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Teacher Educators' and Teacher Trainees' Perspective on Teacher Training for Sustainable Development

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Abstract

In accordance with Sustainable Development Goal 4 (SDG 4), countries across the globe are striving to ensure equitable access to inclusive, quality and lifelong educational opportunities for all children, youth and adults by 2030. Teacher education has been identified as one of the key factors in the achievement of the SDG 4 targets. As part of the effort to ensure sustainable teacher education for the achievement of SDG 4 in Ghana, this study applied the four key concepts in the SDG 4: quality, equity, inclusion and lifelong learning, to determine the progress with regards to SDG 4 in the context of teacher education in Ghana. The specific objectives of this study were to determine the inclusive pedagogical practices, values, and knowledge that trainees acquire from the Diploma in Basic Education's Special Education Needs (SEN) course, the adequacy of the course for preparing teachers to create inclusive classrooms and the challenges associated with the delivery of the SEN course. In this study, 167 final-year trainees and 13 teacher educators from Diploma in Basic Education Program in three colleges of education in Ghana were surveyed about their views on the SEN teacher preparation course. The study found out that the SEN course placed much emphasis on medical model view of SEN and only a minority of trainees acquired the requisite inclusive knowledge, values and pedagogical practices. The paper discusses key barriers to the development of inclusive knowledge, pedagogical practices and values among trainees as well as factors that can promote the effective training of inclusive teachers.

Key words: teacher educators, trainee's teachers, special education course, inclusive education, teacher education for sustainability, Ghana

Introduction

The 2030 Agenda for Sustainable Development adopted 17 Sustainable Development Goals (SDGs) and 169 targets to ensure a just, equitable, socially inclusive and a peaceful world free from fear, violence and extreme hunger (UN General Assembly, 2015). There is general agreement that these sustainable development goals cannot be achieved without Education for Sustainable Development; education that is equitable, top-quality, inclusive and lifelong (Sunthonkanokpong & Murphy, 2019; United Nations, 2019; Heasly et al., 2020). Education for Sustainable Development is an educational approach that aims to prepare all children, youths and adults with knowledge, skills and values to create and enjoy sustainable future. It is education that is concerned with individual human potential for knowing, being, doing and living together sustainably (Hopkins et al., 2020). Learning to know is about learning about the unknown, thus, understanding and use of knowledge, learning to do is about being engaged through practical application of what is learnt for an inclusive and equitable future, learning to be is about skills for coping and self-awareness, learning to live together is about feeling affiliated to a group, society and culture and co-existing peacefully and in balance with all life on the planet, and learning to become sustainable in an ever-changing world. These are the key principles of Education for Sustainable Development and are critical in promoting sustainable human development (Ghorbani, Jafari & Sharifian, 2018; Hopkins et al., 2020).

However, the recent Sustainable Development Goals Report 2019 showed that more than half of the world's children and adolescents do not meet the minimum proficiency in reading and mathematics; 1 out of 5 children between the ages of 6 and 17 years is not attending school and one fifth of young people are not in education, employment and training (United Nations, 2019). Moreover, Global Education Monitoring Reports have consistently indicated that persons with disability are among the population groups most likely to experience exclusion from education: "they are less likely to ever attend school, they are more likely to be out of school, they are less likely to complete primary or secondary education, they have fewer years of schooling, and they are less likely to possess basic literacy skills" (UNESCO Institute for Statistics, 2018, p. 3). Sustainable societies cannot be realised if a significant number of the world's population are excluded from education. Hence, the achievement of SDG 4, which declares that countries should commit to the provision of inclusive and equitable quality education at all levels (UN General Assembly, 2015), is extremely critical to the achievement of the other SDGs. The educational inequalities currently experienced by children, young people and adolescents and especially those with disability must be addressed in order to achieve a just, equitable, tolerant, open and socially inclusive world in which the needs of the most vulnerable are met. As defined by the General Comment 4 in the 2016 United Nation's Convention on the Right of Persons with Disability (UNCRPD) committee report, inclusive education is an ongoing process that seeks for fundamental transformation of school cultures, policies and practices such as curricula, assessment, pedagogy and attitudes to ensure equitable, participatory and age-appropriate educational experience that meets the needs of all students (UNCRPD, 2016).

The concept of inclusive education started gaining considerable attention in education policy-making in Ghana from 2003/2004 academic year with pilot implementation in the selected schools across 46 districts. Ghana developed a policy on inclusive education with a five-year comprehensive implementation plan (2015–2019) to SDG 4 targets in all the schools across the country. The current policy is established on the principles

that: all children have the right to education; all children can learn irrespective of individual differences, and that the educational system should adapt its structures, systems and methodologies to meet the needs of all children. More so, the policy is expected to deliver SDG 4 targets through student-centred principles such as Universal Design for Learning (UDL) (Ministry of Education [MOE] 2015). Therefore, it is expected that the initial teacher education programs will explicitly and adequately address student centred principles to effectively train teachers to teach in inclusive settings.

Regrettably, studies have established that mainstream school teachers in developing countries are unable to adopt adequate inclusive practices to cater for the diversity of pupils' needs. Several scientific studies have established that the special needs of the pupils in the mainstream classrooms are not effectively addressed and that teachers have inadequate knowledge of inclusive approaches (Alhassan, 2014). The predominant method of instruction in most mainstream classrooms in developing countries is a teacher-centred lecture method, i.e., the teacher talks, asks questions and writes on the chalkboard while pupils listen, write and shout out answers (Sawhney, 2015). This raises critical questions with respect to the content of SEN course at the Colleges of Education in Ghana and its adequacy in effectively training teachers to achieve the SDG 4 targets.

Surprisingly, despite the aforementioned challenges and the call for transformation in teacher training courses to train teachers to achieve the SDG 4 targets, much less is known about the inclusive knowledge, pedagogical practices and values trainees acquired from the initial teacher education SEN course at the colleges of education in Ghana. Further, very little is known about how trainees and teacher educators rate the adequacy of the SEN course with regard to preparing trainees to identify the special needs among pupils and address such needs.

Theoretical Framework: Teacher Education for Sustainable Development

Studies have shown that teacher education has an important role to play in the achievement of the SDG 4 targets. Thus, the achievement of inclusive, equitable, quality education and lifelong learning opportunities for all learners ultimately depends on sustainable training and supply of qualified teachers in developing and underdeveloped countries. However, studies have established that there has been limited emphasis in literature regarding the realisation of SDG 4 in the context of teacher education (Jetly & Singh, 2019; Sunthonkanokpong & Murphy, 2019). To determine the progress and realisation of SDG 4 in the context of teacher education, Sunthonkanokpong and Murphy (2019) have recommended the application of conceptual framework based on four key concepts in the SDG 4: quality, equity, inclusion and lifelong learning. In their qualification of the concept of quality in relation to teacher education, they stated that quality can be promoted in teacher education in terms of having relevant knowledge, skills and practices that will equip trainees with good teaching approaches to inform curriculum and pedagogy. Several studies have identified essential components that are related to sustainable development and act as the foundation for a sustainable future that must be explicitly incorporated in teacher education programs to effectively train teachers to achieve the SDG 4. These relevant components include: knowledge about SEN, behavioural management strategies, legislation and policies, inclusive values and knowledge about pedagogical skills (Booth & Dyssegaard, 2008; Forlin & Sin, 2010; Jetly & Singh, 2019; Sunthonkanokpong & Murphy, 2019).

Studies have shown that teachers' knowledge of different categories of SEN and disabilities improves their confidence, increases their levels of efficacy and promotes positive attitudes toward the inclusion of children with SEN (Davis & Florian, 2004; Kearns & Shevlin, 2006). However, understanding SEN from the medical model point of view will likely prompt teachers to focus on learners' perceived deficits and view diversity as a problem to be overcome, rather than having issues with school curricula, educational policies and teaching approaches (Booth & Dyssegaard, 2008). The psycho-medical model or biological deficit considers disability as having been caused entirely by bodily or functional impairments (Anthony, 2011). More importantly, the inclusive paradigm shift goes beyond inclusion of children with disability and SEN into regular schools and defines disability away from the one rooted in psycho-medical/deficits understanding SEN and deviance towards a more social construction approach, social justice, human rights and multicultural education. Incorporation of these relevant issues in the teacher education courses will promote equity in the context of teacher education and enable teachers to commit to social justice in terms of promoting fairness and inclusion of those typically marginalised (Jetly & Singh, 2019), thereby promoting the achievement of SDG 4 (Sunthonkanokpong & Murphy, 2019).

Citing Cochran-Smith et al. (2016), Sunthonkanokpong and Murphy (2019) discussed that equipping teachers with culturally relevant pedagogy that connects to student's experiences, addresses the needs of marginalised learners and challenges inequalities will promote the concept of equity in the concept of teacher education approach. Practically, to promote the five types of learning among learners for sustainable development, teachers should be equipped with relevant knowledge, skills and practices that will enable them to design diversified educational materials and approaches suitable to the varied needs of children and adolescents with respect to their physical and psychological development characteristics (Ghorbani, Jafari & Sharifian, 2018). Inclusive pedagogical practices are critical to the achievement of SDG 4 and thus constitute relevant inclusive knowledge that must be addressed in teacher education for sustainability (Forlin & Sin, 2010). These are student-centred instructional approaches that are responsive to individual differences among learners and ensure that all learners are provided with rich learning opportunities to enable their active participation in classroom community (Marujo, 2020; Jetly & Singh, 2019). The contribution of the student in the construction of knowledge (Cognitive constructivism) and the student's interaction with others to generate meaning (Social constructivism) are key features of student-centred and participatory pedagogical approaches. In the context of teacher education for the achievement of the SDG 4, lifelong learning is about training teachers to commit to student-centred learning and constructivism (Marujo, 2020; Sunthonkanokpong & Murphy, 2019).

Student-centred instructional approaches have been found to include differentiating instruction (Kearns & Shevlin, 2006), which is based on the teaching philosophy that one size does not fit all and that teachers' instructions must respond to learners' varied characteristics through the provision of multiple avenues for them to acquire contents, process and express what they have learnt (Thousand, Villa & Nevin, 2007). Also, many have stressed that initial teacher education programs must adopt the principles and practices of the Universal Instructional Design for learning (UDL) (i.e., provision of multiple means of representation, expression and engagement) to equip teacher trainees with skills to proactively differentiate instructional lesson plans to allow for increased

access to curriculum without the need for specialised modifications and adaptations for particular students (Thousand, Villa & Nevin 2007). Other effective inclusive practices have been found to include peer tutoring, mentorship, peer-assisted learning, class-wide and cross-age tutoring and peer helpers, in which students team up together to support each other for a common purpose (Davis & Florian, 2004; Singal et al., 2015). Also, cooperative learning in which students work in heterogeneous learning teams to help one another has become a well-known example of inclusive practice that has been found to improve positive academic and social outcomes for pupils in general (Davis & Florian, 2004). Moreover, cooperative teaching or co-teaching, whereby two or more teachers (usually regular and special education teachers) share expertise, decision making, responsibility and accountability for teaching and outcomes for some or all of the students, is an essential inclusive skill that must be developed by student teachers. Furthermore, teachers collaborating with parents and families have been identified as a vital condition for an inclusive environment (Jetly & Singh, 2019).

Another effective inclusive teaching approach is writing and the implementation of Individual Education Plans (IEP) (Dart, 2006). The IEP is a written, individualised plan listing the special education and related services students with disabilities will receive to address their unique academic, social, behavioural, communication, and physical strengths and challenges (Salend, 2008). In addition, ICT, assistive and universally designed technologies are a key component of providing inclusive instruction by supporting flexible approaches to learning. Therefore, trainees must be equipped with requisite technological skills to enable them to select and use inclusive and assistive technologies for the benefits of all students (EADSNE, 2012).

Initial Teacher Preparation in Ghana

The basic education system in Ghana comprises two years of kindergarten, six years of primary, and three years of junior high school (MOE, 2015). The initial teacher education program for regular basic school teachers in Ghana has been a three-year diploma program in basic education. Currently, the ongoing transformation of teacher education to meet SDG 4 for 2030 is upgrading the initial teacher education program for basic school teachers at the Colleges of Education from a three-year diploma program to a university status to run a 4-year Bachelor of Education Degree Program. The entrants are senior high school leavers who spend two years on classroom work followed by a field-based teaching experience in the final year. All the teacher trainees undertaking Diploma in Basic Education in colleges of education in Ghana follow the same syllabus prepared by the Teacher Education Directorate of the Ghana Education Service, approved by the Institute of Education at the University of Cape Coast. The program offers a mandatory two-credit SEN course to trainees at the end of their second academic year. In the Ghanaian context, while several studies have established the incompetence of in-service teachers with respect to achieving SDG 4, the knowledge and values acquired by trainees from the SEN course are under-researched. For this purpose, a survey questionnaire was designed based on the literature review about the aforementioned essential components of initial teacher education curriculum for sustainable development. Therefore, this study sought to determine:

1. the inclusive pedagogical practices, values and knowledge that trainees acquire from the SEN course;
2. trainees'and teacher educators'perceptions of the adequacy of the course for preparing teachers to identify the different SENs/disabilities among students;
3. trainees' and teacher educators' perceptions of the adequacy of the course for preparing teachers to address the needs of the students with SENs/disabilities among students; and
4. the challenges associated with the delivery of the SEN course.

Methods

Participants

The study participants comprised 167 final-year trainees and 13 teacher educators drawn from three of the 45 public colleges of education in Ghana. The final-year trainees and the teacher educators of the SEN course were purposefully selected from the three-year diploma program for the study on the basis of their knowledge and the purpose of the study. The final-year trainees completed the SEN course and the teacher educators recruited were the instructors of the SEN course. Out of 270 questionnaires administered to trainees, 178 were retrieved for analysis, indicating a return rate of 62 %. Given the focus of the study, only the trainees (n=167, 94 %) who had completed the SEN course were included in the analysis. Of the included trainees, 34 % were male, and 66 % female. The average of the trainees was 24, with a standard deviation (SD) of 2 years. The age ranged from 21 to 31 years.

Out of the 15 questionnaires delivered to teacher educators of the SEN course, 13 were retrieved, indicating a return rate of 87 %. Of the 13 participating teacher educators, 77 % were male and 23 % female. Sixty-two percent had obtained Bachelor's degrees and 38 % had obtained Master's degrees. The age distribution ranged from 23 to 55 years (M=43, SD=10), and their teaching experience ranged from one to 20 years (M=7, SD=5).

Instruments

The aim of this study was to explore final-year trainees' and teacher educators' views on the SEN teacher preparation course. Hence, a quantitative descriptive survey design was adopted. The survey questions were developed based on the research objectives and previous studies (see, e.g., Davis & Florian, 2004; Forlin & Sin, 2010; Kearns & Shevlin, 2006; Singal et al., 2015; Marujo, 2020; Jetly & Singh, 2019; Sunthonkanokpong & Murphy, 2019). The first draft of the questionnaire was sent to two academics in Finland and two academics in Ghana, who had research interest in teacher preparation for inclusive education to ensure that relevant data were collected. The final draft was tried on a twenty trainees from another college of education, which was not included in this study. The pilot report was also used to amend the questionnaires for the data collection.

The questionnaire consisted of two main sections for both teacher educators and final-year trainees. Section A sought information on the respondents' background, such

as their gender, year of birth etc. The section B comprised both closed-ended and open-ended type of items. For instance, on a five-point Likert scale: (1 = very adequate; 2 = adequate; 3 = inadequate; 4 = very inadequate; to 5 = extremely inadequate), both the trainees and teacher educators were asked to rate the adequacy of the SEN course with regard to preparing teachers to: a) identify SEN among pupils, and b) address the needs of students with SEN and disabilities. Furthermore, the aforementioned essential components crucial to initial teacher preparation for the achievement of the SDG 4 were predetermined by the first author, and both the teacher educators and trainees were asked to indicate which of the key components were comprehensively disseminated in the course. Moreover, the participants were presented with open-ended questions regarding the inclusive knowledge, values and inclusive instructional strategies acquired from the SEN course, the challenges associated with the delivery of SEN course and what should be included in the course to better prepare trainees to work effectively in inclusive settings.

Data Collection Procedure

The study and its protocols were reviewed and approved by the University of Jyvaskyla and Ghana Education Service. Upon the approval, three colleges of education were conveniently selected on the basis of their accessibility and proximity to the first author. They included College A situated in the Eastern Region, College B in the Central Region and College C in the Ashanti Region. A letter was then sent to all the principals of the selected colleges to seek their permission. Following their consent, the first author contacted teacher educators of the colleges to inform them about the study and sought their assistance with recruitment of the final-year trainees. Subsequently, the first author hand-delivered 270 questionnaires to final-year trainees and 15 questionnaires to teacher educators of the SEN course. All the questionnaires had cover letters which explicitly explained the purpose of the research. To assure the participants of their confidentiality and anonymity, the cover letters admonished them not to indicate their names and that of their colleges. Participants were also informed that the completion of the survey implied their consent to participate in the study and that they were free to withdraw at any time.

Data Analysis

The data obtained were analysed in two stages. Firstly, the responses to the closed-ended questions were entered into the IBM SPSS Statistics Program 25. To answer research questions two and three, the responses (1 = very adequate and 2 = adequate; 3 = inadequate; 4 = very inadequate; 5 = extremely inadequate) were combined to give a two-point response (1 = adequate and 2 = inadequate), respectively, to facilitate clear interpretation of results. This was followed by simple descriptive frequencies and percentage analysis. A one-way analysis of variance was also employed to compare responses across colleges.

Secondly, to answer questions one and four, the raw qualitative data from the open-ended questions were subjected to a classification process known as coding to

develop a coding frame (Oppenheim, 1992; Pallant, 2016). Firstly, the first and the second author read the data several times to be familiar with the responses. Subsequently, twenty questionnaires from the trainees and six questionnaires from the teacher educators were selected to develop the coding frame. Thus, each of the open-ended question was copied to the top of a page in Microsoft Word, followed by all their various answers. Each answer was preceded by the case number.

Bearing in mind the aims of the study and the particular purpose of the question under consideration, the first author developed the coding frame for each open-ended question by tagging and labelling selected segments of the various responses using highlighters. The coding frame was shared with the second and third authors for discussion and consensus building to ensure consistency and reliability. The final coding frame was then used to code all the data. These resulted in a number of codes around the open-ended questions (Oppenheim, 1992; Pallant, 2016). Each code was assigned a numerical code and entered into SPSS database together with the quantitative data. The results were presented using simple percentages and frequency distribution tables.

Results

Perceptions of Inclusive Values and Knowledge

Using an open-ended question, the trainees were asked: 'In terms of what you have acquired from the course, what values do you think are needed for the effective teaching of pupils with disabilities/SEN in regular schools?' Similarly, the teacher educators were asked about the provision of these values. The results were classified into 13 categories (Table 1). The most often mentioned values in both groups were patience, tolerance and empathy. The trainees additionally stressed equal treatment, while the teacher educators mentioned respect and love.

The trainees were further asked about the kind of knowledge they acquired from the course that they thought was necessary for the effective teaching of pupils with disabilities and SEN in regular classrooms. Similarly, the teacher educators were asked about the provision of this kind of knowledge from the course. Six major themes were obtained. Both the trainees and the teacher educators stressed the nature and causes of SEN, while the trainees also mentioned the identification of SEN (Table 1). Knowledge about inclusive pedagogical practices was mentioned by well under a quarter of trainees and less than half of teacher educators. Knowledge about assistive technology was mentioned by less than a tenth of trainees and a quarter of teacher educators. Knowledge about special education policy was mentioned by a quarter of teacher educators but was not mentioned by any of the trainees.

Table 1
Inclusive Values and Knowledge Pre-service Teachers Acquired from the SEN Course

	Pre-service teachers (*N* = 167) %	Teacher educators (*N* = 13) %
Inclusive values mentioned		
Patience	52	39
Empathy	37	31
Equal treatment, fairness	34	8
Tolerance	27	46
Respect	17	31
Acceptance	17	8
Love	13	31
Understanding	10	–
Caring	10	–
Affection	4	8
Encouragement	4	–
Self-confidence	2	–
Trust	–	8
Inclusive knowledge mentioned		
Identification of special needs	47	–
Nature of special needs	46	85
Causes of special needs	45	85
Inclusive pedagogical practices	17	39
Use of assistive technology	8	15
Special education policies	–	15

Perceptions of Inclusive Pedagogical Approaches

When trainees and teacher educators were asked to indicate which predetermined inclusive pedagogical approaches they have learnt, nearly half of trainees (43 %) and teacher educators (46 %) agreed that behaviour management strategies were comprehensively covered in the SEN course (Table 2). Although over half of teacher educators surveyed (62 %) indicated that a cooperative learning approach was well-addressed in the SEN course, just under a fifth of trainees (19 %) agreed with the teacher educators. Fewer than a fifth of both trainees and teacher educators indicated that cooperative teaching, differentiated instruction, peer-assisted learning strategies, collaborative problem solving, universal instructional design, IEP, communication techniques and technology werecovered in the SEN (Table 2).

Furthermore, both the trainees and teacher educators were asked to indicate which pre-determined relevant components of initial teacher education curriculum for inclusive education were comprehensively covered in the course to preparetrainees to teach pupils with disabilities/SEN. A majority of the trainees and teacher educators agreed that 'learning difficulties and disabilities' was such a thing (Table 2). Only a few mentioned the issues of 'the right of children to education', 'social justice' or 'communicating and working with parents'.

Table 2
Issues and Inclusive Instructional Approaches Comprehensively Covered in the Special Education Course

	Trainees (*N* = 167) %	Teacher Educators (*N* = 13) %
Inclusive Instructional Strategies		
Behavior management strategies	43	46
Cooperative learning	19	62
Cooperative teaching	15	8
Curriculum adaptation	10	39
Providing individual assistance	10	31
Differentiated instruction	10	8
Peer-assisted learning strategies	8	8
Heterogeneous grouping	7	31
Modifying student tasks	5	23
Class wide peer tutoring	5	23
Collaborative problem solving	4	8
Universal instructional design	4	8
Communication techniques and technology	3	15
Writing an individual education plan	1	8
Issues comprehensively covered in the special education course		
Learning difficulties and disabilities	74	77
Emotional and behavioral problems	44	69
The right of children to education	8	31
Social justice (equity in education)	6	0
Collaboration with parents	5	0

Perceptions of the Adequacy of the SEN Course

When trainees and teacher educators were asked to rate the adequacy of the SEN course with regard to preparing teachers to *identify* SEN among pupils and addressing the needs of students with SEN and disabilities, more than half of trainees (68 %) and teacher educators (69 %) perceived the SEN course adequate in providing trainees with the knowledge to identify the different SEN and disabilities among students. However, more than half of the same trainees (66 %) and teacher educators (85 %) surveyed considered the course to be inadequate in providing student teachers with sufficient knowledge and practices to address the needs of students with SEN and disabilities. The adequacy of the course was considered higher with respect to preparing trainees to identify special needs among students ($M = 2.92$) than equipping trainees with inclusive knowledge and practices: ($M = 2.20$), with $t\ (165) = -8.85$ and $p = .00$.

To determine whether there was a statistically significant difference between perceptions concerning the adequacy of the course among the three colleges of education, a one-way between-group analysis of variance was employed. As measured by the sum scale [$F\ (2, 164) = 10.98$, $p = .00$], there was a statistically significant difference between

perceptions concerning the adequacy of the course among the three colleges of education. To identify differences between means, post-hoc comparisons using the Tukey HSD test was employed. It indicated that the mean score for College A (M = 2.97, SD = .46) was significantly higher than those for College B (M = 2.33, SD = 1.04) and College C (M = 2.34, SD = .89).

When teacher educators were asked to mention what they considered as the main purposes of the SEN course, over half of teacher educators (62 %) indicated that the main purpose of the SEN course was to enable trainees to identify SEN and disabilities. Just over a quarter of teacher educators (31 %) surveyed stated that equipping trainees with knowledge about inclusive pedagogy approaches was a key goal of the SEN course. Less than a quarter of teacher educators stated that the main purposes of the SEN course involved preparing teachers to treat every student equally (23 %) and understand the uniqueness of every student (15 %).

Problems with the Course and How to Improve It

Both the teacher educators and trainees were asked to disclose the kinds of challenges encountered during the SEN course and to discuss possible improvements to the course to better prepare teachers for the achievement of SDG 4. Over a quarter of trainees (32 %) considered the SEN course to be too theoretical, while nearly a quarter (23 %) considered inadequate teaching and learning materials to be a major challenge. More than half of teacher educators (62 %) confirmed that trainees complained about the course being overly theoretical while 77 % considered the lack of teaching experience in inclusive settings as a major challenge. More than half of teacher educators (54 %) indicated that inadequate equipment, materials and assistive technology were major challenges, and 69 % commented that the '*inflexible curriculum in the college was a major hindrance*'.

One of the teacher educators explained:

> *"I have to prepare trainees for external examinations and must follow the syllabus in a strict manner".*

Another teacher educator noted:

> *"The syllabus does not allow us to include other contents that are not prescribed therein."*

Consequently, when the teacher educators and trainees were asked about what needs to be included in the course to better prepare teachers to work effectively in inclusive education settings, just under half of trainees surveyed (44 %) mentioned the incorporation of an inclusive education course; less than a fifth of trainees surveyed (13 %) mentioned practical training in inclusive settings; and three per cent mentioned the involvement of resource personnel with practical knowledge to teach pupils with special needs. The teacher educators mentioned most often the need to enhance knowledge of inclusive pedagogical approaches (85 %), followed by the importance of practical training in inclusive settings (77 %) and the need to increase the course credits through more inclusive educational content (69 %).

Discussion

There is a widespread agreement that teacher education has an important role to play in the achievement of the SDG 4 targets. This study applied the four main concepts in the SDG 4 (i.e., quality, equity, inclusion and lifelong learning) (Sunthonkanokpong & Murphy, 2019) to determine the extent to which SDG 4 is being realised in the context of teacher education in Ghana. According to Sunthonkanokpong and Murphy (2019), the promotion of the concept of inclusion in teacher education is about trainees learning about inclusive practices through special education and inclusive courses. As mentioned in the literature review, all trainees undertaking Diploma in Basic Education (DBE) curriculum at the Colleges of Education in Ghana are offered a mandatory two-credit SEN course. As Sunthonkanokpong and Murphy (2019) explained, the concept of quality in the context of teacher education is promoted in terms of the relevant knowledge, skills and pedagogical practices trainees acquired through courses and field experience in the teacher education programs. Surprisingly, knowledge about the causes, nature and characteristics of SEN and disabilities were most often mentioned by both teacher educators and trainees as the relevant knowledge trainees acquired from the SEN course (see Tables 1 and 2) and were perceived to be the main purpose of the course. Therefore, the majority of both respondent groups were convinced that the SEN course was adequate in equipping trainees with the knowledge to only identify SEN among pupils. This finding is in agreement with those of previous studies which showed that SEN courses focused more on deficit-based categories to equip trainees with greater levels of skills in identifying SEN among pupils with less emphasis on student-centred and inclusive pedagogy (Croft, 2006; Dart, 2010).

In general, the findings of the present study suggest that the psycho-medical model understanding of SEN trumped the social model in the SEN course. The psycho-medical model or biological deficit considers disability as having been caused entirely by bodily or functional impairments, whereas the social model is of the view that 'disability' is not caused by impairments but by social organisational barriers (structural and attitudinal) that people with impairment (physical, intellectual, and sensory) face in society (Anthony, 2011). The great emphasis on medical view of disability in the SEN courses has been identified as a key barrier to the orientation of teacher education for the implementation of the SDG 4 because it hinders the development of inclusive knowledge, pedagogical approaches and values among trainees in initial teacher education program (Croft, 2006). Medical view locates learning difficulties within individual learners and focuses less on the impact of socio-cultural and contextual barriers to pupils' learning (Lalvani, 2013). This deficit explanation of disability risks absolving teachers of their responsibility for their SEN and disabled pupils (Booth & Dyssegaard, 2008) and hampers the achievement of SDG 4. Recent reforms in the initial teacher education curriculum have, therefore, sought to reposition the concept of difference from the deficit view and now more emphasis is being placed on greater awareness and understanding of educational and social factors that affect children's learning (Lalvani, 2013) and radical reforms in schools to acknowledge and welcome diversity (Jetly & Singh, 2019; Sunthonkanokpong & Murphy, 2019).

According to the SDG 4 conceptual framework by Sunthonkanokpong and Murphy (2019), equity in teacher education is about improving the capacity of trainees to commit to social justice and teaching for equity that promote lifelong learning of the vulnerable and marginalised students to ensure equitable society. However, issues of the right of

children to education, social justice and communicating and working with parents, which are the key issues that are related to sustainable development and act as the foundation for a sustainable future (Jetly & Singh, 2019), were the least discussed topics in the SEN course (see Table 2). These findings support the call for substantial transformation in the SEN course to address the core ideas of human rights and social justice to transform teacher education for sustainability. Such a conceptualisation has been found to influence teachers' support for inclusive education in both developed (Lalvani, 2013) and developing (Dart, 2006) countries. As Purdue et al. (2009) rightly noted that discussing the issue of disability from different perspectives such as rights discourse influenced trainees to acknowledge that every child had the right to quality education.

The concept of quality can also be promoted in teacher education for sustainability in terms of linking theory with practice through field experience in the teacher education programs (Jetly & Singh, 2019; Sunthonkanokpong & Murphy, 2019). The study found that the special education course in the initial teacher education program had been overly theoretical, teacher educators adopted lecturing as the main pedagogical strategy, with no provision for practical experience. Moreover, the teacher educators also viewed the lack of direct teaching experience in inclusive settings as the most compelling challenge in the delivery of the SEN course. Clarke, Lodge and Shevlin (2012) argued that large group lecturing of student teachers weakened their responsibility for attitudinal formation and elaboration. Teacher educator respondents in this study therefore called for practical training in inclusive settings to be an essential component of the course. This practical training provides student teachers with opportunities for greater levels of contact with pupils with disabilities and to learn key inclusive strategies such as the development of IEP and teaching aids with local materials for the effective teaching of SEN children during teaching practice (Dart, 2006). Such opportunities have been found to promote positive attitudes and self-efficacy among teachers (Dart, 2006; Sharma et al., 2006). To improve the transformation of teacher education for sustainability, both the teacher educators and trainees called for more content knowledge on issues of SEN and inclusive education. This is extremely critical in promoting the concept of inclusion in teacher education for sustainability (Sunthonkanokpong & Murphy, 2019). A few of the trainees also called for the involvement of resource personnel with practical knowledge in teaching pupils with SEN in their training.

According to the SDG 4 conceptual framework by Sunthonkanokpong and Murphy (2019), lifelong learning in teacher education is about preparing and training teachers to commit to the use of student-centred and constructivist instructional approaches. When both trainees and teacher educators were asked to mention knowledge acquired from the SEN course, knowledge about inclusive instructional approaches, assistive technology and education policy and legislation issues were mentioned by a minority of both participants. Unsurprisingly, evidence-based student-centred inclusive instructional approach (e.g., cooperative teaching, differentiated instruction, peer-assisted learning strategies, modifying student tasks, class wide peer tutoring, the use of communication techniques and technologies, collaborative problem solving, writing IEP) were least dealt with in the SEN course. However, these are essential components of student-centred and participatory teaching and learning approaches that must be emphasised in the initial teacher education curriculum (Jetly & Singh, 2019; Marujo, 2020) to empower trainees to continue to learn, solve problems and adapt to their social and physical

environment (Sunthonkanokpong & Murphy, 2019) as well as to deconstruct the hierarchy within the conventional teaching and learning relationship and instead promote sharing of ideas, collaborative and interactive practices and relationships required to build a peaceful and sustainable society (Marujo, 2020). For instance, increased knowledge of legislation and policy has been found to be a major predictor of improved teaching efficacy for inclusive practice (Jetly & Singh, 2019). Also, the use of assistive and universally designed technologies is a key component of providing inclusive instruction that supports flexible approaches to learning (EADSNE, 2012). Moreover, equipping trainees with the evidence-based student-centred inclusive instructional approaches will ensure that teachers have the confidence and professional responsibilities to make the centralized curriculum in Ghana accessible for students with disabilities. The Universal Design for Learning principle adopted in the current inclusive education policy must form an integral part of the initial education curriculum. This strategy will equip teachers with the skills and knowledge to appreciate the variability of learners' needs and make significant changes in their lesson plans to optimally include all and respond to learners with SEN. Consequently, only a minority of the participants considered the course as adequate in equipping trainees with inclusive approaches necessary to meet the learning needs of SEN pupils.

Almost all teacher educators commented that the prescribed syllabus and external examination of the SEN course restricted them in terms of what they could emphasise during teaching. This finding appears consistent with research findings confirming that teacher educators lack incentives to reform their content and methodology because of external examinations (Coffey International Development, 2012). Inflexible curricula and rigid systems of assessment and examination at the colleges of education could be the key impediments for the development of inclusive principles and pedagogical approaches among teacher trainees. A minority of teacher educators and trainees mentioned some inclusive values as necessary for effective teaching in inclusive settings. Patience, empathy and tolerance were most often perceived as important by both teacher educators and trainees. A few participants also identified fairness, respect, acceptance, love, caring, understanding, affection and encouragement as fundamental values. These inclusive values are critical to the achievement of SDG 4 regarding the development of inclusive, equitable, quality education and lifelong learning opportunities for all students.

Limitations of the Study

The results of this study must be treated with caution due to some limitations. Firstly, we did not closely examine the content of the SEN course to determine whether the predetermined inclusive knowledge, skills and values were highlighted. Therefore, we recommend future studies to closely examine the content of the SEN course. Secondly, the small sample size of teacher educators did not allow for parametric statistics to be performed on their data (Pallant, 2016). Thirdly, the final-year trainees involved in the study were those undertaking Diploma in Basic Education (DBE) curriculum and the Colleges of Education were conveniently selected based on their proximity and accessibility to the first author trainees. There might be other trainees from different colleges of education or the new Bachelor in Education who might have had different perspectives from those reported here. Therefore, to ensure the generalizability of the findings to all the colleges of education, future studies should either involve all the trainees at all the

colleges of education or adopt a probability sampling method to ensure generalizability of the findings. Notwithstanding these limitations, this study offers valuable contribution to the literature on the implementation of SDG 4 in teacher education in terms of inclusive, equitable, quality education and lifelong learning opportunities in the context of teacher education.

Conclusions

Although recent education-related acts and policies point towards Ghana's commitment to ensuring the achievement of SDG 4, the findings of this study suggest that the orientation of teacher education in Ghana to achieve SDG 4 might not be one of the major goals in the initial teacher education programs. The findings support a call for reforms that will ensure that the four key concepts in the SDG 4 – quality, inclusion, equity and lifelong learning – are well addressed in the SEN curriculum to promote inclusive education practices and values. The emphasis on categorical deficit-based thinking, which engenders discrimination and oppressive practices in education, must be transformed to include principles of inclusion such as human rights, social justice, democratic societies, sociocultural perspectives of children's learning and the development of student-centred, inclusive and participatory instructional approaches to improve teachers' confidence and their ability to cope in inclusive settings. Further, the centralised curriculum at the colleges of education must be reformed to ensure curriculum flexibility at the colleges of education that provides possibilities for teacher educators to adopt action research strategies and model evidence-based inclusive strategies and contents as well as assessment procedures that will promote the development of inclusive principles and pedagogical practices among trainees.

Lastly, future course reforms should provide more opportunities for practical training in inclusive settings. For instance, the assignments that involve supervised direct experiences in observing, identifying, assessing, planning and teaching SEN pupils, the involvement of district and regional SEN coordinators and excursions to special schools and rehabilitation centres could be included in teaching practice to promote effective teacher training in the areas of SEN and inclusive pedagogy.

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