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To cite this article: Paul Kwame Butakor, Ernest Ampadu & Saratu Jenepha Suleiman (2020) Analysis of Ghanaian teachers' attitudes toward inclusive education, International Journal of Inclusive Education, 24:11, 1237-1252, DOI: [10.1080/13603116.2018.1512661](https://doi.org/10.1080/13603116.2018.1512661)

To link to this article: <https://doi.org/10.1080/13603116.2018.1512661>



Published online: 21 Aug 2018.



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Analysis of Ghanaian teachers' attitudes toward inclusive education

Paul Kwame Butakor, Ernest Ampadu and Saratu Jenepha Suleiman

Department of Teacher Education, School of Education and Leadership, College of Education, University of Ghana, Accra, Ghana

ABSTRACT

Social and inclusive education as captured under the Sustainable Development Goals enjoined most countries to implement policies to bring about education for all students. Inclusive education recognises that students come from diverse backgrounds with varied characteristics, which include different learning capacities and cognitive development. The purpose of this study was to examine Ghanaian teachers' attitudes toward inclusive education. The Multidimensional Attitudes Toward Inclusive Education Scale (MATIES) developed by [Mahat, M. 2008. "The Development of a Psychometrically Sound Instrument to Measure Teachers' Multidimensional Attitudes toward Inclusive Education." *International Journal of Special Education* 23: 82–92.] was administered to 280 selected teachers in Ghana. The results of Confirmatory Factor Analysis revealed that the three-factor structure of the MATIES theorised by [Mahat, M. 2008. "The Development of a Psychometrically Sound Instrument to Measure Teachers' Multidimensional Attitudes toward Inclusive Education." *International Journal of Special Education* 23: 82–92] was not supported by the Ghanaian sample. Exploratory factor analysis yielded a correlated four-factor solution. These four factors were labelled Behavioural, Affective, Positive Beliefs, and Negative Beliefs. The reliability coefficients for these four subscales were 0.90, 0.86, 0.77, and 0.73, respectively. Analysis of variance revealed that males exhibited more negative beliefs towards inclusive education than females; more experienced teachers exhibited low behavioural attitudes than their counterparts with less teaching experience.

ARTICLE HISTORY

Received 25 April 2018
Accepted 13 August 2018

KEYWORDS

Inclusive education; teachers; attitudes; Ghana

Introduction

Education plays a critical role in the development of a nation. Education similarly is positively related to health outcomes, and an estimated half of the under-five mortality reduction that took place from 1970 to 2009 can be attributed to an increase in the average years of education of women of reproductive age (Gakidou et al. 2010). Educational attainment of students and for that matter citizens of a country is positively related to economic growth (Arabi and Abdalla 2013; Isola and Alani 2012). It is for this reason among others that countries around the world are making frantic efforts to

restructure their educational systems and the school curricula, with the hope of training and educating students who are competitive nationally and internationally. Nübler (2013, 2014, 2016) explains that educational attainment of students can enhance a country's development. Her works suggest that countries that have a larger proportion of their labour force with secondary education do better with regards to manufacturing capabilities than countries with proportion with of only primary education. Educators and educational policymakers see Education as a basic human right for all in the society irrespective of gender, intellectual capacity, and physical and mental disability. If education is basic human right, then it is imperative that all people no matter their background should have the right to education, that is, inclusive education should be seen as the child's right not a privilege.

Inclusive education as captured under the Sustainable Development Goals (Griggs et al. 2013) caused most countries to implement policies to bring about education for all. For example, No Child Left Behind Act of 2001 (No Child Left Behind [NCLB], 2002)) mandated individual states in the United States to revise their processes and procedures to create academic standards, annually test children in reading and math in grades three through eight that ensure 100% of children would be proficient in reading and math by 2014 (McGuinn 2016). Similarly, the Government of Ghana (GOG) recently developed an inclusive education policy document (GOG 2015) with the overall aim of making education at the basic level accessible to all children of school going age. This document has rekindled aims and objectives of previous educational policies and systems which were put in place to improved access, such as the implementation of the the Free Compulsory Universal Basic Education Programme in 1996, the Capitation Grant, and the School Feeding Programme that provides meals for students from deprived communities (Agbenyega 2007; GES 2003). In addition to this elimination of payment of school fees in all public basic schools in 2005, elimination of school fees in all senior high schools in 2017, supply of free school uniforms and free laptops to school children which started in the year 2015 are all attempts made by the various governments to ensure education for all students at all grade levels at the pre-tertiary stage.

Inclusive education recognises that students come from diverse backgrounds with varied characteristics, which include different learning capacities and cognitive development. Further, by including students with special needs in regular classrooms allows the development of greater social skills and learning than segregating these students in special classrooms. By inclusive education, we mean the process of creating an enabling learning environment that promotes access and full participation of all learners in schools, including learners with special needs, learners with special learning needs, learners with disability, and learners with special education needs. Erten (2014) posited that positive teacher attitudes towards inclusive education resulted in positive educational outcomes. Attitudes can be described as peoples' tendency to react or respond favourably or unfavourably towards an object (idea, person, or situation). Attitudes are mostly expressed in terms of peoples' feelings, beliefs, or readiness to do things in certain ways.

Apart from the literature that links economic growth to the level of education, there is evidence that there are costs in relation to having people with disability who do not form part of the labour market (Chow, Croft, and Cichocki 2015). Specifically, in Sub-Saharan Africa, 4.3% of the global GDP is lost as a result of individuals with disabilities not being an

active part of the labour force (Nübler 2014). To correct this situation, schools need to educate students with special needs so that they can be an active part of the labour force.

Though there have been several improvements in education in Ghana, the education system still has challenges when it comes to inclusive education. The challenges include public prejudiced perceptions of persons with special needs, architectural barriers, inadequate assessment facilities, inaccessible curriculum, curriculum inflexibility, and pre-/post-training in special education needs for regular teachers (Agbenyega 2007; Avoke 2002; Sayed, Akyeampong, and Ampiah 2000). Specifically, studies have shown that the most critical barrier to social and inclusive education in Ghana is the negative attitude and consistently low regard for students with learning needs, learning difficulties, and disabilities (Agbenyega 2007; Avoke 2002).

To overcome these challenges or barriers to inclusive education within the Ghanaian context, teachers need to be knowledgeable about how to identify students with special needs and adjust their teaching and learning strategies to meet these students' needs. According to Ameteppee and Anastasiou (2015), the 2013 data on inclusive education shows that, the country is nowhere near achieving the target of an inclusive system, and this is due to the fact that there are no clear and measurable inclusive goals in the policy. Most stakeholders in the sector especially teachers, do not understand the inclusive education policy. Findings from recent studies in Ghana and other jurisdictions have shown that not all teachers are prepared to work with students with special needs in the regular classroom, and that teachers with special needs students in their class can develop low-self efficacy and increased stress levels (Agbenyega 2007; Brackenreed 2011; Barnes and Gaines 2015; Fuchs 2010; Hwang and Evans 2011; Schwarzer and Hallum 2008).

The negative attitude of some teachers towards students with special needs can undermine government' efforts toward inclusive education if not controlled. One way of controlling this negative attitude is to provide professional development training for teachers to work with students with special needs so that the students will benefit (Agbenyega 2007). Organising in-service training for teachers can provide them with the opportunity to have more information about the categories of special needs and their characteristics, and new approaches to teaching taking into accounts individual learner's needs (DeMonte 2013).

Benefits of inclusive education

This section examines the benefits of inclusive education by providing a critical review of the social and academic benefits of inclusive education. Social benefits that accrue from inclusive education for non-disabled students include: they tend to experience reduced forms of fears and prejudices about disabled people, and come to appreciate and tolerate the differences among students, thereby enhancing their communication and co-habitation with such students. Further, frequent interaction with people who are 'different' mitigates discriminatory tendencies. Hehir et al. (2016) suggested that regularised contact between students with special needs and students with no special needs in a classroom can bring about inclusion of all students well into schools and society.

The benefits that accrue to students with special needs who are integrated into 'inclusive classroom' include academic benefits. Hehir, Grindal, and Eidelman (2012) examined

more than 68,000 primary and secondary school students with special needs and established that when these students spend a higher proportion of their time interacting with students with no special needs, it helps students with special needs to increase their proficiency in language and mathematics, as compared to their counterparts who spend a smaller proportion of their time interacting with non-special needs students. Dessementet, Bless, and Morin (2012) compared the effects of putting special needs students in inclusive classrooms and segregated schools on these students learning experiences over a period of three school years. They found that special needs students in inclusive settings improved their literacy skills more than the special needs students in the segregated schools. As such, there are literary benefits associated with inclusive settings. de Graaf, van Hove, and Haveman (2013) also found that when regular children are placed with special needs students, the academic outcomes of the special needs students are positive, specifically reading skills.

The social benefits that accrue to special needs students, as a result of their integration into mainstream classrooms, improve their interactions among peers and are even more engaged in community activities (Hehir et al. 2016). Specifically, these children learned to cope with diversity better. Consiglio, Guarnera, and Magnano (2015) compared the social benefits of students that had contact with students with special needs and students that have had no contact with special needs. Where contacts with special needs students were established, regular children expressed more positive representations of such children, as compared to children who experienced no contact. Such positive representations included viewing such children as sociable, beautiful, and intelligent. In contrast, students receiving special services in an inclusive setting tended to report lower self-worth and lower self-confidence, and perceived themselves negatively and often avoided close friendships with their non-special needs classmates (Harper 2013). When students with special needs see what the regular pupils can do, it tends to remind them of all the intellectual and physical abilities they lack which tends to depress them (Block et al. 2010). Since special needs students are not cognitively developed as regular pupils, teaching such pupils in the regular educational units tends not to be effective as it should be. The special needs students can become frustrated and disruptive, interrupting the teaching and learning process (Lampert 2012).

Review on teachers' attitudes towards inclusive education

Teachers' attitudes and perspectives toward inclusive education vary across cultures and contexts. While some teachers view inclusion as a challenge, others see it as an opportunity to support students with special needs. For instance, Kuroda, Kartika, and Kitamura (2017) studied teachers' perspective on inclusive education, with regard to special needs in Cambodia in 112 regular schools with special needs students. They established that teachers perspectives on inclusion were severely negative: 80.6% of the teachers expressed very negative views about students with intellectual disabilities, 89.9% of teachers expressed negative views about students who were deaf, and more than 90% teachers expressed negative views about blind students and students with severe disabilities. Several teachers commented that such students needed to be taken to special schools.

Cassady (2011) studied teachers perspectives toward the inclusion of students students with autism and Emotional Behavioural Disorders (EBD). He found that while teachers

were not generally dismissive of including these students, they were more willing to accept students with autism more than EBD students. He also indicated that teachers were concerned about the form of inclusion.

Suc et al. (2016) explored the perspectives of teachers towards inclusive educational settings in Slovenia in six schools. They found that some of the teachers viewed the inclusive setting as an intractable/unmanageable burden. The views expressed by the teachers include: that they had grown relentless over the no-improvement outcomes depicted by the students with special needs and that such emotional and behavioural problems with such students overwhelmed them and that such students with special needs only disrupted the educational process for the other students in such classes. In contrast, fewer teachers were much more positive about the challenge of instructing inclusive classrooms, and that they had to learn new adaptive ways to get to know such students so as to be much prepared to aid them.

Cheung, Wu, and Hui (2015) studied teacher perspective towards inclusive education in Hong Kong and Macau. The results of this study revealed that teachers perspectives towards special needs students varied across the different types of special needs. The teachers held highly negative perspectives toward students with behavioural impairments, which is characterised by students who are physically aggressive towards their peers in the classrooms, as well as students who did not follow school rules. While still negative, the teachers held more favourable views about students with physical disabilities and the academic domain. Negative attitudes towards inclusive education were similarly found by Sucuoğlu et al. (2013) in their study of 30 Turkish pre-school teachers. However, they concluded that such perspectives towards inclusive education are due to inadequate training on inclusive settings for teachers. This is consistent with findings from previous studies that have established a link between teachers knowledge, training in special educational needs (SEN), their attitudes towards inclusive education, and their classroom inclusion practices (Beacham and Rouse 2012; Florian and Black-Hawkins 2011). As such the negative perspectives are largely contingent upon teacher training in inclusive settings.

In contrast to the studies that found negative perceptions and attitudes toward inclusion, others have found results that depict positive attitudes. Evins (2015) suggested teachers saw challenges and not negative perceptions of instructing in inclusive education settings; and found teachers were of the view that inclusive settings at times relegated them to focus more on the 'special students' and less on the non-special students. However, despite the challenge posed to teachers, inclusion nonetheless creates a positive learning environment in which students with special needs learn how to socially engage with peers and people (Evins 2015).

Flores (2012) indicated that teachers viewed the classroom as a community whereby the teachers and students worked together in a partnership for education. Students with special needs were asked questions just as regular students were asked. Other positive teacher perspectives toward inclusive education have similarly been documented by Ballhysa and Flagler (2011). They looked at teacher perspectives toward students with special needs in Albania, in the Korca region. Perspectives gathered showed that while all the sampled teachers were willing to work with special needs students in inclusive classrooms, they nonetheless indicated the pending challenges that served as barriers. Specifically, they suggested that teachers lacked the needed training to help them manage inclusive

classrooms well; coupled with the overcrowded classrooms they had to teach. Using linear modelling sequences, Erten (2014) examined whether teacher related practices and attitudes towards inclusive education in grade 3 and grade 5 classrooms had any significant effects on student outcomes. He showed that teachers attitudes toward inclusive education was significantly linked to reading attainments (vocabulary, comprehension, total reading score, reading fluency) and social-emotional outcomes. The work represents one of few works that have established significant links with teachers' perceptions and a resultant positive effect on students learning outcome in inclusive classroom settings.

Similarly, studies have identified teacher characteristics such as age, gender, teaching experience, prior experience with people with disability, teacher education, and self-efficacy as predictors of teachers' attitudes towards inclusive education (Alghazo, Dodeen, and Algaryouti 2000; Avramidis, Buylis, and Burden 2000; Avramidis and Norwich 2002; de Boer, Pijl, and Minnaert 2011; Ellins and Porter 2005; Forlin et al. 2009; Vaz et al. 2015). For example, Ellins and Porter (2005) in their research established that teachers age has no significant effect on having an inclusive attitude, however, Forlin et al. (2009) also established that training in inclusive practices significantly improves the attitudes of younger trainee teachers, but not older ones. In addition to this, Ellins and Porter established that female teacher trainees are more tolerant in implementing inclusive education practices in their classrooms as compared to their male counterparts. In addition to general attitudes towards inclusion, researchers most frequently study factors that influence teacher attitudes, and one of such factors is gender. Different researchers have identified varying differences between teachers' attitudes toward inclusive education and their gender. While studies like Bailey, Nomanbhoy, and Tubpun (2015); Avramidis, Buylis, and Burden (2000) confirmed the inconsistencies in the attitudes between males and females in relation to inclusive education, a number of researchers have also established some significance differences. For example, Romi and Leyser (2006) in their analysis of the attitude of 1155 pre-service teachers' attitude toward inclusive education established that female pre-service teachers had significantly higher scores on the benefit factor; were less concerned about behaviour problems and were more concerned about the lack of teacher skills for inclusion than their male counterparts. Tsakiridou and Polyzopoulou (2014) in examining Greek teachers' attitudes toward the inclusion of students with special educational needs, established that female teachers were more supportive towards the inclusion of special educational need students than their male counterparts. Although none of the authors was able to explain these differences, Mngo and Mngo (2018) established that understanding these differences will require historical and socio-cultural analysis of the context of the various studies to really understand the varying findings.

Although, several researchers have examined teachers attitudes toward inclusive education in Ghana (e.g. Agbenyega and Deku 2011; Nketsia and Saloviita 2013), none of these studies has specifically done a validation of the Multidimensional Attitudes Toward Inclusive Education Scale (MATIES). The purpose of the present study was to examine teachers' attitude toward inclusive education in Ghana by validating the Multidimensional Attitudes Toward Inclusive Education Scale (MATIES) with a Ghanaian sample and as well as examining statistically significant differences in attitudes across certain teacher characteristics (e.g gender, educational qualification, teaching experience and the level of teaching). The findings from this study highlight the gaps that exist in

attitudes of teachers toward inclusive education within the Ghanaian context and provide input in the designing of pre-service and in-service training for teachers in Ghana to aid in the smooth implementation of the inclusive education policy.

Materials and methods

Participants

According to the Education Management Information System (EMIS) 2015/2016 school year data, the Greater Accra Region has about 684 kindergartens, 827 primary and 745 junior high schools that are public funded. Similarly, there about 1531, 1307, and 1054 registered private kindergartens, primary, and junior high schools respectively. While these schools were initially mainstream schools to provide regular education to children, they started adhering to inclusive education policies and principles from the year 2015 onwards (MoE 2015). The Greater Accra also has special education schools that provide specialised education to meet the needs of students with severe learning, mental and physical disabilities. For instance, the Dzorwulu special school, Castle Road Special School provide education for students with intellectual disabilities. The region also boasts of about 51 Senior High and Vocational/Technical schools.

The sample used in this study consisted of non-probability sample of 300 school teachers that were selected from 20 public basic and 6 senior high schools within the capital city of Accra. However, 280 of the selected teachers completed and returned the questionnaire. Of the 280 teachers, 150 were female and 130 were male. The majority of the teachers (84%) were above 30 years of age. In terms of highest educational qualification, 140 of the teachers had a bachelor's degree, 95 had masters' degrees, and the remaining 45 had Diploma in Basic Education (DBE) and Certificate 'A'. Out of the 280 teachers surveyed, 61 had taught between 3 and 10 years, 112 between 11 and 20 years, and 83 had taught for more than 20 years. In terms of levels at which they teach, 83, 84, and 113 taught at the primary, junior high, and senior high schools, respectively.

Measuring instrument

For this study, the Multidimensional Attitudes Toward Inclusive Education Scale (MATIES) developed by Mahat (2008) was adopted and used. The MATIES was used in this study because the MATIES describes teachers' attitudes towards inclusive education in three dimensions. Specifically, the scale comprises three dimensions – cognitive, affective, and behavioural – each measured by six items. The cognitive dimension contains items that reflect teachers' ideas, beliefs, thoughts and opinions about inclusive education. The affective dimension consists of items that reflect teachers' emotions and feelings towards inclusive education. Finally, the behavioural dimension contains items that reflect teachers' intent or willingness to act or behave in certain ways towards inclusive education. Also, the MATIES has acceptable psychometric properties. For instance, Mahat (2008) reported reliability coefficients of 0.77, 0.78 and 0.91 for the affective, cognitive and behavioural dimensions of the MATIES respectively. The MATIES is an 18-item fully labelled Likert scale with a six-point format (strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree). In addition to the items

on the MATIES, five items were included to collect background and demographic information such as teacher's gender, age, highest educational qualification, teaching experience, and the level of teaching.

Data collection procedure

The head teachers of the sampled schools were contacted to seek permission to contact teachers in their schools for this study. Prior to contacting head teachers and teachers in the sampled schools, letters of permission to enter the schools were sent to the municipal and district education directorates. Following approval from the municipal and district directorates of education, details of the questionnaire and plans of the study were explained to school authorities and teachers in the sampled schools. The consent of the teachers was sought through written and verbal communication before administering the questionnaire. Respondents were informed that participation was anonymous and voluntary. The respondents were allowed to complete the questionnaire and return it on the same day they received it. The questionnaires were administered by the third author of this study. It took approximately 15 min to complete one questionnaire, and the data collection lasted 10 days.

Data analysis

Analysis of the data was conducted in three phases. The first phase was a confirmatory factor analysis using maximum likelihood estimation to test the 3-factor structure of the MATES as proposed by Mahat (2008). The fit indices produced were then compared with the acceptable fit indices: comparative fit index (CFI) > 0.95, Tucker-Lewis index (TLI) > 0.97, root mean square error of approximation (RMSEA) < 0.05, standardised root mean square residual (SRMR) < 0.05 (Geiser 2013). Following the poor fit indices produced in phase one, series of explorative factor analyses were carried out in phase two to yield alternative models to reflect the factor structure of the MATES for the Ghanaian data. In phase three, descriptive statistics, scale reliability, and factor scores for the identified factors from phase two were computed. Lastly, a test of mean differences on each subscale was performed across gender, teaching experience, highest educational qualification, and level of teaching using One-way ANOVA. All analyses were conducted using SPSS 22.0

Results

Confirmatory factor analysis

The first step of our analyses was to test for the three-factor structure of the MATIES as proposed by Mahat (2008) and used in Gaines and Barnes (2017). To achieve this aim, confirmatory factor analysis (CFA) was performed using the lavaan package in R (Rosseel 2012). The results of the CFA analysis yielded estimates with poor fit indices in comparison with the acceptable fit indices. Specifically, the fit indices were: CFI = 0.780; TLI = 0.745; RMSEA = 0.125; and SRMR = 0.150. This clearly showed that the three-factor structure of the MATIES theorised by Mahat (2008) was not supported by

the Ghanaian sample. Following this finding, series of exploratory factor analyses were carried out until a simple structure with interpretable structure was obtained.

Exploratory factor analyses

Principal Axis Factoring with an Oblimin with Kaiser Normalisation yielded a four-factor structure for the MATIES with the Ghanaian sample. The retained factors with their respective items as well as factor loadings and Cronbach alphas are provided in Table 1.

As shown in Table 1, the first factor contains items that reflect teachers' intent and readiness to behave or willingness to do things that can promote inclusive education. In this regard, this factor was labelled Behavioural which is the same as Mahat (2008) behavioural dimensions. It is interesting to note that the same number of items (6) loaded in both our behavioural factor and Mahat (2008) behavioural dimension. The reliability coefficient for our behavioural factor was 0.90. The second factor labelled Affective, retained items that relate to teachers' emotional feelings associated with inclusive education. However, unlike Mahat (2008) affective dimension that contains 6 items, the affective factor for this study had 5 items with factor loadings greater than 0.30. The

Table 1. Factor loadings of the MATIES and the reliabilities of the subscales.

Variable	Factor loadings	r_{xx}^a
<i>Factor 1: Behavioural</i>		
I am willing to adapt my communication techniques to ensure that all students with emotional and behavioural disorder can be successfully included in the regular	0.866	0.90
I am willing to adapt the curriculum to meet the individual needs of all students regardless of their disability	0.781	
I am willing to adopt the assessment of individual students in order for inclusive education to take place	0.767	
I am willing to physically include students with a severe disability in the classroom with the necessary support	0.763	
I am willing to modify the physical environment to include students with a disability in the regular classroom	0.742	
I am willing to encourage students with a disability to participate in all social activities in the regular classroom	0.730	
<i>Factor 2: Affective</i>		
I get irritated when I am unable to understand students with disability	0.917	0.86
I get upset when students with a disability cannot keep up with the day-to-day curriculum in my classroom	0.777	
I am uncomfortable including students with disability in a regular classroom with other students without disability	0.682	
I get frustrated when I have to adapt the curriculum to meet the individual needs of all students	0.679	
I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability	0.634	
<i>Factor 3: Positive Beliefs</i>		
I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs	0.972	.766
I believe that inclusion facilitates socially appropriate behaviour amongst all students	0.748	
I believe that an inclusive school is the one that permits academic progression of all students regardless of their ability	0.445	
<i>Factor 4: Negative Beliefs</i>		
I believe that students with a disability should be in special education schools so that they do not experience rejection in the regular school	0.761	0.728
I believe that students with a disability should be segregated because it is too expensive to modify the physical environment of the school	0.698	
I believe that students with a disability should be taught in special education schools	0.336	

^aCronbach's alpha.

item number 7 which is *I get frustrated when I have difficulty communicating with students with a disability* which loaded on Mahat (2008) affective dimensions, did not load on any of the factors for this study. The Cronbach alpha for this factor was 0.86 while the same factor with 6 items in the Mahat (2008) had an alpha value of 0.77. The third and fourth factors with three items each were labelled positive and negative beliefs respectively. The three items that loaded under the positive beliefs factor contained items that reflect teachers' positive attitudes and beliefs towards inclusive education. An example of such items is; *I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs*. The items that loaded onto the negative beliefs factors consist of items that reflect teachers' negative attitudes and beliefs towards inclusive education and include items such as *I believe that students with a disability should be in special education schools so that they do not experience rejection in the regular school*. The Cronbach alpha values were 0.766 and 0.728 for positive beliefs and negative beliefs respectively. Factor scores were then computed for the four retained factors or subscales and used to test for mean differences across gender, age, teaching experience, educational qualification, and level of teaching.

Test of mean differences

The results from an independent t-test did not reveal any significant statistical differences between male and female teachers on behavioural attitudes, affective attitudes, and positive beliefs about inclusive education. However, the results of the independent t-test indicated a significant statistical difference between male and female teachers on their negative beliefs towards inclusive education, $t(273) = 3.516$, $p\text{-value} = 0.001$. A careful look at the mean differences on the negative beliefs subscale indicated that men ($Mean = 7.628$, $SD = 3.194$) exhibited more negative beliefs towards inclusive education than females ($Mean = 6.384$, $SD = 2.595$). For differences across the categories of highest educational qualification (certificate A, Diploma in Basic Education, Higher National Diploma, Bachelors, and Masters), ANOVA results indicated a statistically significant difference on the behavioural subscale, $F(5,278) = 4.178$, $p = 0.001$. A post hoc Tukey test to examine the actual sources of differences on the behavioural dimensions across the categories of highest educational qualification revealed that the difference was between certificate 'A' teachers against the remaining categories. This means that teachers who had certificate 'A', which is a teaching qualification but lower in rank compared to the other qualification categories expressed negative behavioural attitudes towards inclusive education. The post hoc test also showed a difference between teachers with bachelors and those with master's degrees with the former expressing more positive behavioural attitudes towards educational inclusion. ANOVA results also indicated differences across teaching experience on the affective dimension of the MATIES, $F(3,276) = 5.059$, $p = 0.001$. A post hoc Tukey test identified a significant difference between teachers with less than 3 years teaching experience, and those with 3–10 years teaching experience. Significant differences were also noted between 3 and 10 and the 20+ years of teaching experience groups. The finding of the Tukey test revealed a negative relationship between teaching experience and affective attitudes towards inclusive education. Finally, the ANOVA results did not find any statistically significant difference between the level of teachings and the four dimensions of teachers' attitudes toward inclusive education.

Discussion

The results from this study revealed some important findings that highlight some similarities and differences between the Ghanaian sample and the Victorian sample used by Mahat (2008) to develop the MATIES. In particular, the analyses did not support the 3-factor structure of the MATIES as established by Mahat (2008). Instead a 4-factor structure emerged from the Ghanaian sample. While Mahat (2008) viewed teachers' attitudes towards inclusive education in the cognitive, affective, and behavioural dimensions; the 4 factors retained in this study were labelled; behavioural, affective, positive beliefs, and negative beliefs subscales. Interestingly, the same items (13, 14, 15, 16, 17, and 18) loaded under the behavioural subscale in both studies which indicates that both the Ghanaian and Victorian samples are exhibiting similar behavioural attitudes inclusive education. For the affective subscale, the Ghanaian sample retained 5 items (8, 9, 10, 11, and 12), while Mahat (2008) had 6 items under same subscale (7, 8, 9, 10, 11, and 12). Item number 7, which is '*I get frustrated when I have difficulty communicating with students with a disability*', didn't load any factor in this study. The reason this item didn't load on the affective subscale as in the case of Mahat (2008) needs to be explored further. But we can only speculate that this finding may be due to teachers' lack of knowledge and understanding of how to communicate with students with disability. For instance, previous studies have established a link between teachers knowledge, training in special educational needs (SEN), their attitudes towards inclusive education, and their classroom inclusion practices (Beacham and Rouse 2012; Florian and Black-Hawkins 2011). Further, teachers have expressed worry about their readiness to embrace diversity in their regular classrooms because they lack the skills and sufficient training to manage and implement inclusive activities in their classrooms (Agbenyega 2007; Agbenyega and Deku 2011; Sharma, Forlin, and Loreman 2008). Cultural or contextual differences could also be a contributing factor to this finding. For instance, Gaad (2004) revealed that cultural values sometimes shape peoples' attitudes towards children with learning disabilities. It is therefore important to consider maintaining a balance between skills, knowledge and attitudes in promoting inclusive education in Ghana. The major difference in the factor structure of the MATIES for the Ghanaian and Victorian samples was observed with the cognitive dimensions. While, Mahat (2008) had 6 items (1, 2, 3, 4, 5, and 6) loading under the cognitive dimensions, the Ghanaian sample divided these 6 items into two dimensions with 3 items each, items 1, 3 and 4 on one factor, and items 2, 5, and 6 on another factor. A careful look at the items under each factor guided the author to name the factors 'positive beliefs' (1, 3, and 4) and 'negative beliefs' for items 2, 5 and 6 respectively. This finding is consistent with Beacham and Rouse (2012) revelation that pre-service teachers exhibit positive beliefs about inclusive education; as well as Cheung, Wu, and Hui (2015) assertion that teachers sometimes express negative beliefs about students with special educational needs. A possible explanation for this finding, which is the positive and negative beliefs dichotomy in this study and not in Mahat (2008), may be due to religious-cultural beliefs since the cognitive dimension contains items that reflect teachers' ideas, beliefs, thoughts and opinions about inclusive education. Some religious and cultural groups in Ghana see some disabilities as form of punishments or curses from the gods for sins committed by the person with the disability or a relative. Teachers from such backgrounds are likely to exhibit negative attitudes towards disability

that can be extended to inclusive education. For instance, a study by Slikker (2009) on attitudes towards people with disability established that the negative attitudes towards people with disability in Ghana were based on religious and cultural beliefs. Specifically, Slikker (2009) established that 38% of the respondents of her study believed that witchcraft, juju, and curses were the causes of disabilities in people.

Another important finding of this study was the results of the test of mean differences across the four subscales retained in this study. For instance, this study identified a gender difference on only the negative beliefs subscale of the MATIES, where male teachers exhibited more negative attitudes towards inclusive education. Similar findings were found by Vaz et al. (2015) in their study to examine factors associated with primary school teacher's attitudes towards inclusion of students with disabilities. On the contrary, Dukmak (2013) found that males have more positive attitudes towards inclusive education than females. However, earlier studies have indicated mixed findings of the effect of gender on teachers' attitude towards inclusive education. For instance, reviews by (Avramidis and Norwich 2002; de Boer, Pijl, and Minnaert 2011) reported that female teachers exhibited more positive attitudes towards inclusive education than their male counterparts. The finding of this current study is an indication that gender plays a significant role when it comes to teacher's attitude to inclusive education, and that male teachers exhibit negative attitudes toward inclusive education. The explanation for this finding calls for further investigations or can best be speculated in terms of higher tolerance levels of females rather than actual differences in perceptions of male and female teachers towards inclusive education.

Like previous studies, the current study found that older teachers tend to exhibit negative attitudes towards inclusive education (Avramidis and Norwich 2002; de Boer, Pijl, and Minnaert 2011; Vaz et al. 2015). This result is not that surprising because it is possible that older teachers might have limited knowledge or training in terms of inclusive education and they might not be willing to adjust their instructional activities and practices to promote inclusive education. Similar arguments can be made for the findings that indicated a significant difference in attitudes for teachers with Cert 'A' and those with university degrees. This is because the Colleges of Education in Ghana, formerly called Teacher Training Colleges are no longer awarding Cert 'A' qualification to teachers since 2008, and thus it is likely that most of the experienced and older teachers were awarded that qualification.

This study had some limitations that are worth mentioning. For instance, this study was conducted in only Accra using a non-probability sample of 280 teachers who cannot represent the views and attitudes of teachers in other regions of the country towards inclusive education and this could compromise the generalizability of the findings of this study.

Further, although the MATIES used in the current study is psychometrically sound; it does not provide information that can explain why teachers uphold the attitudes they do. This would require in-depth analyses of teachers' attitudes. Finally, this study did not include factors, beyond the classroom, such as teachers' general attitudes towards people with disabilities in the wider society.

Considering the findings and limitations of this study, it can be concluded that certain teacher characteristics influenced their attitudes towards inclusive education. Specifically, male and older teachers exhibited negative attitudes towards inclusive education. It is therefore recommended that; in-service training should be organised regularly for practising teachers to increase their knowledge, understanding, and skills which in tend can build

their confidence on issues with inclusiveness and eventually modify their attitudes towards inclusiveness. Further, it is also recommended that a component or a course on inclusive education should be introduced in the curriculum of teacher training institutions and universities to prepare student teachers adequately on issues of inclusive education. Future research should be conducted to investigate what can be done differently or changed to prompt the desired readiness or preparedness, and the positive attitudes from teachers towards inclusive education

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Paul Kwame Butakor is a lecturer at the department of Teacher Education, University of Ghana. He holds a Ph.D (Measurement, Evaluation, & Cognition) from the University of Alberta, Canada; MSc Educational Sciences from the University of Groningen, Netherlands; and B.Ed (Mathematics and Statistics) from the University of Cape Coast. His research interests include: educational measurement, assessment and evaluation, statistical methods in education and psychology, mathematics education, inclusive education, and teacher education.

Ernest Ampadu holds a B.Ed (Mathematics) from the University of Cape Coast, Research Master's Degree in International and Comparative Education from the Stockholm University, Sweden, MA in Adult Learning and Global Change from Linköping University, Sweden and a Ph.D in Education (Mathematics) from Anglia Ruskin University, UK. He currently works as a lecturer at the department of Teacher Education, University of Ghana and as an online faculty with Laureate Online Education (Roehampton University, UK).

Saratu Jenepha Suleiman is a nurse educator at the Patang Nursing and Midwifery Training College and a graduate student at the School of Education and Leadership, University of Ghana.

References

- Agbenyega, J. 2007. "Examining Teachers' Concerns and Attitudes to Inclusive Education in Ghana." *International Journal of Whole Schooling* 3 (1): 41–56.
- Agbenyega, J., and P. Deku. 2011. "Building New Identities in Teacher Preparation for Inclusive Education in Ghana." *Current Issues in Education* 14 (1).
- Alghazo, E. M., H. Dodeen, and L. A. Algaryouti. 2000. "Attitudes of Pre-service Teachers towards Persons with Disabilities: Predictions for the Successful Inclusion." *College Student Journal* 37 (4): 515–522.
- Ameteppee, L. K., and D. Anastasiou. 2015. "Special and Inclusive Education in Ghana: Status and Progress, Challenges and Implications." *International Journal of Educational Development* 41: 143–152.
- Arabi, K. A. M., and S. Z. S. Abdalla. 2013. "The Impact of Human Capital on Economic Growth: Empirical Evidence from Sudan." *Research in World Economy* 4 (2): 43.
- Avoke, M. 2002. "Models of Disability in the Labelling and Attitudinal Discourse in Ghana." *Disability and Society* 17 (7): 769–777.
- Avramidis, E., P. Buylis, and R. Burden. 2000. "A Survey into Mainstream Teachers' Attitudes towards the Inclusion of Children with Special Educational Needs in the Ordinary School in One Local Education Authority." *Educational Psychology* 20 (2): 191–211.
- Avramidis, E., and B. Norwich. 2002. "Teachers' Attitudes towards Integration/Inclusion: A Review of the Literature." *European Journal of Special Needs Education* 17 (2): 129–147.

- Bailey, L., A. Nomanbhoy, and T. Tubpun. 2015. "Inclusive Education: Teacher Perspectives from Malaysia." *International Journal of Inclusive Education* 19 (5): 547–559.
- Ballhysa, N., and M. Flagler. 2011. "A Teachers' Perspective of Inclusive Education for Students with Special Needs in a Model Demonstration Project." *Academicus International Scientific Journal* 3: 121–133.
- Barnes, M., and T. Gaines. 2015. "Teachers' Attitudes and Perceptions of Inclusion in Relation to Grade Level and Years of Experience." *Electronic Journal of Inclusive Education* 3 (3).
- Beacham, N., and M. Rouse. 2012. "Student Teachers' Attitudes and Beliefs about Inclusion and Inclusive Practice." *Journal of Research in Special Educational Needs* 12 (1): 3–11. doi:10.1111/j.1471-3802.2010.01194.x.
- Block, M., A. Taliaferro, N. Harris, and J. Krause. 2010. "Using Self-efficacy Theory to Facilitate Inclusion in General Physical Education." *Journal of Physical Education, Recreation & Dance* 81 (3): 43–46.
- Brackenreed, D. 2011. "Inclusive Education: Identifying Teachers' Strategies for Coping with Perceived Stressors in Inclusive Classrooms." *Canadian Journal of Educational Administration and Policy* 122. (ERIC No. EJ936704).
- Cassady, J. M. 2011. "Teachers' Attitudes toward the Inclusion of Students with Autism and Emotional Behavioral Disorder." *Electronic Journal for Inclusive Education* 2 (7): 5.
- Cheung, H. Y., K. F. J. Wu, and K. F. S. Hui. 2015. "Chinese Attitudes toward Inclusive Education: Perspectives of Hong Kong and Macau Secondary School Teachers, Students and Parents." *International Research Journal for Quality in Education* 2: 1–14.
- Chow, C. M., B. Croft, and B. Cichocki. 2015. "Evaluating the Potential Cost-savings of Job Accommodations among Individuals with Psychiatric Disability." *Journal of Vocational Rehabilitation* 43: 67–74.
- Consiglio, A., M. Guarnera, and P. Magnano. 2015. "Representation of Disability. Verification of the Contact Hypothesis in School." *Procedia - Social and Behavioral Sciences* 191: 1964–1969.
- de Boer, A., S. J. Pijl, and A. Minnaert. 2011. "Regular Primary Schoolteachers' Attitudes toward Inclusive Education: A Review of the Literature." *International Journal of Inclusive Education* 15 (3): 331–353.
- de Graaf, G., G. van Hove, and M. Haveman. 2013. "More Academics in Regular Schools? The Effect of Regular Versus Special School Placement on Academic Skills in Dutch Primary School Students with Down Syndrome." *Journal of Intellectual Disability Research* 57 (1): 21–38.
- DeMonte, J. 2013. "High-quality Professional Development for Teachers: Supporting Teacher Training to Improve Student Learning." *Center for American Progress*. (ERIC No. ED561095).
- Dessemontet, R. S., G. Bless, and D. Morin. 2012. "Effects of Inclusion on the Academic Achievement and Adaptive Behaviour of Children with Intellectual Disabilities." *Journal of Intellectual Disability Research* 56 (6): 579–587.
- Dukmak, S. J. 2013. "Regular Classroom Teachers' Attitudes towards Including Students with Disabilities in the Regular Classroom in the United Arab Emirates." *The Journal of Human Resource and Adult Learning* 9 (1): 26–39.
- Ellins, J., and J. Porter. 2005. "Departmental Differences in Attitudes to Special Educational Needs in the Secondary School." *British Journal of Special Education* 32 (4): 188–195.
- Erten, O. 2014. "Effective Inclusive Classrooms: Examining the Relationship between Perceptions of Inclusion, Effective Teaching and Student Outcomes." *Doctoral diss.*, McGill University Libraries.
- Evins, A. E. 2015. "The Effects of Inclusion Classrooms on Students with and Without Developmental Disabilities: Teachers' Perspectives on the Social, Emotional, and Behavioural Development of All Students in Inclusion Classrooms." *Doctoral Papers and Masters Projects*. 31. http://digitalcommons.du.edu/capstone_masters/31.
- Flores, K. V. 2012. "Inclusion and General Education Teachers' Perspectives on Inclusion: A Qualitative Case Study." *Master's thesis*. <http://csus-dspace.calstate.edu/bitstream/handle/10211.9/1823/PDF.pdf?sequence=1>.
- Florian, L., and K. Black-Hawkins. 2011. "Exploring Inclusive Pedagogy." *British Educational Research Journal* 37 (5): 813–828. doi:10.1080/01411926.2010.501096.

- Forlin, C., T. Loreman, U. Sharma, and C. Earle. 2009. "Demographic Differences in Changing Pre-service Teachers' Attitudes, Sentiments and Concerns about Inclusive Education." *International Journal of Inclusive Education* 13 (2): 195–209. doi:10.1080/13603110701365356.
- Fuchs, W. 2010. "Examining Teachers' Perceived Barriers Associated with Inclusion." *SRATE Journal* 19 (1): 30–35.
- Gaad, E. 2004. "Cross-cultural Perspectives on the Effect of Cultural Attitudes towards Inclusion for Children with Intellectual Disabilities." *International Journal of Inclusive Education* 8 (3): 311–328.
- Gaines, T., and M. Barnes. 2017. "Perceptions and Attitudes about Inclusion: Findings across All Grade Levels and Years of Teaching Experience." *Cogent Education* 4: 42.
- Gakidou, E., K. Cowling, R. Lozano, and C. J. L. Murray. 2010. "Increased Educational Attainment and Its Effect on Child Mortality in 175 Countries between 1970 and 2009: A Systematic Analysis." *The Lancet* 376 (9745): 959–974.
- Geiser, C. 2013. *Data Analysis with Mplus*. New York: Guilford Press.
- GES (Ghana Education Service). 2003. *Increasing Access to Quality Basic Education for Children with Special Needs: Special Education Project with VSO*. Accra: GES.
- GoG (Government of Ghana). 2015. *Inclusive Education Policy*. Accra: Ministry of Education.
- Griggs, D., Mark Stafford-Smith, Owen Gaffney, Johan Rockström, Marcus C. Öhman, Priya Shyamsundar, Will Steffen, Gisbert Glaser, Norichika Kanie, and Ian Noble. 2013. "Sustainable Development Goals for People and Planet." *Nature* 495: 305–307. doi:10.1038/495305a.
- Harper, C. C. 2013. "The Effects of Inclusion Practices on the Emotional Growth and Academic Achievement of Elementary Students." *Masters diss.*, Evergreen State College.
- Hehir, T., T. Gridal, B. Freeman, R. Lamoreau, Y. Borquaye, and S. Burke. 2016. *A Summary of the Evidence on Inclusive Education*. Instituto Alana.
- Hehir, T., T. Grindal, and H. Eidelman. 2012. *Review of Special Education in the Commonwealth of Massachusetts*. Boston, MA: Massachusetts Department of Elementary and Secondary Education.
- Hwang, Y., and D. Evans. 2011. "Attitudes towards Inclusion: Gaps between Belief and Practice." *International Journal of Special Education* 26: 136–146.
- Isola, W. A., and R. A. Alani. 2012. "Human Capital Development and Economic Growth: Empirical Evidence from Nigeria." *Asian Economic and Financial Review* 2 (7): 813.
- Kuroda, K., D. Kartika, and Y. Kitamura. 2017. "Implications for Teacher Training and Support for Inclusive Education in Cambodia: An Empirical Case Study in a Developing Countries." Working Paper: JICA Research Institute, Shinjuku: Japan.
- Lampert, M. 2012. "Special Needs Students in Inclusive Classrooms: The Impact of Social Interaction on Educational Outcomes for Learners with Emotional and Behavioural Disabilities." *European Journal of Business & Social Sciences* 1 (5): 54–69.
- Mahat, M. 2008. "The Development of a Psychometrically Sound Instrument to Measure Teachers' Multidimensional Attitudes toward Inclusive Education." *International Journal of Special Education* 23: 82–92.
- McGuinn, P. 2016. "From No Child Left Behind to the Every Student Succeeds Act: Federalism and the Education Legacy of the Obama Administration. Publius." *The Journal of Federalism* 46 (3): 392–415.
- Mngo, Z. Y., and Y. A. Mngo. 2018. "Teachers' Perceptions of Inclusion in a Pilot Inclusive Education Program: Implications for Instructional Leadership." *Education Research International*. doi:10.1155/2018/3524879.
- MoE (Ministry of Education). 2015. *Education Management Information System (EMIS) Data*. Accra: MoE.
- Nketsia, W., and T. Saloviita. 2013. "Pre-service Teachers' Views on Inclusive Education in Ghana." *Journal of Education for Teaching* 39 (4): 429–441. doi:10.1080/02607476.2013.797291.
- No Child Left Behind Act. (2001)2002. P. L. 107 - 110, 20 U.S. C.§ 6319

- Nübler, I. 2013. "Education Structures and Industrial Development: Lessons for Education Policies in African Countries." Paper presented to UNU-WIDER Conference on Learning to Compete: Industrial Development and Policy in Africa, Helsinki, Finland, June 24–25.
- Nübler, I. 2014. "Social Policy and Productive Transformation: Linking Education with Industrial Policy." UNRISD Conference, New Directions in Social Policy: Alternatives from and for the Global South, April.
- Nubler, I. 2016. "New Technologies: A Jobless Future or a Golden Age of Job Creation?" Working paper no. 13. International Labour Office.
- Romi, S., and Y. Leyser. 2006. "Exploring Inclusion Preservice Training Needs: A Study of Variables Associated with Attitudes and Self-Efficacy Beliefs." *European Journal of Special Needs Education* 21 (1): 85–105. doi:10.1080/08856250500491880.
- Rosseel, Y. 2012. "lavaan: An R Package for Structural Equation Modeling." *Journal of Statistical Software* 48 (2): 1–36. doi:10.18637/jss.v048.i02.
- Sayed, Y., K. Akyeampong, and J. G. Ampiah. 2000. "Partnership and Participation in Whole School Development in Ghana." *Education Through Partnership* 4 (2): 40–51.
- Schwarzer, R., and S. Hallum. 2008. "Perceived Teacher Self-Efficacy as a Predictor of Job Stress and Burnout: Mediation Analyses." *Health and Well-Being* 57: 152–171. doi:10.1111/j.1464-0597.2008.00359.x.
- Sharma, U., C. Forlin, and T. Loreman. 2008. "Impact of Training on Pre-service Teachers' Attitudes and Concerns about Inclusive Education and Sentiments about Persons with Disabilities." *Disability & Society* 23 (7): 773–785. doi:10.1080/09687590802469271.
- Slikker, J. 2009. *Attitudes towards Persons with Disability in Ghana*. Ghana: VSO.
- Suc, L., B. Bukovec, M. Zveglic, and D. Karpljuk. 2016. "Primary School Teachers' Attitudes towards Inclusive Education in Slovenia: A Qualitative Exploration." *RUO. Revija za Univerzalno Odlicnost* 5 (1): 30–46.
- Sucuoğlu, B., H. Bakkaloğlu, F. İ. Karasu, Ş. Demir, and S. Akalın. 2013. "Inclusive Preschool Teachers: Their Attitudes and Knowledge about Inclusion." *International Journal of Early Childhood Special Education* 5 (2): 107–128.
- Tsakiridou, H., and K. Polyzopoulou. 2014. "Greek Teachers' Attitudes toward the Inclusion of Students with Special Educational Needs." *American Journal of Educational Research* 2 (4): 208–218.
- Vaz, S., N. Wilson, M. Falkmer, A. Sim, M. Scott, R. Cordier, Torbjörn Falkmer, and Jacobus van Wouwe. 2015. "Factors Associated with Primary School Teachers' Attitudes towards the Inclusion of Students with Disabilities." *PLoS ONE* 10 (8): e0137002. doi:10.1371/journal.pone.0137002.