	40.0
There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	33.3	33.3	-	11.1	22.2
Floor or ground surfaces are stable, firm and slip resistant	-	50.0	10.0	-	40.0
Toilet facilities have grab bars for users who would require them.	25.0	-	25.0	12.5	37.5
<b><i>Library</i></b>					
There are ramps (or elevators) that serve as alternative access routes to this place.	22.3	11.1	33.3	33.3	-
Ramps are gentle (i.e. not steep)	20.0	10.0	-	40.0	30.0
Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	11.1	11.1	-	33.3	44.5

<i>Statement</i>	Not applicable	Virtually non-existent	Little evidence	Moderately evident	Clearly evident
There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	33.3	11.1	-	44.5	11.1
Floor or ground surfaces are stable, firm and slip resistant	-	30.0	-	50.0	20.0
Toilet facilities have grab bars for users who would require them.	50.0	-	25.0	25.0	-
<b>Workshop / Laboratory</b>					
There are ramps (or elevators) that serve as alternative access routes to this place.	22.3	11.1	-	33.3	33.3
Ramps are gentle (i.e. not steep)	30.0	10.0	10.0	20.0	30.0
Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	55.6		22.2	11.1	11.1
There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	44.5	22.2	-	22.2	11.1
Floor or ground surfaces are stable, firm and slip resistant	20.0	10.0	10.0	10.0	50.0
Toilet facilities have grab bars for users who would require them.	62.5	25.0	12.5	-	-
<b>Administration building</b>					
There are ramps (or elevators) that serve as alternative access routes to this place.	-	-	33.3	44.4	22.2
Ramps are gentle (i.e. not steep)	-	-	10.0	50.0	40.0
Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	-	-	11.1	33.3	55.6
There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	22.2	-	11.1	55.6	11.1
Floor or ground surfaces are stable, firm and slip resistant	-	-	20.0	40.0	40.0
Toilet facilities have grab bars for users who would require them.	-	12.5	25.0	25.0	37.5
<b>Recreational facility</b>					

<i>Statement</i>	Not applicable	Virtually non-existent	Little evidence	Moderately evident	Clearly evident
There are ramps (or elevators) that serve as alternative access routes to this place.	33.3	66.7	-	-	-
Ramps are gentle (i.e. not steep)	50.0	50.0	-	-	-
Each accessible entrance has at least one accessible door or doorway, wide enough (at least 915mm for a wheelchair user).	44.4	55.6	-	-	-
There are grip-friendly handrails (marking the edge or border of the stairway) to support users.	70.0	30.0	-	-	-
Floor or ground surfaces are stable, firm and slip resistant	33.3	66.7	-	-	-
Toilet facilities have grab bars for users who would require them.	62.5	25.0	12.5	-	-

**Table AP5.3: Observation of the Physical Environment (II) (% of CoEs)**

Statements	Clearly evident	Moderately evident	Little evidence	Virtually non-existent
There are ramps (or elevators) as alternative access routes to places that staircases lead to	25.0	25.0	25.0	25.0
There are grip-friendly handrails (marking the edge or border of the stairway) to support users	37.5	25.0	37.5	-
All ramps on campus are gentle (i.e. not steep)	50.0	37.5	-	12.5
Ramps have landings at appropriate intervals, at both the top and bottom of the ramp	12.5	37.5	37.5	12.5
Each accessible entrance to a building has at least one accessible door or doorway (e.g. wide enough for a wheelchair user)	12.5	50.0	25.0	12.5
Gutters on the college compound are adequately covered (particularly along routes that members of the college community use on a daily basis)	-	12.5	62.5	25.0
Obstructions like trees, pillars and gutters are not on walkways	50.0	25.0	25.0	-
Recreational facilities are accessible to student teachers with special educational needs	50.0	37.5	12.5	-
Wheelchair users can safely use walkways/pavements without obstructions	25.0	25.0	12.5	37.5
Car parks have special allotments for persons with disabilities	-	-	-	100.0
Vehicles are not parked in a manner that obstructs pedestrians (e.g. along routes that are designated as walkways for pedestrians)	37.5	37.5	12.5	12.5
Ground surfaces on the college compound (where observed) are stable, firm and slip resistant	12.5	50.0	25.0	12.5