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Does self-efficacy of teachers toward inclusive education differ between primary and secondary school? A cross-cultural study of Ghana and the United Arab Emirates

Ahmed Mohamed^a, Maxwell Peprah Opoku^a, Bernadette M. Guirguis^{b,*}, Ebenezer Mensah Gyimah^c, Maya Al Yafi^a, Shouq Alqahtani^a, Safa Alharthi^a, Mahra Aldhanhani^a, Al Zahra Aljaberi^a

^a Special and Gifted Education Department, United Arab Emirates University, Al Ain, United Arab Emirates

^b College of General Education, Zayed University, Abu Dhabi, United Arab Emirates

^c School of Clinical Medicine, Auckland University of Technology, Auckland, New Zealand

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ABSTRACT

There are ongoing debates on the level of education that students with special educational needs could participate in and enjoy as part of their fundamental right to education. There is a notion that students with special educational needs could be more easily included in primary schools than in secondary schools. However, teachers were excluded from such discussions. The current study aims to invigorate such discussion by exploring primary and secondary school teachers' self-efficacy across Ghana and the United Arab Emirates (UAE). A total of 897 teachers were recruited from Ghana and the UAE to rate their self-efficacy via the Teacher Efficacy for Inclusive Practice Scale. The study findings provide theoretical support for the Teacher Efficacy for Inclusive Practice Scale as an appropriate instrument for examining teachers' self-efficacy in Ghana and the UAE. The findings also revealed differences between teachers in terms of gender, participation in professional development, level of teacher and school type. The study concludes with a recommendation for national dialogue to develop the scope of teacher self-efficacy across both Ghana and UAE. Other study implications are discussed.

1. Introduction

Inclusive education is gaining popularity because of its potential to promote reasonable access to education to all students in regular classrooms (Abdulrahman et al., 2021; Ainscow & Sandill, 2010; Jardinez & Natividad, 2024; Opoku, Nketsia, Agyei-Okyere et al., 2022). In this study, inclusive education is defined as creating access to education to students with special needs such as disabilities to participate in schools within their community (Sharma et al., 2017). Indeed, sustainable Development Goal 4 target 4.5 specifically refers to the need for educators to enact inclusive education to afford all children the opportunity to participate in education. However, the implementation of inclusive education is at crossroads, as education systems are struggling to successfully support the education of all children in one classroom (Bektas et al., 2025; Opoku, Elhoweris, et al., 2024; Spandagou, 2025). Indeed, both Western and nonwestern contexts face challenges related

to teacher education, resources, parental support and allied health professionals to contribute to successful practices in schools (Alhammadi, Meda, et al., 2024; Garcia-Melgar et al., 2022; Phoenix et al., 2021; Sharma et al., 2017). The current argument in the field of inclusive education is a move beyond acceptance and challenges to explore factors that could enhance practices. There are currently discussions on the need for especially non-Western contexts to explore contextual factors that could impact the effective implementation of inclusive education in schools (Alnuaimi et al., 2025; Koloto, 2021; Sharma et al., 2017).

One of the major determinants of inclusive education is support systems available to teachers to teach all students in one classroom (Sharma et al., 2017). In particular, the call for countries to implement inclusive education led to teacher training institutions reforming their education systems to practice inclusive education. In many countries, there is considerable effort towards training teachers to support teaching

* Corresponding author.

E-mail address: bernadette.guirguis@zu.ac.ae (B.M. Guirguis).

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and learning practices (Al-Rashaida & Massouti, 2024; Muñoz-Martínez et al., 2021; Naami & Mort, 2023). Consequently, research has explored teachers' knowledge, attitudes, best teaching practices and readiness to teach all students in regular classrooms (Alsarawi & Sukonthaman, 2023; Hassanein et al., 2021; Nketsia et al., 2024). There is evidence that teachers and practitioners have criticized the quality of training offered to teachers. It is unsurprising that teachers' inability to practice inclusive education is linked to the inadequate training offered to them during preservice (Alhammedi, 2024; Ismailos et al., 2022; Opoku, Cuskelly, et al., 2021) or the theoretical nature of in-service training (Alhammedi, Meda, et al., 2024; Opoku, Rayner, et al., 2021). Teacher educators are exploring effective ways to equip teachers with the necessary skills to contribute to the teaching of students with diverse needs in regular classrooms.

In addition to teacher training, other stakeholders, such as school leaders and policymakers, are expected to complement the efforts of teachers (Ainscow & Sandill, 2010). For example, in the school context, school leaders are the promoters of inclusive education. This includes developing policies, advocating for inclusiveness, liaising between schools and policies, and sourcing resources and community partnerships to facilitate inclusive practices (Ackah-Jnr, 2022; Massouti et al., 2023; Salifu & Abonyi, 2025). Additionally, policymakers are required to offer national leadership and guidelines. This is in the form of developing policies and procedures for practice as well as making resources available in schools (Asamoah et al., 2022; Massouti et al., 2024). Additionally, parental involvement and contribution are vital for inclusive implementation in schools. Parents are the primary carers for children and spend more time with their children (Li & Guo, 2023; Shanley et al., 2024). Parental teaching and healthy collaboration with teachers would enable teachers to access the required information to teach children with SEND in their classroom (Al-Hail et al., 2021; Dev et al., 2024; Honu-Mensah et al., 2024). It is understandable that teachers who are well trained are aware of their skills and system support to enable them to teach all students in their classrooms.

The need to emphasize system support has culminated in researchers studying teachers' self-efficacy in implementing inclusive education. Teachers are being open to the skillsets needed as well as the environment required to practice inclusive education (Al-Rashaida & Massouti, 2024; Opoku-Nkoom & Ackah-Jnr, 2023). Understanding the self-efficacy of teachers is vital, as teacher educators know that teachers perceive their teaching skills and the environment with which they are expected to work. Consequently, Sharma et al. (2012) developed TEIP via Bandura's social cognitive theory, which is widely used to guide studies on teacher self-efficacy. TEIP is made up of a three-factor structure: collaboration, behaviour management and instruction (Sharma et al., 2012). TEIP enables systems to understand how teachers are prepared to teach supportive structures to enable their management behaviour and collaboration with other stakeholders to promote equitable access to education (Opoku, Nketsia, & Mohamed, 2022; Selenius & Ginner Hau, 2024; Vogiatzi et al., 2022). However, in nonwestern contexts such as Ghana and the UAE, there are challenges associated with teacher development and support systems to support teachers' practices of inclusive education (Ackah-Jnr et al., 2025; Alnuaimi et al., 2025). Additionally, the level of involvement of students with disabilities in both primary and secondary schools has been found to be low (Gyimah et al., 2025). Even if they have access, they struggle to participate in teaching and learning practices effectively (Ito et al., 2023; Schwab, 2018). This lends support to positive self-efficacy in a cross-national study to position teachers' voices on issues related to their perceived competence and the support systems available in schools.

The efforts of teacher educators to increase teachers' self-efficacy lend support for this study. This means that teachers would rate their experiences, which could be considered in future policy reforms. For example, contextualizing inclusive education suggests the development of systems to enhance practices (Meda, Efthymiou, et al., 2023; Opoku, Rayner, et al., 2021). There is evidence that inclusive practices in

schools do not meet the needs of students. Understanding the self-efficacy of teachers would provide relevant information to policymakers and international development about lapses in practices and offer useful directions to policymakers. This is particularly significant, as research on teacher self-efficacy is usually confined to broader research on teachers' intentions towards teaching students with SEND (Ahsan et al., 2025; Opoku, Cuskelly, et al., 2021). This has the potential to oversimplify the essence or relevance of teachers' self-efficacy in shaping inclusive teaching practices. There is an urgent need for comparative research exploring teachers' self-efficacy to trigger debate among researchers and practitioners in non-Western countries on system development to implement inclusive education.

The overarching aim of this study is to compare the self-efficacy of primary and secondary school teachers teaching in inclusive classrooms in Ghana and the United Arab Emirates. The study contributes to theory and practice by situating teacher self-efficacy within a comparative framework. To our knowledge, this is the first study to examine teachers' self-efficacy towards inclusive education across two non-Western contexts. Furthermore, in the non-Western context, there are still issues pertaining to the level of participation of students with SEND at all levels of education (Abdat & Gaad, 2022, pp. 9–23; Aldersey et al., 2025; Komabu-Pomeyie, 2024; Morgan, 2023). It is believed that inclusive education is practiced more in primary schools than in secondary schools (Opoku, Cuskelly, Rayner, et al., 2022; Triviño-Amigo et al., 2022). As students with SEND progress through the academic ladder, inclusive education becomes increasingly difficult to practice (Lister et al., 2022; Opoku, 2021; Oswal et al., 2025). However, the current study moves beyond claims on practice to explore whether teachers have the requisite skills and support systems to practice inclusive education in primary and secondary schools. Comparing teacher self-efficacy across two non-Western countries is necessary to gain insight into teachers' self-reported preparedness and the environment in which they teach.

1.1. Theoretical framework

Bandura's work on social cognitive theory focused on the concept of self-efficacy, describing it as the judgments people make about how well they can use what they know in practice (Bandura, 1989a, 1989b). In Bandura's account, efficacy is expressed through human agency—the capacity to reflect, anticipate outcomes, and take purposeful action. However, his focus was primarily on the individual. The present study extends this line of thought by situating self-efficacy within the working conditions of inclusive education. In the classroom, such judgments influence teachers' willingness to set challenging goals, keep going when lessons are difficult, and try new approaches rather than retreat when problems arise. However, belief alone is fragile; when tasks become complex or progress slowly, confidence can falter. This tension is highly relevant to inclusive education.

Bandura's self-efficacy theory has been incorporated into the theory of planned behaviour (TPB). In the conception of the theory of planned behaviour, Ajzen (1991) noted that perceived behaviour control is an important variable that could influence one's intention towards a given behaviour. The TPB emerged from the theory of reasoned action, which identifies behaviour as a product of behavioural belief and normative belief. However, Ajzen contended that there are contextual and individual factors that should be considered when one's intentions are assessed. Individuals may have the requisite skills; however, without supportive structures, they may be incapable of performing their duties. Consequently, Ajzen suggested that factors within the context where behaviour takes place ought to be accounted for to help develop a comprehensive understanding of one's intentions. Consistently, in inclusive education research, self-efficacy has been noted as vital for explaining teachers' intentions towards teaching all students in regular classrooms (Ahsan et al., 2025; Al Rashaida et al., 2025; Opoku, Cuskelly, et al., 2021).

Teachers are the main drivers of inclusive education (Ahsan et al.,

2025; Charitaki et al., 2025; Loyd et al., 2024; Naami & Mort, 2023). It is therefore unsurprising that the literature on inclusive education has focused on teacher-related variables that may influence inclusive practices (e.g., Ahsan et al., 2025; Charitaki et al., 2025; Sharma et al., 2017; Subban et al., 2021; Woodcock et al., 2023). However, inclusive education extends beyond teacher training, as teachers may require support from multiple stakeholders before they can effectively teach all students (Ainscow & Sandill, 2010). For inclusion to take root in everyday classrooms, confidence must be matched with resources, leadership support, and appropriate training/professional development that allow teachers to implement inclusive strategies. Teachers assess their perceived pedagogical skills in relation to the contexts in which they teach. This enables teachers to ascertain whether they are better positioned to offer supportive teaching services to students. For example, many teachers may perceive themselves as confident in their abilities yet this confidence can diminish when they face overcrowded classes, limited resources, or little institutional support (Dev et al., 2024; Van Staden-Payne & Nel, 2023; Yuwono & Okech, 2021). In such settings, belief in one's own capacity is not enough; it depends on whether the environment enables that belief to be enacted.

1.2. Self-efficacy of schoolteachers

In previous studies, attention has been given to the self-efficacy of teachers. Some studies have explored teachers' self-efficacy in either primary or secondary schools (Gale et al., 2021; Opoku et al., 2023; Opoku, Nketsia, & Mohamed, 2022; Vidergor, 2023). For example, Woodcock's study with Australian primary and secondary teachers illustrates this well (Woodcock et al., 2023; Woodcock & Jones, 2020). Teachers who approached inclusion as simply good teaching tended to describe themselves as more confident in everyday work, such as lesson planning, student engagement, and classroom control. The results suggest that it was their outlook on inclusion, rather than seniority or credentials, that most influenced their sense of capability. This finding points to something practical: ongoing professional learning that strengthens teachers' grasp of inclusive pedagogy can do more for their confidence than background characteristics alone. Similarly, Woodcock and Jones (2020) observed in the UK that secondary teachers who regarded inclusive classrooms as simply good teaching tended to feel more capable—whether in managing behaviour, engaging learners, or planning lessons—than colleagues who were doubtful (Woodcock & Jones, 2020). Moreover, in the Czech Republic, teachers with special education training feel far more confident in their ability to teach inclusively (Pivarč, 2022). In this case, training proved central to teachers' sense of readiness.

Conversely, in other studies, teachers are concerned with their self-efficacy in practising inclusive education. A study by Vogiatzi et al. (2022) in Greece confirmed that the TEIP instrument held well psychometrically. Even so, the results pointed to low teacher self-efficacy in areas such as behaviour management and collaboration. What stood out was not reluctance on the part of teachers but shortcomings in the preparation system, which left them feeling unready for the demands of inclusion. These results suggest that the issue is less about teachers' willingness than about how well their preparation equips them with the interpersonal and organizational challenges of inclusion. Moreover, a study by Gal et al. (2025) reported that most teachers supported the idea of inclusion in principle, but many questioned whether they could actually manage it without better preparation and stronger backing from their schools. Some feared negative academic consequences for students, whereas others described the difficulty of trying to work without collaborative support. These concerns are echoed in larger studies. A meta-analysis covering more than 100 investigations across 40 countries revealed that teachers' self-efficacy for inclusion was generally moderate but increased noticeably when they were given targeted training—especially training that took place in real classrooms and involved reflection on practice (Dignath et al., 2022). Tseeke's (2021)

study of secondary teachers in Lesotho clarifies how fragile self-efficacy can be when schools lack the basics. Some teachers with years of experience supporting learners with visual impairment described feeling confident, but most admitted that they struggled without braille materials, specialist training, or institutional backing. Schwab's (2021) research in Germany reminds us that these gaps do not just exist between schools or systems—they also surface inside classrooms (Schwab et al., 2021). Teachers often felt least confident with students who had behavioral difficulties, which suggests that general training in inclusion only goes thus far if it does not equip teachers with strategies for specific challenges.

Differences have been reported between teachers in terms of their self-efficacy in teaching students in inclusive classrooms. For example, in a comparative study, American participants in dual-certification programs tended to describe themselves as somewhat more confident than their Spanish peers did, although in both countries, self-efficacy was only moderate overall. The real difference came from whether teachers had structured chances to practice inclusive strategies during their training (Miralles-Cardona et al., 2025). In Spain, Arias-Pastor (2024) noted that students in the MDSE program generally felt reasonably confident about teaching inclusively, particularly when instructional strategies or engaging learners were used. However, their confidence in classroom management, especially in the context of disruption, has increased (Arias-Pastor et al., 2024). Additionally, Wang et al. (2022) reported that in Chinese schools, teachers' confidence increased when leadership was shared and when teachers themselves were given space to promote inclusive values and connect with outside support systems. In contrast, Keppens et al. (2021) reported that student teachers' sense of efficacy influenced the way they read classroom interactions, particularly in areas such as differentiated instruction and their relationships with students.

Several studies highlight the role of teaching experience, although not always in consistent ways. The study by Subban et al. (2021) revealed that in their Australian sample, teachers with more than twenty years of experience—often older educators—tended to feel more confident in including students with disabilities than did their colleagues at the start of their careers. They linked this difference to the cumulative effect of repeated successes in inclusive classrooms rather than to age per se. In contrast, Woodcock et al. (2023) observed the reverse trend in Australia: younger teachers often voiced stronger beliefs in inclusion than their older colleagues did. He links this to the possibility that recent cohorts have received training programs shaped more directly by current inclusion policies and practices. Large-scale cross-national studies also confirm these patterns: Gümüş (2023) (2013 TALIS data) reported a generally positive association between teaching experience and self-efficacy, although with nonlinear trajectories in some contexts, where efficacy increased with years of practice but plateaued or declined among the most senior teachers. These findings suggest that while accumulated classroom success can reinforce efficacy, stagnation or burnout may temper confidence in later career stages.

Gender differences have also emerged, although with variation across cultural contexts. Avanzi's Italian–Norwegian study reported that male teachers rated themselves higher in instructional strategies and discipline, whereas Norwegian teachers' efficacy varied by gender, age, and school level. In contrast, Gümüş reported that female teachers reported greater efficacy across most TALIS countries, except in Korea and Japan, where cultural gender norms appeared to moderate results. Opoku's (2022) Ghanaian study added nuance by showing that male teachers expressed slightly stronger intentions toward inclusion, but the effect was small compared with other factors, such as exposure to training. These mixed findings underscore that gender effects are not universal but are mediated by cultural expectations and systemic contexts.

Other demographic and contextual factors also play a role. In Ghana, Opoku (2022) noted an interesting difference between school settings. Compared with those in public schools, teachers working in private

schools tended to rate themselves higher in terms of self-efficacy and reported stronger intentions to put inclusive practices into action. He links this not only to individual attitudes but also to the culture and resources available in each setting, implying that institutional conditions can buoy or dampen teachers' confidence. [Avanzi's \(2013\)](#) cross-cultural validation of the NTSES further revealed variation at the school level, with differences in efficacy depending on whether teachers worked in primary or secondary settings. [Schwab \(2021\)](#) approached the question from the student side, showing that teacher self-efficacy fluctuates depending on individual students' characteristics—particularly behavioral challenges—and highlighted that demographic factors interact not only at the teacher level but also in the teacher–student dyad.

More recent research has broadened the lens, exploring the psychological and organizational dimensions of self-efficacy. A study by [Huang \(2023\)](#) showed that mindfulness can bolster teachers' inclusive attitudes by enhancing empathy and emotional awareness, which in turn supports classroom management and adaptive instruction. Evidence from Finland adds a further perspective: [Savolainen et al. \(2022\)](#) showed that self-efficacy is not only linked with positive attitudes but can also shape how those attitudes evolve over time. In this case, teachers who grew more confident in their ability to include students became more open and assured about the feasibility of inclusion ([Savolainen et al., 2022](#)).

The body of knowledge on teachers' self-efficacy towards inclusive education highlights why cross-national research cannot assume homogeneity: the impact of demographics on self-efficacy is shaped by broader cultural and institutional environments. For the present study, which examines UAE and Ghanaian teachers, these insights suggest that demographic variables should not be dismissed but should be carefully considered alongside training opportunities and systemic support, since they may moderate how teachers develop the confidence to enact inclusive education.

1.3. Comparative study on self-efficacy

Comparative research on teacher self-efficacy and inclusive education is still limited, but the few available studies point to the importance of both the cultural context and hands-on experience. Yada's study of Japanese and Finnish teachers, for example, revealed that working directly with students with disabilities tended to improve teachers' attitudes and sense of efficacy in both countries. However, the role of training differed across contexts. In Finland, formal preparation in inclusive education added to these gains, whereas in Japan, teachers reported that their confidence grew more through day-to-day classroom practice than through structured courses ([Yada et al., 2018](#)). [Miralles-Cardona's](#) analysis of Spanish and U.S. preservice teachers echoes this pattern by demonstrating that program design alone is insufficient; instead, the strongest predictor of efficacy is the quality and frequency of practice-based opportunities to learn inclusive strategies, regardless of program type ([Miralles-Cardona et al., 2025](#)). Scholarship reveals that self-efficacy for inclusion does not automatically emerge from enrollment in teacher preparation programs or policy mandates. Confidence in inclusive teaching does not automatically come from coursework alone. It tends to develop when teacher preparation programs combine training with real opportunities to work with diverse learners. This makes it especially important for teacher education systems to provide authentic, sustained experiences that help future teachers build both practical skills and self-belief.

Self-efficacy for inclusion is not merely a product of formal coursework but is strengthened when teachers are given authentic opportunities to work with diverse learners. However, they also reveal how national contexts shape whether training translates into confidence, highlighting the importance of tailoring preparation models to local needs.

In addition to these few comparative studies, much of the cross-

national literature on teacher self-efficacy has concentrated on validating measurement tools or examining broader correlates. Klassen's multicountry validation of the TSES and Avanzi's Italian–Norwegian adaptation of the NTSES confirm that self-efficacy can be reliably measured across cultural contexts, consistently linking greater efficacy to greater job satisfaction and lower burnout ([Avanzi et al., 2013](#); [Klassen et al., 2009](#)). Similarly, Zakariya's large-scale TALIS analysis ranks countries by average teacher efficacy, whereas Kyriazopoulou's study of Finnish and Greek preservice teachers connects emotional intelligence with efficacy in culturally specific ways, and Gümüş demonstrated that job-embedded professional development is a stronger predictor of efficacy than traditional workshops across 32 systems ([Gümüş & Bellibaş, 2023](#); [Kyriazopoulou et al., 2025](#); [Zakariya, 2021](#)). These studies extend our methodological and conceptual understanding of self-efficacy across borders, but they remain largely silent on inclusion. Their value lies in providing robust instruments and comparative benchmarks, yet the direct question of how teachers in different contexts build confidence to teach inclusively is rarely addressed. This gap is especially striking when considering countries such as the UAE and Ghana, where inclusive reforms are rapidly advancing, but comparative evidence on teachers' self-efficacy remains virtually absent.

The comparative literature demonstrates both the promise and the limitations of current scholarship. While studies such as ([Yada et al., 2018](#)) (Japan–Finland) and ([Miralles-Cardona et al., 2025](#)) (Spain–U.S.) show how inclusive education can be meaningfully examined across contexts, most cross-national work has concentrated on validating scales ([Avanzi et al., 2013](#); [Klassen et al., 2009](#)), linking teacher efficacy to broader traits such as emotional intelligence ([Kyriazopoulou et al., 2025](#)) or associating it with professional development practices ([Gümüş & Bellibaş, 2023](#)) without directly engaging with inclusion. Importantly, Ghana has begun to attract research attention in this area—the studies by [Opoku et al. \(2021, 2022\)](#), for instance, highlight how targeted training in inclusive education predicts stronger efficacy among secondary teachers—yet the UAE remains strikingly underexplored. Few studies have examined how Emirati teachers or preservice teachers develop self-efficacy to teach inclusively, and virtually none have situated this within comparative perspectives. By foregrounding the UAE alongside Ghana, the present study seeks to address this gap, extending the literature beyond methodological validation toward a substantive analysis of how teachers' self-efficacy for inclusion is shaped in two rapidly evolving educational systems across diverse contexts/cultures.

1.4. Contextualization

Global advocacy for the implementation of inclusive education swept through Ghana and the UAE. While both countries are different in terms of geography, population dynamics and level of development, they share some similarities. For instance, both countries have comparable education systems, i.e., three-tier systems. In Ghana, the education system is as follows: preschool, 9 years of basic education (grades 1–9), and three years of secondary education (grades 10–12). In the UAE, the education structure is as follows: preschool, cycle one (grades 1–4), cycle two (grades 5–8) and cycle three (grades 9–12). There is free education for all children under 18 years of age.

In the field of inclusive education, both countries have embraced the implementation of inclusive education. Both countries participated in the Salamanca conference of 1994 and signed the United Nations Conventions on the Rights of Persons with Disabilities, which is a key international legal document promoting the implementation of inclusive education in signatory countries. Historically, Ghana began implementing inclusive education during the year 2003–4. Ghana Development Disability Act 715 was enacted in 2006, and inclusive education policy was enacted in 2015, confirming the political commitment of policy makers. However, the UAE developed Law number 29 in 2006, which provided provisions for the implementation of inclusive

education. In 2010, the Ministry of Education in the UAE developed guidelines for the enactment of inclusive education. This creates provisions for teacher development, parental contribution, and support systems for inclusive practices.

In both countries, inclusive education is mandatory at all levels of education. Unfortunately, the implementation of these policies has been unsatisfactory. While there is increasing knowledge of these policies, there are formidable barriers to their implementation (Alzyoudi et al., 2021; Asamoah et al., 2022). In a qualitative study, Opoku (2021) reported that teachers in Ghana claimed that they had the necessary skills, yet they were hesitant to support inclusive teaching. Similarly, in the UAE, teachers' knowledge is increasing, and students with SEND are not receiving the requisite training (Ismail et al., 2022; Loyd et al., 2024). While resources are not a problem in the UAE (Hojeij et al., 2021), teachers struggle to utilize them in their classrooms. Conversely, in Ghana, teachers do not have access to the necessary inclusive teaching resources (Gyimah et al., 2025; Opoku, Nketsia, Fianyi, et al., 2022). In addition, there are opportunities to advance inclusive education across both countries. However, there are issues that should be addressed before inclusive education can be practiced successfully in Ghana and the UAE. This study aims to provide comparable data to those of policymakers on teachers' self-reported self-efficacy towards the implementation of inclusive education.

1. What is the difference between participants in terms of self-efficacy for the implementation of inclusive between secondary school teachers in Ghana and primary school teachers in the UAE?
2. Will country (Ghana vs. the UAE) moderate the relationship between participants' background variables and self-efficacy for implementing inclusive education among secondary school teachers in Ghana and primary school teachers in the UAE?

2. Method

In this study, a cross-sectional design guided the implementation of this study. The data were collected at a point in time to provide useful information pertaining to teachers' self-reported self-efficacy towards teaching in inclusive classrooms in Ghana and the UAE. The Ghanaian data were collected as part of a large research project that aimed to understand teachers' intentions towards the implementation of inclusive education (Opoku, 2021).

2.1. Study participants

The participants of this study were schoolteachers working in inclusive schools in Ghana and the UAE. While the UAE government is interested in early childhood education (Federal Government of UAE, 2022; Opoku, Alsheikh, et al., 2024), the government of Ghana is investing immensely in secondary education (Azanya, 2025; Bonsu et al., 2025). This justifies the comparison of the self-efficacy of teachers based on national government priority areas for each of the countries.

In both countries, teachers working in inclusive schools were included in the study. Inclusive education is a national policy in both countries; therefore, all schools are expected to enrol students with special educational needs. In Ghana, teachers were recruited from five districts within a single region. This region and its districts were selected at the national level to pilot and subsequently implement inclusive education (Opoku, 2020, 2021). The main resource provided by the government is the deployment of special education teachers to schools in the selected region (Opoku, 2020). In the UAE, data were collected nationally from public cycle one schools. In private schools, there are differences in the curriculum used to teach. However, public schools use a standard curriculum developed by the UAE's Ministry of Education. This makes public schools ideal for inclusion in this study.

In both countries, random sampling was used for data collection. For

instance, the research team did not control the selection of schools for participation. Also, all teachers had equal opportunity to participate in the study, ensuring board and diverse representation (Ahmed, 2024). In Ghana, teachers who were available in the schools were considered for inclusion in this study. In the UAE, the electronic questionnaire was shared with all teachers whose school leaders agreed to participate in this study. Table 1 presents a summary of the participants who participated in this study. Eight hundred and seventy-nine participants from Ghana (n = 457) and the UAE (n = 422) participated in this study.

2.2. Instrument

A two-part instrument was used for data collection. The first collected background information of the study participants (see Table 1). Consideration for selecting the background information was given to the appropriateness of the data for the research context, literature and recommendations for academics who reviewed the research protocols.

The second part is the TEIP scale, which is composed of 18 items (Sharma et al., 2012) and is rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale consists of three subscales (efficacy in collaboration, efficacy in managing behaviour and efficacy in using inclusive instruction), each with six items. It is a widely used instrument to measure teacher self-efficacy towards inclusive education (Pivarč, 2024; Selenius & Ginner Hau, 2024). It has yielded appropriate psychometric properties in diverse research contexts (Pivarč, 2024; Selenius & Ginner Hau, 2024). Some of the items are as follows: 'I can use a variety of assessment strategies (for example, portfolio assessment, modified tests, performance-based assessment, etc.; efficacy to use inclusive instruction)', 'I can make my expectations clear about student behaviour' (efficacy in managing behaviour) and 'I am confident in my ability to get parents involved in school activities of their children with disabilities' (efficacy in collaboration).

2.3. Procedure

The study and its protocols were approved by UAE University (ERSC 2023 2390) and the University of Tasmania (H0016994: Opoku, 2020). Following approval, government institutions supervising the education sectors in both countries were contacted for permission to collect data from schools. While the Ministry of Education was contacted for approval in the UAE, the Special Education Division of the Ghana

Table 1
Summary of the demographic characteristics of the study participants.

Categories (N = 879)	Frequency (%)
Level of teaching	
Primary (UAE)	422 (48%)
Secondary (Ghana)	457 (52%)
Gender	
Female	506 (58%)
Male	373 (42%)
Subject of teaching (n = 875)	
Social Science and Arts	334 (38%)
STEM	541 (62%)
Teaching experience (in years)	
1-5	181 (21%)
6-10	232 (26%)
11-15	185 (21%)
At least 16	281 (32%)
Qualification	
Bachelor or certificate	760 (87%)
Masters and above	116 (13%)
Participation in professional development (n = 871)	
Yes	518 (60%)
No	353 (40%)

Education service was notified about the study for their approval. Subsequently, schools were reached with permission to recruit teachers.

Whereas paper/pen was used for data collection in Ghana, data were collected via an online data collection form in the UAE. In the UAE, school leaders shared the online data collection form with teachers, whereas in Ghana, the Author 2 shared the printed questionnaire with prospective participants. This was based on contextual realities and a data collection approach, which was appropriate for the study context. In Ghana, data were collected in English, as English is the medium of instruction used in all schools. However, in the UAE, data are collected in Arabic, which is one of the primary languages used for instruction in public schools. Both the online and printed questionnaires contained information statements that were read by prospective participants for their approval before they participated in this study. They were informed of confidentiality, anonymity of the data and data storage. Participation in this study was voluntary, as no monetary rewards or gifts were given to the participants. All the study participants signed written consent before taking part in this study.

2.4. Data analysis

The data were transferred to Microsoft Excel for screening before further importation of IBM SPSS version 29 for data analysis. First, the data met the assumption of normality in multiple computations, such as histograms, Q-Q plot and normality plots, which showed that the data were centred and not skewed. Confirmatory factor analysis (CFA) was subsequently computed because of the translation of the TEIP instrument into Arabic. The following metrics were used to ascertain the appropriateness of the data for this study: chi-square less than 5, comparative fit index (CFI) and Tucker-Lewis index (TLI) of at least .90, RMSEA (Root Mean Square Error of Approximation) and SRMR (Standardized Root Mean Squared Residual) of between .03 and .08 (Byrne, 2016; Schumacker & Lomax, 2016). A configural invariance estimate was computed to ascertain whether the instrument yielded an appropriate factor structure across Ghana and the UAE.

Following validation, mean scores were computed to understand the level of self-efficacy of the teachers. For research question 1, multivariate analysis of variance (MANOVA) was used to calculate differences between teachers on the basis of their demographic variables (Pallant, 2020). Following the computation of the CFA, a relationship was found between the latent variables. This finding supported the appropriateness of MANOVA for computing differences between participants. MANOVA was used to assess the combined and individual differences between participants on the three subscales. To avoid Type 1 error, the alpha value was set at .02 (.05 divided by the number of subscales, which is three).

For research question 2, the Andrew Hayes (2022) moderation method 1 was used to assess the interaction effect of country on the relationship between other demographics and teachers' self-efficacy. The demographic level of teaching was used as a moderating variable; other demographic variables were used as independent variables, and subscales of self-efficacy were used as outcome variables. The moderating effect was assumed in the event where there was an interaction effect, with the moderator and independent variables having a significant effect on the outcome variables and zero not lying between the lower and upper confidence intervals.

3. Results

The initial computation of the CFA revealed a poorly fit model (see Model 1 in Table 2). However, inspection of the regression weights for the items revealed that all the weights loaded above .50. In view of this, modifications, which involve inspection of erroneous covariances between items, were checked. The results indicated problematic error covariances between several items, and therefore one item related to instructional efficacy (TEIP14; *I am confident in my ability to get students*

Table 2

Summary of goodness-of-fit indices.

	Chi-square	CFI	TLI	RMSEA	SRMR
Model 1	9.03 (CMIN = 1191.82, df = 132)	.90	.89	.10	.05
Model 2	7.02 (CMIN = 800.08, df = 114)	.93	.92	.08	.04
Model 3	6.25 (CMIN = 2135.64, df = 342)	.91	.90	.06	.04
Model 4	6.25 (CMIN = 2135.64, df = 342)	.91	.90	.06	.04

Note: TLI = Tucker-Lewis index; RMSEA = Root Mean Square Error of Approximation; CFI = comparative fit index; SRMR = Standardized Root Mean Squared Residual.

to work together in pairs or in small groups; Sharma et al., 2012) was removed to improve model fit (Byrne, 2016). Following this, the computation showed improved fit indices: chi-square = 7.02 (CMIN = 800.08, df = 114), CFI = .93, TLI = .92, RMSEA = .08 and SRMR = .04 (see Fig. 1).

Configural invariance was assessed via one demographic variable to understand whether the instrument measures self-efficacy across contexts (primary vs secondary school teachers). In relation to primary school (see Table 2 Model 3) and secondary school teachers (see Table 2 Model 4), appropriate fit indices were obtained, thus supporting consistency across measurements across contexts.

The reliability of the scale computed via Cronbach's alpha was as follows: efficacy in collaboration (.87), efficacy in instruction (.85), and efficacy in managing challenging behaviour (.88).

Pearson's product-moment correlation was computed to explore the relationship among the subscales. A strong positive correlation was found among the three dimensions: efficacy in instruction and efficacy in collaboration, $r = .87, p = .001$; efficacy in instruction and efficacy in managing challenging behaviour, $r = .87, p = .001$; and efficacy in managing challenging behaviour and efficacy in collaboration, $r = .85, p = .001$.

3.1. Differences between teachers in self-efficacy

The mean scores for the subscales were as follows: efficacy in instruction ($M = 4.79, SD = .89$), efficacy in collaboration ($M = 4.70, SD = .91$) and efficacy in managing challenging behaviour ($M = 4.78, SD = .89$) (see Table 4).

MANOVA was computed to explore the difference between participants in terms of the combined dependent variables (see Table 3).

First, participants differed in combined dependent variable of level of education, $F(3, 875) = 17.72$, Wilks' Lambda = .94, $p = .001$, partial eta squared = .06. Individually, differences were found between participants on efficacy in instruction [$F(1, 877) = 19.58, p = .001$] and efficacy in managing challenging behaviour [$F(1, 877) = 21.31, p = .001$]. In relation to efficacy in instruction, secondary school teachers [$M = 4.91, SD = .88$] rated themselves higher than did primary school teachers [$M = 4.65, SD = .88$]. With respect to efficacy in managing challenging behaviour, secondary school teachers [$M = 4.91, SD = .87$] rated their efficacy higher than did primary school teachers [$M = 4.64, SD = .89$].

Second, the participants differed in the combined dependent variables on gender, $F(3, 875) = 15.22$, Wilks' Lambda = .95, $p = .001$, partial eta squared = .05. Individually, differences were found between participants on each of the measures: efficacy in instruction [$F(1, 877) = 24.58, p = .001$, partial eta squared = .03], efficacy in collaboration [$F(1, 877) = 6.36, p = .01$, partial eta squared = .007] and efficacy in managing challenging behaviour [$F(1, 877) = 24.23, p = .001$, partial eta squared = .03]. For each of the measures, males [efficacy in instruction ($M = 4.96, SD = .85$), efficacy in collaboration ($M = 4.79, SD = .90$), and efficacy in managing challenging behaviour ($M = 4.95, SD = .84$)] rated themselves higher than females [efficacy in instruction ($M = 4.66, SD = .91$), efficacy in collaboration ($M = 4.63, SD = .92$), and efficacy in managing challenging behaviour ($M = 4.56, SD = .92$)].

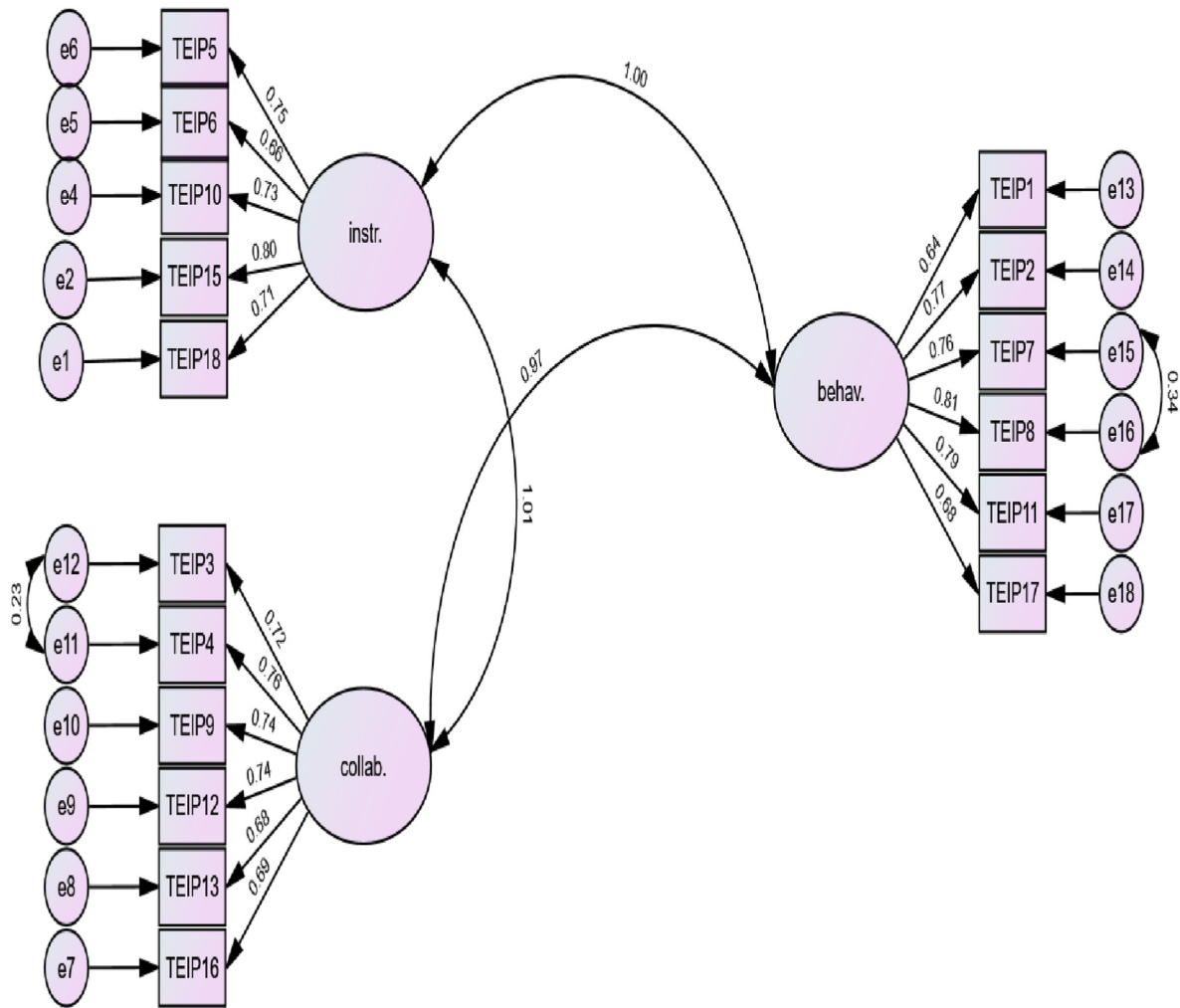


Fig. 1. Structural validity of the TEIP

Note: instr. = efficacy in instruction; behav. = efficacy in managing challenging behaviour; collab. = efficacy in collaboration.

Table 3

Multivariate analysis of variance showing differences between participants.

Categories	Wilks' Lambda	MAN. F	ANOVA F		
			Instruction	Collaboration	Behaviour
Level of teaching	.94	17.72**	19.56**	2.62	21.31**
Partial eta squared		.06	.02	.003	.02
Gender	.95	15.22**	24.58**	6.36**	24.23**
Partial eta squared		.05	.03	.007	.03
Subject of teaching	1.00	1.10	2.84	2.52	1.49
Partial eta squared		.004	.003	.003	.002
School type	.98	6.84**	9.66**	5.98*	16.82**
Partial eta squared		.02	.01	.007	.02
Teaching experience	.98	2.19*	2.45	.22	1.20
Partial eta squared		.007	.008	.001	.004
Qualification	.99	2.44	6.57	6.07	3.93
Partial eta squared		.008	.007	.007	.004
Participation in PD	.99	4.48**	10.60**	10.39**	13.40**
Partial eta squared		.02	.01	.01	.02

Note: * $p \leq .05$; ** $p \leq .01$.

Additionally, a difference was found between the participants' school type, $F(3, 875) = 6.84$, Wilks' Lambda = .98, partial eta squared = .02. Individually, differences were found between participants on each of the

measures: efficacy in instruction [$F(1, 877) = 9.66$, $p = .002$, partial eta squared = .01], efficacy in collaboration [$F(1, 877) = 5.98$, $p = .02$, partial eta squared = .007] and efficacy in managing challenging

Table 4

Effect of level of teaching on the relationship between other variables and efficacy in instruction.

	Beta	S. E.	t	p	Confidence Interval	
					Lower	Upper
Gender	.48	.46	1.04	.30	-.43	1.38
Level of teaching	.26	.30	.86	.39	-.33	.84
Instruction x Gender	-.14	.25	-.56	.57	-.62	.34
Subject of teaching	.05	.22	.25	.81	-.37	.48
Level of teaching	.35	.22	1.58	.12	-.09	.78
Instruction x subject of teaching	-.05	.13	-.42	.67	-.31	.20
School type	-1.27	.57	-2.21	.03*	-2.39	-.14
Level of teaching	-.59	.32	-1.84	.05*	-1.22	-.04
Instruction x school type	.79	.30	2.62	.009*	.20	1.38
Teaching experience	-.06	.09	-.66	.51	-.24	.12
Level of teaching	.18	.17	1.07	.29	-.15	.51
Instruction x teaching experience	.02	.06	.41	.68	-.09	.14
Qualification	.06	.29	.20	.84	-.51	.62
Level of teaching	.14	.21	.68	.50	-.27	.55
Instruction x qualification	.10	.18	.57	.57	-.25	.45
Participation in PD	-.30	.19	-1.54	.12	-.68	.08
Level of teaching	.10	.18	.57	.57	-.26	.47
Instruction x participation in PD	.09	.12	.76	.45	-.15	.34

Note: * $p \leq .05$; ** $p \leq .01$.

behaviour [$F(1, 877) = 16.82$, partial eta squared = .02]. For all the measures, private school teachers [efficacy in instruction ($M = 5.06$, $SD = .76$), efficacy in collaboration ($M = 4.91$, $SD = .74$), and efficacy in managing challenging behaviour ($M = 5.14$, $SD = .66$)] reported greater efficacy than did public school teachers [efficacy in instruction ($M = 4.75$, $SD = .90$), efficacy in collaboration ($M = 4.67$, $SD = .93$), and efficacy in managing challenging behaviour ($M = 4.74$, $SD = .91$)].

Furthermore, a difference was found between participants in the combined dependent variables on participation in professional development, $F(3, 867) = .99$, Wilks' Lambda = .004, $p = .004$, partial eta squared = .02. Individually, differences were found between participants on each of the three subscales: efficacy in instruction [$F(1, 869) = 10.60$, $p = .001$, partial eta squared = .01], efficacy in collaboration [$F(1, 869) = 10.39$, $p = .001$, partial eta squared = .01] and efficacy in managing challenging behaviour [$F(1, 869) = 13.40$, $p = .001$, partial eta squared = .02]. The participants who indicated that they had taken a course in professional development [efficacy in instruction ($M = 4.87$, $SD = .92$), efficacy in collaboration ($M = 4.78$, $SD = .94$), and efficacy in managing challenging behaviour ($M = 4.87$, $SD = .91$)] rated themselves higher in self-efficacy than those who indicated otherwise [efficacy in instruction ($M = 4.67$, $SD = .92$), efficacy in collaboration ($M = 4.57$, $SD = .86$), and efficacy in managing challenging behaviour ($M = 4.65$, $SD = .86$)].

3.2. Interaction effects of level of teaching

Moderation analysis was used to explore the interaction effect of the level of teaching on the relationships between demographic variables and self-efficacy. The level of teaching was used to represent the country, with primary and secondary school teachers drawn from the UAE and Ghana, respectively.

3.3. Level of teaching as a moderator of demographics and instruction

Only level of teaching moderated the relationship between school type and efficacy in instruction, $b = .79$, $p = .009$, 95% CI (.20, 1.38). The overall model was significant, $F(3, 875) = 10.32$, $p = .001$ ($R^2 =$

.03). Individually, school type [$b = -1.27$, $p = .03$, 95% CI (-2.39, -.14)] and level of teaching [$b = -.59$, $p = .05$, 95% CI (-1.22, .04)] had direct influences on the efficacy of instruction. In relation to the moderator, when the participant was teaching in primary school, there was no relationship between school type and efficacy in instruction, $b = -.48$, $p = .09$, 95% CI (-1.03, .07). Additionally, when the participants were teaching in secondary school, a significant relationship was found between school type and efficacy in instruction, $b = .31$, $p = .004$, 95% CI (.10, .52). Fig. 2 shows that although teachers may not differ across schools, secondary school teachers demonstrated greater self-efficacy than did primary school teachers.

3.4. Level of teaching as a moderator of demographics and collaboration

The level of teaching moderated the relationship between school type and efficacy in collaboration only, $b = .77$, $p = .01$, 95% CI (.16, 1.38) (see Table 5).

The overall model was significant, $F(3, 875) = 4.41$, $p = .004$ ($R^2 = .01$). Both school type ($b = -1.22$, $p = .04$) and level of teaching ($b = -.74$, $p = .03$) had direct effects on the efficacy of collaboration. When participants were teaching in primary school, there was no relationship between school type and efficacy in collaboration [$b = -.45$, $p = .12$, 95% CI (-1.02, .11)]. Moreover, when the participants were teaching in secondary school, there was a relationship between school type and efficacy and collaboration [$b = .32$, $p = .004$, 95% CI (.10, .53)]. Fig. 3 shows that although teachers may not differ across schools, secondary school teachers demonstrated greater self-efficacy than did primary school teachers.

3.5. Level of teaching as a moderator of demographics and behaviour management

Once again, level of teaching had an interaction effect on the relationship between school type and efficacy in managing behaviour (see Table 6), $b = .96$, $p = .001$, 95% CI (.37, 1.55) (see Table 5). School type [$b = -1.50$, $p = .009$, 95% CI (-2.62, -.38)] and level of teaching [$b = -.78$, $p = .02$, 95% CI (-1.40, -.15)] had direct effects on the efficacy of managing behaviour. When the participants were teaching in primary school, no significant relationship was found between school type and efficacy in managing behaviour [$b = -.53$, $p = .06$, 95% CI (-1.08, .02)]. Conversely, when participants were teaching in secondary school, a significant relationship was found between school type and efficacy in managing behaviour [$b = .43$, $p = .0001$, 95% CI (.22, .64)]. Fig. 4 shows that secondary school teachers rated themselves highly in terms of self-efficacy compared with those teaching in primary schools.

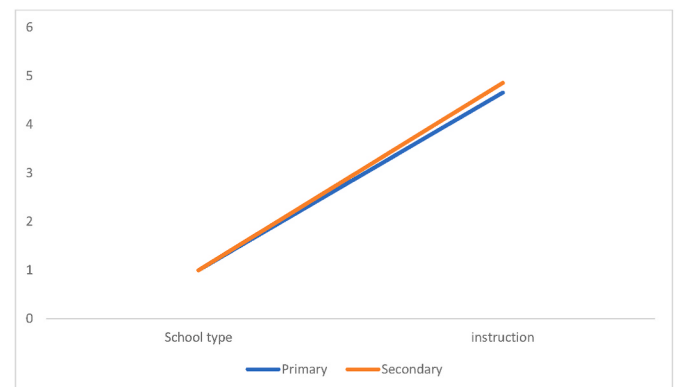


Fig. 2. Effect of level of teaching on the relationship between school type and instruction.

Table 5

Effect of level of teaching on the relationship between other variables and efficacy in collaboration.

	Beta	S. E.	t	p	Confidence Interval	
					Lower	Upper
Gender	.57	.47	1.20	.23	-.36	1.50
Level of teaching	.20	.31	.66	.51	-.40	.81
Collaboration x Gender	-.21	.25	-.82	.41	-.71	.29
Subject of teaching	-.07	.22	-.29	.77	-.50	.37
Level of teaching	.10	.23	.43	.67	-.35	.55
Collaboration x subject of teaching	-.01	.13	-.06	.95	-.27	.25
School type	-1.22	.59	-2.07	.04*	-2.38	-.07
Level of teaching	-.74	.33	-2.24	.03*	-1.38	-.09
Instruction x school type	.77	.31	.248	.01**	.16	1.38
Teaching experience	-.08	.10	-.80	.42	-.26	.11
Level of teaching	-.04	.17	-.23	.82	-.38	.30
Collaboration x teaching experience	.05	.06	.90	.37	-.06	1.7
Qualification	.11	.30	.35	.72	-.48	.69
Level of teaching	.01	.22	.05	.96	-.41	.43
Collaboration x qualification	.07	.18	.40	.69	-.29	.43
Participation in PD	-.14	.20	-.68	.49	-.53	.25
Level of teaching	.12	.19	.62	.54	-.26	.49
Collaboration x participation in PD	-.04	.13	-.29	.78	-.29	.21

Note: *p ≤ .05; **p ≤ .01.

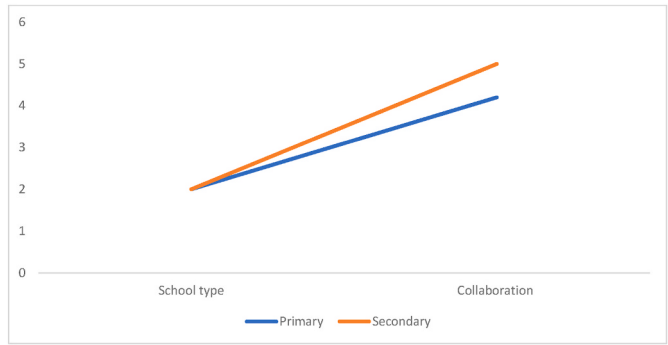


Fig. 3. Effect of level of teaching on the relationship between school type and collaboration.

4. Discussion

Bandura's self-efficacy theory explains that before any individual makes a decision, they consider their personal experiences and environment. A positive evaluation of their personal capabilities and environment can lead to positive outcomes. Like any other individual, teachers live in the community. In view of this, they evaluate their environment before making decisions with respect to a given behaviour. The following research questions were answered: a) the influence of demographic variables on teachers' self-efficacy and 2) the effect of country on the relationship between other demographic variables and self-efficacy.

Our study was conducted against the backdrop of studies of self-efficacy reported as a part of large studies in a non-Western context. One unique aspect of this study is the validation of TEIP instrument across Ghana and the UAE. Over the years, the TEIP has been used extensively in research on teacher self-efficacy for the implementation of inclusive education (Pivarč, 2024; Selenius & Ginner Hau, 2024). While the instrument has demonstrated appropriate psychometric properties

Table 6

Effect of level of teaching on the relationship between other variables and efficacy in behaviour management.

	Beta	S. E.	t	p	Confidence Interval	
					Lower	Upper
Gender	.16	.46	.34	.73	-.75	1.06
Level of teaching	.10	.30	.33	.74	-.49	.69
Behaviour management x Gender	.02	.25	.09	.93	-.46	.51
Subject of teaching	.03	.21	.16	.88	-.39	.46
Level of teaching	.31	.22	1.42	.16	-.12	.75
Behaviour management x subject of teaching	-.02	.13	-.16	.87	-.27	.23
School type	-1.50	.57	-2.62	.009**	-2.62	-.38
Level of teaching	-.78	.32	-2.44	.02*	-1.40	-.15
Behaviour management x school type	.96	.30	3.21	.004**	.37	1.55
Teaching experience	-.02	.09	-.25	.81	-.20	.16
Level of teaching	.23	.17	1.40	.16	-.09	.56
Behaviour management x teaching experience	.02	.06	.29	.78	-.10	.13
Qualification	.004	.29	.01	.99	-.56	.57
Level of teaching	.15	.21	.72	.47	-.26	.56
Behaviour management x qualification	.10	.18	.58	.56	-.25	.45
Participation in PD	-.27	.19	-1.37	.17	-.65	.11
Level of teaching	.16	.18	.88	.38	-.20	.52
Behaviour management x participation in PD	.06	.12	.45	.65	-.19	.30

Note: *p ≤ .05; **p ≤ .01.

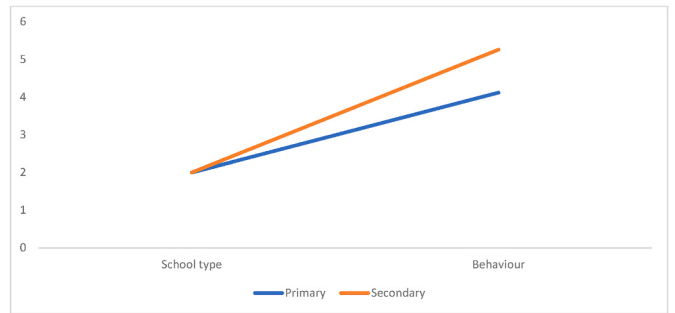


Fig. 4. Effect of level of teaching on the relationship between school type and behaviour management.

across contexts (e.g., Selenius & Ginner Hau, 2024; Sharma et al., 2012), this study has added another layer of validation. For example, the use of various fit indices, such as the CFI, SRMR and RMSEA (Schumacker & Lomax, 2016), supported the fit of the data, which is appropriate for measuring teacher self-efficacy. The model was found to be appropriate across both contexts. This further enhanced the appropriateness of TEIP to study teacher self-efficacy across contexts. Many non-Western countries are training teachers to contribute to the implementation of inclusive education (Al-Rashaida & Massouti, 2024; Bakali & Memon, 2021; Naami & Mort, 2023; Opoku, Nketsia, et al., 2021). Teacher training could be developed along the lines of the instrument to enhance the development of teacher efficacy for inclusive practices. In this way, ongoing studies could assess teachers' self-efficacy to ensure that they can provide the required support services to students with SEND.

The mean scores for self-efficacy were positive for teachers across Ghana and the UAE. This finding aligns with Bandura and Ajzen's finding that when personal judgement and the environment are conducive, teachers may perceive their self-efficacy as favourable. This finding is consistent with previous studies reporting high self-efficacy

among teachers teaching in inclusive classrooms (Al-Rashaida & Massouti, 2024; Kazanopoulos et al., 2022; Opoku, Cuskelly, et al., 2021). While the rating here is promising, some studies have reported that teachers, such as those living with disabilities across Ghana and the UAE, are hesitant to support students with SEND (Ahsan et al., 2025; Meda, ElSayary, & Mohebi, 2023; Opoku, 2022). Importantly, inclusive education is intricately linked to supporting students with disabilities in classrooms (Baglieri, 2022; Mansouri et al., 2024). However, in both countries, disability is viewed as deficient, with the problem being located in the body of the individual (Alhammedi, 2024; Alhassan & Ridwan, 2024; Morgan, 2023; Ocran, 2022). This contributes to ableist views that have an impact on the ability of teachers to extend teaching services to students with disabilities (Alfrey & Jeanes, 2023; Keefe, 2022). It is possible that teachers may be inclined towards teaching other minority groups in the classroom. It is thus essential for teacher educators to broaden discussions on inclusive education by identifying other minority groups who could benefit from inclusive teaching practices.

Differences in participation in PD in inclusive education and self-efficacy were noted among teachers. For each of the subscales, differences were noted between teachers; those who indicated that they had participated in PD rated their efficacy higher than their colleagues who indicated otherwise. This finding agrees with those of previous studies reporting the importance of participating in PD for teachers' self-efficacy (Gümüř & Bellibař, 2023; Li et al., 2022). This finding extends the findings of previous studies by showing that, regardless of context, professional development is dispensable in our effort to prepare teachers to support the implementation of inclusive education. However, there are problems with the quality of PD being developed by educators for teachers. In Ghana, there is evidence that PD in inclusive education is unavailable to teachers working in schools (Naami & Mort, 2023; Opoku & Nketsia, 2025). While those PDs may be available in the UAE, they are very theoretical and do not meet the needs of teachers (Alhammedi, Meda, et al., 2024; Opoku, Rayner, et al., 2021). This finding underscores the urgent need for policymakers to prioritize PD, engaging teachers in the tenets of TEIP and partnering with educators to develop appropriate models to increase teachers' self-efficacy.

Moreover, participants differed in terms of gender, with males rating their self-efficacy higher than females. Previous studies on gender and teacher efficacy are very convoluted; some studies reported higher self-efficacy among males than females (Opoku, Cuskelly, et al., 2021; Van Mieghem et al., 2022), whereas others reported otherwise (Graziano et al., 2024; Ismailos et al., 2022; San Martin et al., 2021). This study provides another layer by adding cross-cultural data on the differences in self-efficacy between male and female teachers. Both Ghana and the UAE are conservative societies where gender norms are important to local people (Alteneji, 2023; Lee et al., 2023; Nartey et al., 2023). Although the UAE is a multicultural society with an immigrant population outnumbering locals, cultural practices are emphasized in every sphere of life. Masculinity is intricately linked to dominance and the ability to perform in public spheres (Akotia & Anum, 2015; Al-Jenaibi, 2010; Slak Valek & Picherit-Duthler, 2021). Conversely, femininity is socio-culturally linked to being soft, reserved, and private (Akotia & Anum, 2015; Al-Jenaibi, 2010; Slak Valek & Picherit-Duthler, 2021). This could have influenced the ratings of the male teachers, who perceived their self-efficacy more positively compared with their female counterparts. However, it is essential for stakeholders to engage both male and female teachers to gain insight into their understanding of self-efficacy and how it supports their practice. This could help in creating appropriate training programs that leverage strengths and address the weaknesses of teachers based on their gender.

School type (public or private school) emerged as an interesting variable. First, private schoolteachers had higher self-efficacy ratings than did their colleagues in public schools. This finding is consistent with previous findings that reported higher self-efficacy in private schools than in public schools (An et al., 2021; Opoku, Nketsia, &

Mohamed, 2022). Notably, data concerning school type were collected from Ghana only. However, it is useful to draw inferences on its significance. In Ghana, the UAE and other countries, private schools charge fees to discharge services (Mutu, 2024; Opoku et al., 2025; Winchip, 2021). There is no doubt that stringent measures will be put in place to ensure that teachers are diligently discharging their duties (Amponsah-Efah, 2021; Dangol & Lamichhane, 2024; Opoku, 2021). Nonetheless, the private school system has its own challenges, with some studies reporting job attrition, low remuneration and job insecurity in private school settings (Chudgar & Sakamoto, 2021; Geddum et al., 2023). There are fundamental questions related to the low ratings of public-school teachers on self-efficacy. It could be argued that parents who are paying for services put pressure on teachers to offer supportive services to their children. Classroom teachers are under pressure from both their leaders and parents. Unfortunately, inclusive education thrives when there is a cordial environment and understanding between stakeholders (Brewer & Movahedazarhouli, 2021; Kaushik, 2025; Komabu-Pomeyie, 2024; Massouti et al., 2024). It is thus essential for educators to be interested in the contextual implementation of inclusive education in school settings. This would help gauge support systems and the quality of education offered to students from diverse settings.

Moreover, school type was the only variable for which the level of teaching moderated its relationship with teacher efficacy. Specifically, the level of teaching (representing country) moderated the relationships between school type and the subscales of self-efficacy, efficacy in collaboration, efficacy in managing behaviour, and efficacy in using inclusive instruction. Earlier, in the computation of MANOVA, differences were noted between secondary and primary schools, with the former being more efficacious in instruction and managing behaviour than the latter. In terms of moderation, whether the school is private or public, secondary schools are more effective than primary schools. This finding was unexpected in the sense that, consistently, primary schools have been found to be a fertile setting for the implementation of inclusive education compared with secondary schools, where academic activities are more demanding (Opoku, Cuskelly, et al., 2021; Triviño-Amigo et al., 2022). This finding should be interpreted with the study context in mind. While primary school teachers represented the UAE, secondary school teachers represented Ghana. Compared with those in Ghana, the school systems in the UAE have better structures (Amin et al., 2023; Ben Jaafar et al., 2022; El Naggar et al., 2024; Opoku-Nkoom & Ackah-Jnr, 2023; Takyi et al., 2021). There is more support for inclusive education in the UAE than in Ghana, where teachers lack basic services such as teaching materials to teach all students. It is possible that teachers in the UAE have a working system where they can measure their personal skills in the learning environment. Consequently, their ratings of self-efficacy could be a reflection of the environment within which they work. However, the ratings from Ghanaian teachers should be interpreted with caution. This finding further reinforces the need for more contextual engagement with teachers to determine the parameters on which teachers rate their performance.

4.1. Study limitations

The current study has a number of limitations. First, the study relied on self-reports from teachers. The findings may not reflect actual behaviour. However, this is the first study in which teacher self-efficacy has been situated in a comparative literature on inclusive education. Future studies may use a qualitative design to gain deep insight into the self-efficacy of teachers. Second, the effect sizes from the MANOVA ranged from small to moderate. In some cases, small to moderate effect sizes are often criticized for being of little relevance to policy and practice. However, Götz et al. (2022) contended that effect sizes may not obscure the relevance of findings from a given study. Third, regarding measurement invariance, only configural invariance estimates were

calculated. The configural invariance estimate measures how respondents interpret the scale which may not reflect actual self-efficacy. Moreover, the study used a cross-sectional design, as data were collected at a given point in time. While these findings provide a snapshot of the experiences of teachers, future studies may use a longitudinal design to ascertain whether teachers' self-efficacy changes over time. Moreover, the data were not linear, which may have influenced the study findings. For example, data from primary school teachers were collected from teachers in the UAE only, whereas data from secondary school teachers were collected from teachers in Ghana. Additionally, data from private schools were collected in Ghana only, thus excluding the voices of their counterparts in the UAE. While the data have national significance, future studies may consider collecting comparable data across countries. Additionally, the study measured teacher self-efficacy at the individual level only. This did not consider collective effort, which could be used to advance inclusive practices. Future studies could compare the synergy between the individual and collective self-efficacy of teachers within the context of implementation of inclusive education.

5. Conclusion and study implications

The purpose of the current study was to assess teacher self-efficacy across Ghana and the UAE. The findings revealed favourable ratings of teachers for self-efficacy. Moreover, the combined data revealed differences between teachers in terms of gender, school type, professional development and level of teaching. However, individually, the level of teaching significantly moderated the relationship between school type and the self-efficacy of teachers. The study is novel, as it positions discussions on teacher self-efficacy within international comparative literature. Moreover, it advances the discussion of inclusive practices in primary and secondary schools. This study adds the perspective of teachers in Ghana and UAE to the ongoing discussions on self-efficacy.

The findings reported here could be relevant to inclusive practices. For instance, the study has provided theoretical support for the TEIP as an appropriate instrument to study teacher self-efficacy in Ghana and the UAE. Educators could consider the tenets of TEIP and reflect it in teacher development. In developing an inclusive education training manual, tenets could be included and used as a framework for teacher development. This could help appropriately measure the efficacy of teachers within the context of implementing inclusive education. Second, researchers in comparable regions could consider replicating the current study. This could help generate useful data that could be compared to the study findings.

In terms of practice, the findings have shown that teachers rated their efficacy favourably across both contexts. While this may not reflect practice, it offers a useful platform for translating teachers' theoretical knowledge about self-efficacy into practice. For example, the study findings underscore the importance of developing an understanding of contextual realities, which could impact inclusive practices. For example, self-efficacy could differ for male and female teachers across Ghana and the UAE. Moreover, the study findings underscore the importance of PD in inclusive education for teachers. However, the quality and relevance of PD could be emphasized within each school, and country policymakers could conduct national dialogue for teachers in inclusive education. Within such dialogue, there could be a discussion on the conception, needs and leveraging of teacher self-efficacy to support teaching practices in classrooms.

CRedit authorship contribution statement

Ahmed Mohamed: Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Maxwell Peprah Opoku:** Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Bernadette M. Guirguis: Writing – review & editing, Writing – original draft. **Ebenezer Mensah Gyimah:** Writing – review & editing, Writing – original draft. **Maya Al Yafi:** Investigation, Data curation. **Shouq Alqahtani:** Project administration, Investigation. **Safa Alharthi:** Project administration, Investigation, Data curation. **Mahra Aldhanhani:** Project administration, Investigation, Data curation. **Al Zahra Aljaberi:** Project administration, Investigation, Data curation.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics statement

The study and its protocols were approved by United Arab Emirates University (ERSC_2023_2390) and university of Tasmania (H0016994). All the participants signed an informed consent before participating in this study.

Declaration of AI use

AI was not used in the writing of this paper.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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