

## Article

# Investigating Teachers' Beliefs in Inclusive Education and Their Levels of Teacher Self-Efficacy: Are Teachers Constrained in Their Capacity to Implement Inclusive Teaching Practices?

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**Abstract:** Inclusive education caters for all students and embraces their unique characteristics, backgrounds, and abilities. While many challenges persist that prevent inclusion from being fully embraced and implemented, such as varying definitions of what inclusion is at an international, national, and intra-national level, teachers' attitudes towards inclusion and their belief in their capabilities may play an important role. This paper examined the relationship between 208 Australian primary and secondary teachers' beliefs in inclusive education and their levels of teacher self-efficacy using *t*-tests. The relationship between these factors and teachers' years of teaching experience, age, and qualifications were also investigated. The findings show that teachers who believe inclusive education is an effective way to teach all students reported higher levels of teacher self-efficacy than those who did not. Differences across teacher demographics raised a number of questions, including the role of additional qualifications and the potential influence of social attitudes towards inclusion over time on teachers' own beliefs, each of which warrants investigation. Recommendations from the findings suggest that professional learning which supports teachers to successfully implement inclusive teaching strategies, may assist to bolster their belief in their capabilities in inclusive classrooms and in the effectiveness of inclusive education for all.

**Keywords:** inclusive education; teacher self-efficacy; attitudes

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## 1. Introduction

Inclusive education (IE) is not a cursory trend: it has been on the global agenda since the Salamanca Statement and Framework for Action on Special Needs Education [1] called for students with diverse learning needs and abilities to be educated at their neighbourhood, "mainstream" school. Inclusion has continued to gain momentum and support internationally since this time and, increasingly, schools are affording the opportunity for a greater diversity of learners to attend their local school of choice [2–4]. However, inclusion is more than simply students' presence in the classroom [5], and instead requires educators to be responsive to the strengths and needs of their diverse student cohort in order to provide a fair, equitable and quality education for all [3,6]. This necessitates teachers having the requisite skills, knowledge, attitudes, and self-efficacy to successfully implement an inclusive approach to teaching and learning [7], yet barriers exist. For example, understandings of what constitutes inclusion vary internationally and intranationally [3,5], including within Australia [7]. However, recent research has identified pertinent factors in the implementation of inclusion, finding that teachers' attitudes towards inclusion and levels of belief in their teaching capabilities can predict teachers' use of inclusive practices [8]. As such, this study examined Australian primary and secondary school teachers' beliefs about whether an inclusive approach is an effective way to teach all students and if this was related to teachers' self-efficacy. This study also examined whether differences in these

key factors were seen across teacher demographics, including their qualifications, age, and years of teaching experience.

### 1.1. Inclusive Education and Teacher Attitudes

Internationally, IE is conceptualised, defined, understood, and approached differently. For example, some countries view IE as a way of including students with additional needs and disabilities into the general education setting [5]. Others see inclusion from a placement perspective, as *integrating* students with additional needs and disabilities into mainstream classrooms [9]. From an Australian perspective, IE is multifaceted in that it relates to specific policy documents (national and state) concerning teaching practices that benefit all learners in response to a student's identity, sexuality, ethnicity, religion, socioeconomic status, and disability [10–12]. Seen in this way, inclusion proposes a holistic approach to education by fully acknowledging the evolving diversity of students in classrooms. While variations are evident, the core values are consistent in that inclusion is a principled approach to education, emphasising presence, participation, and achievement for all children and young people in schools [5,13].

Conversely, the current education system presents ongoing complexities within the umbrella term of inclusion. Specifically, the adaptation and interpretation of inclusive policy make it challenging for schools to collectively interpret, establish, and maintain effective decisions for inclusive practice in order to ensure and enable successful educative outcomes for every student [14]. This situation has impacted on general classroom teachers, resulting in a number of uncertainties about how inclusive practices can be achieved and how authentic inclusive schools and classrooms can be evidenced. Despite being fundamentally supportive of inclusion, many teachers are concerned about their ability and efficacy to implement inclusive practices, although they are more confident to do so if they are experienced teachers and are confident in their capacity to teach students with disabilities [15].

Teacher attitudes towards inclusion is a widely published topic from *macro* and *micro* perspectives (e.g., [16–18]). According to Woodcock and Jones [19], even though macro and micro views are important and informing, they do not fully capture “‘transformative’ inclusion which consolidates the specific categories of students into a unified, undifferentiated cohort of students; inclusion for *all*” (p. 585; emphasis in original). Therefore, this study builds on the important and robust research to-date in both areas of inclusion by focusing on a broader mindset that encompasses the inclusion of all students as opposed to some [20,21].

The diversity of students is now the norm in many Australian schools (government, Catholic, and independent), and so it is important to consider the varying degrees of self-efficacy that teachers possess when implementing inclusive teaching practices for all students [22]. After all, teacher beliefs about diversity and difference contribute greatly to how they operationalise their classrooms to accommodate for all [23]. Consequently, the extent of a teacher's attitude to inclusion and their ability to teach all students in their classroom is a vital factor in ensuring effective teaching practices that meet the needs of all students [19,24].

### 1.2. Social Cognitive Theory

Social cognitive theory [25] provides an appropriate construct to explore teachers' self-efficacy about inclusive education and how viewpoints impact their teaching practice. Bandura suggested that self-development and learning occur through multidirectional interactions between a person's behaviours (e.g., inclusive teaching practices), personal factors (e.g., self-efficacy), and the environment (e.g., school and classroom). Rather than merely reacting impulsively in response to external situations or internal impositions, the dynamic interplay between personal factors, behaviour, and the environment within a triadic reciprocal relationship influences the person's course of action [26–28]. Of these three factors, it is the relationship between personal cognition—that is, self-efficacy—and

outcome expectations, that is central to teachers' educational practice and success in teaching inclusively [29].

Through a social cognitive lens, Wilson et al. [30] state that "it may be that the school working environment plays a role in teachers' self-efficacy beliefs (i.e., psychological mechanisms) and these beliefs in turn, impact behaviour" (p. 219). This continuous bidirectional cycle presents an opportunity for educators to evolve as reflective learners by consciously engaging in self-regulation and learning to adapt to changing situations. As such, social cognitive theory enables the exploration of teachers' self-efficacy and how viewpoints impact teaching practice.

### *1.3. Teacher Self-Efficacy*

Teacher self-efficacy is a sub-category of self-efficacy and is influenced by educators' behaviour and environment [31,32]. Consequently, teacher self-efficacy influences decision-making in an educational context and is a determining factor in the quality and practice of teaching [33]. According to Tschannen-Moran and Woolfolk Hoy [34], the investment, effort, and goals that teachers set in regard to their teaching behaviour are affected by efficacy beliefs, in that teachers will be more persistent and resilient to setbacks and challenges if they possess a high level of self-efficacy. Teachers with a higher degree of teacher self-efficacy may also be more able to adjust teaching strategies to cater to students' particular needs [35], and believe in their ability to positively impact students' learning and achievement [36]. Additionally, students of highly efficacious teachers have been found to have higher levels of academic performance [37]. From a mainstream classroom perspective, these are important outcomes to teaching effectively in inclusive contexts.

### *1.4. Teacher Self-Efficacy and the Context of Inclusion*

According to Urton et al. [38], authentic school inclusion requires organisational change within the educational institution itself, along with a high sense of teacher self-efficacy at the individual and whole teaching staff level. The association between teacher self-efficacy, inclusion, and teaching practice has been explored (e.g., [21,39–41]). Teachers are increasingly expected to teach inclusively and, while many generally support inclusive teaching practices, to do so can be complex and challenging as they often feel underprepared and underskilled to teach a diverse range of students [42,43].

Sharma et al. [44] identified that teachers with poor self-efficacy are constrained in their capacity to implement inclusive teaching practices in their mainstream classroom because they perceive that they are limited in what they can do to cater for all students. Similarly, Gibson and Dembo [45] found that teachers with low self-efficacy use low-impact teaching strategies that hinder student learning. On the other hand, teachers with a high sense of self-efficacy more consistently reflect and alter their teaching strategies to accommodate low-achieving students by affording them opportunities to learn more effectively [19]. These teachers are more supportive and persistent, use high-quality teaching strategies, and take time to ensure that successful learning has occurred [46].

Aligning with the principles of engagement, representation, and action/expression in the universal design for learning guidelines, educators with a high level of self-efficacy develop the capacity to diminish the systemic barriers that negatively affect student learning; they use inclusive teaching methods by pre-planning, designing, and providing equitable learning opportunities for all students [47]. Overall, teachers with a high level of self-efficacy tend to use high-quality teaching practices, as they are focused on student outcomes and aim to ensure that all students can reach their full learning potential.

The current study investigated the extent to which primary and secondary teachers' beliefs about the effectiveness of teaching all students in an inclusive classroom related to their level of teacher self-efficacy.

## 2. Method

### 2.1. Participants

The research examined teachers' perception and competence in terms of inclusive education. Participants included 208 primary ( $n = 66$ ) and secondary ( $n = 142$ ) in-service teachers in Queensland, Australia. The study randomly selected 15 primary and 15 secondary schools. Of the participants involved in the study, 51 (25%) were male, 150 (72%) were female, and 7 (3%) chose not to state their gender. These numbers are similar to the ratio of teachers across Australia [48].

Of the 208 participants in the study, 5% were 25 years of age or under; 29% were between 26–35; 15% were between 36–45; 29% were between 46–55; and 22% were over 55 years of age. Of the 208 participants in the study, 5% had been teaching for less than three years; 10% between 3 and 5 years; 27% between 6 and 10 years; 18% between 11 and 20 years; and 40% had been teaching for over 20 years. Of the 208 participants, 58 (28%) had received a postgraduate qualification, while 150 had not.

### 2.2. Procedure

All public schools in the area of Brisbane were selected in order for a random sampling process to take place. Once the study received ethical approval from the human research ethics committee of the researchers' institution and from the Queensland Government, schools ( $n = 10$  primary;  $n = 10$  secondary) were randomly selected and their principals were approached. Three principals declined to participate and the following (randomly selected) schools, in order, were then approached. Once schools had approved participation, the participants were approached by one of the research team members during a staff meeting. Teachers who decided to take part were given an information sheet as well as a survey to complete. Once completed, teachers placed the completed survey into a locked box by reception. A total of 32% of teachers participated in the study.

### 2.3. Instrument

The survey questionnaire comprised of three parts. The first part included a set of demographic questions regarding the participants (including gender, age, years of experience, etc.). The second part included a Likert-scale: the Teachers' Sense of Efficacy Scale (TSES) [34]. The scale included 12 statements of teachers' beliefs in their capabilities to engage all students in learning (such as 'how much can you do to motivate students who show low interest in school work?'), manage the classroom (such as 'how much can you do to control disruptive behaviour in the classroom?'), and effectively incorporate instructional strategies (such as 'how well can you implement alternative strategies in your classroom?'). Each statement included six points ranging from 0 (not at all) through to 5 (a great deal). The greater the participant's score, the higher the level of teacher self-efficacy they hold. The scale statements were categorised into three sub-scale variables, which resulted from a factor analysis using principal components extraction and varimax rotation. These sub-scale variables included the following: student engagement, classroom management, and instructional strategies. As can be seen in Table 1, the internal reliability scores for each of the sub-scale variables (Cronbach's alpha) resulted in acceptable ( $>0.7$ ) alpha coefficient scores.

**Table 1.** Reliability of subscale variables from the factor analyses results.

Group Variable	Reliability Scores
Classroom Management	0.876 (4)
Student Engagement	0.748 (4)
Instructional Strategies	0.818 (4)

The third part of the questionnaire included questions regarding inclusive education. One of those questions was based around participants' beliefs about the effectiveness of

inclusive education. They were asked if they believed that an 'inclusive classroom is an effective way to teach all students. This question only offered 'yes' or 'no' answers.

### 3. Results

The study examined Australian primary and secondary teachers and used means, paired, and independent samples *t*-tests to compare their teacher self-efficacy levels in relation to their beliefs about whether inclusive education is effective for all students ( $n = 112$ ) or not ( $n = 96$ ). The results will firstly present the demographic comparisons and then the overall paired sample *t* test results, followed by the independent samples' *t* test results; these compare the Australian in-service teachers who believe that an inclusive classroom is an effective way to teach all students to those who do not.

#### 3.1. Demographic Comparisons

##### 3.1.1. Teaching Experience Comparisons

As Table 2 shows, there are significant (small) correlations between teachers' experiences and their level of teacher self-efficacy. More specifically, the findings show that the more years of teaching experience, the higher one's level of teacher self-efficacy in engaging students is. Furthermore, the more years of teaching experience, the higher one's level of teacher self-efficacy in instructional strategies is. However, there was no significant correlation between teachers' years of teaching experience and their level of self-efficacy in managing the classroom. Overall, there were no differences between years of teaching experience and teachers' beliefs about inclusive education for all ( $t = -1.691, p = 0.093$ ).

**Table 2.** Teaching experience, age, and qualification, and teacher self-efficacy.

	Years of Teaching Experience	Age	Qualification
TSES Engagement	0.175 *	0.137	0.015
TSES Instruction	0.199 *	0.134	0.107
TSES Classroom Management	0.015	0.030	0.097

\* Correlation is significant at the 0.001 level (2-tailed).

##### 3.1.2. Age Comparisons

As Table 2 shows, there are no significant correlations between teachers' age and their level of teacher self-efficacy. Overall, there were significant differences between the age of teachers and their beliefs about inclusive education for all ( $t = -3.923, p < 0.001$ ). As the teachers aged, their belief in inclusive education declined.

##### 3.1.3. Qualification Comparisons

As Table 2 shows, there are no significant correlations between teachers' qualifications and their level of teacher self-efficacy. Overall, there were no differences between qualification and teachers' beliefs about inclusive education for all ( $t = -1.730, p = 0.085$ ).

#### 3.2. Overall Teacher Self-Efficacy

Overall, the findings show that significant differences occurred between the subscales of teacher self-efficacy (engaging all students, carrying out effective instructional strategies, and managing the classroom). As can be seen in Table 3, those teachers held higher levels of teacher self-efficacy towards managing the classroom and carrying out effective instructional strategies, in comparison to engaging students in the classroom ( $t = 7.291; p < 0.001; t = 5.998; p < 0.001$  respectively).

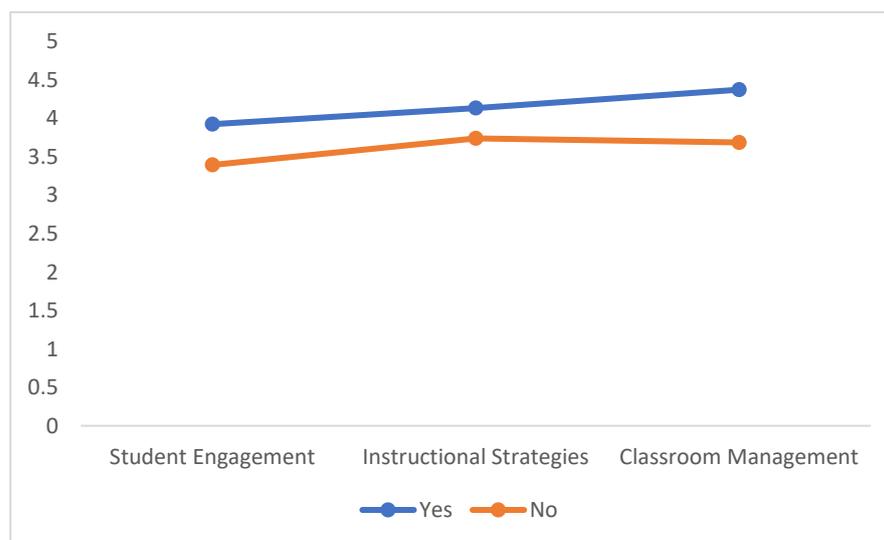
**Table 3.** Overall comparison of subscale strategies.

Group Variable	Teacher Self-Efficacy Mean Score	Standard Deviation
TSES Engagement	3.649 *	0.688
TSES Instruction	3.908 *	0.733
TSES Classroom Management	3.994	0.767

\* Correlation is significant at the 0.001 level (2-tailed).

### 3.3. Comparison of Teachers' Beliefs in Inclusion and Their TSE

Figure 1 shows the comparison of teachers' beliefs about inclusive education and their levels of teacher self-efficacy towards engaging all students in the classroom, carrying out effective instructional strategies, and managing the classroom. Those teachers who believe that inclusive education is an effective way to teach all students held higher levels of teacher self-efficacy towards engaging all students in the classroom ( $t = 6.303$ ;  $p < 0.001$ ;  $M = 3.92$ ,  $SD = 0.71$ ) than their counterparts who did not hold the same beliefs ( $M = 3.39$ ,  $SD = 0.62$ ). Furthermore, those teachers who believe that inclusive education is an effective way to teach all students held higher levels of teacher self-efficacy towards carrying out effective instructional strategies ( $t = 5.080$ ;  $p < 0.001$ ;  $M = 4.13$ ,  $SD = 0.70$ ) than their counterparts who did not hold the same beliefs ( $M = 3.74$ ,  $SD = 0.53$ ). Finally, those teachers who believe that inclusive education is an effective way to teach all students held higher levels of teacher self-efficacy towards managing the classroom ( $t = 8.023$ ;  $p < 0.001$ ;  $M = 4.37$ ,  $SD = 0.66$ ) than their counterparts who did not hold the same beliefs ( $M = 3.69$ ,  $SD = 0.64$ ).

**Figure 1.** Comparison of teacher beliefs about inclusive education and levels of teacher self-efficacy.

## 4. Discussion

This study investigated the relationship between in-service teachers' beliefs in inclusion as an effective way to teach all students, and their level of teacher self-efficacy in inclusive classrooms in Queensland, Australia. The results illustrate that those who believed in inclusive education showed higher levels of teacher self-efficacy than those who did not. This was seen across all three TSE domains (i.e., student engagement, instructional strategies, and classroom management), and the greatest difference between those who did and did not believe in inclusion was seen in their TSE levels for classroom management. The relationship between teacher demographics, their belief in inclusive education and their level of TSE provided further insight.

#### 4.1. *Belief in Inclusive Education and TSE*

The primary focus of this study was the relationship between teachers' belief in inclusive education and their level of teacher self-efficacy. Overall, the results highlighted that teachers who believe that inclusive education is an effective way to educate all students had higher levels of TSE across the three domains of student engagement, instructional strategies, and classroom management. Thus, teachers who believe in inclusive practice as an effective pedagogical approach held a higher belief in their capabilities to engage students by helping them value learning, to motivate students who show low interest, to help students to believe they can do well, and assist families to help their children do well in school (TSE for student engagement: see [34]). Furthermore, they held a higher belief in their capabilities to instruct students by implementing alternative teaching strategies, providing alternative explanations, developing good questions for students, and using a variety of assessment strategies (TSE for instruction: see [34]). The greatest difference between teachers who do and do not believe in the effectiveness of inclusive education for all students was seen regarding their level of TSE for managing the classroom. That is, teachers who believe that inclusive education is an effective pedagogical approach for all students showed higher belief in their capabilities to establish a classroom management system, have children follow classroom rules, calm disruptive or noisy students, and manage disruptive behaviour (TSE for classroom management: see [34]). This aligns with Urton and colleagues' [38] study, which advises that authentic inclusion requires higher levels of TSE as this is suggested to relate to teachers' attitudes towards including students with special educational needs. Furthermore, teachers who believe in inclusive education are more likely to accept inclusive educational ideologies and apply them to the classroom context, and those with higher TSE may utilise high-impact inclusive teaching pedagogies [21]. As this study draws on teachers' self-reported beliefs and teacher self-efficacy, future research may investigate how these transpire in teachers' everyday classroom practices and the implications for student outcomes.

#### 4.2. *Belief in Inclusive Education and Differences across Teacher Demographics*

Regardless of whether teachers did or did not believe inclusive education was an effective practice to teach all students, there were no differences observed across their years of teaching experience nor level of qualification. Despite the expectation that additional formal and informal qualifications at or beyond an undergraduate degree would benefit teachers, Woodcock and Hardy [49] identified that additional specialised training can raise concerns for teachers around being able to cater to students' diverse needs. Similarly, Vaz et al. [50] explain that training on how to teach students with disabilities was associated with positive attitudes towards inclusion; however, training in inclusive education was not. Even though teachers may believe that inclusion is effective, they may not feel prepared to carry out inclusive practices for the diverse range of students in their classes [42]. The ways in which to increase teachers' understanding of how to implement inclusive practices while simultaneously supporting their teacher self-efficacy requires further investigation.

Additionally, teachers who believe that inclusive education is an effective way to teach all students tended to be younger than those who did not. Noting that teachers' age is not the same as their years of teaching experience, teachers who were older generally displayed less belief in inclusion. This may be partially explained by the evolving nature of society over time. Attitudes towards inclusion can be influenced by cultural, societal, and historical factors, which shape and inform values amongst teachers [51]. It can be considered that older teachers have seen the ideologies of education and policy transition from segregation and integration into inclusion. That is, teachers may have grown up with, initially taught in, or be more familiar with approaches in which students with disabilities attended specialised schools or were integrated into separate units or classes in mainstream schools (see [43,52]). Furthermore, educators during the late 1980s through to the early 2000s were faced with new challenges in terms of catering to diversity in more inclusive ways, while lacking training in inclusive teaching and harbouring the fear of

external judgement, potentially influencing their perception of inclusion and belief in their capabilities (e.g., [43]). In contrast, younger generations of teachers would more likely be exposed to a society that views disability as a natural form of human diversity, more so than their predecessors. For example, research is emerging which suggests that teachers who had greater confidence in their ability to teach in inclusive settings were those who had an inclusive school experience growing up in this type of educational system [53,54]. Thus, teacher attitudes and values regarding inclusion may stem from earlier experiences which influence their beliefs about disability and diversity, contributing to how they operate as a teacher in modern-day classrooms [23]. With minimal research in this field, it is recommended that further investigation is undertaken to unpack the connection between teachers' age and their belief in inclusive education.

#### *4.3. TSE and Differences across Teacher Demographics*

Teachers' self-efficacy in relation to student engagement and instruction were positively correlated with their years of teaching experience; however, regardless of their years of teaching experience, there was no observable relationship with their belief in their capabilities to manage the classroom. Research in this area has demonstrated mixed results regarding the association between teaching experience and TSE. For example, Gkolia and colleagues [55] did not find teaching experience to have an impact on TSE in the domain of student engagement, however, Fackler and colleagues [56] observed positive correlations between teaching experience and all three domains of TSE. It is believed that mastery experience, associated with informal incidental learning on the job, could develop high levels of TSE due to an inclination towards trialling effective actions [56].

There was no association between TSE and teachers' age. Contrary to these findings, Wray et al. [54] identified various studies in which teachers' age was related to their TSE; specifically, that older in-service educators had higher levels of self-efficacy for inclusive education in Australia (e.g., [15]). It was suggested that the variables of age and years of teaching experience tend to overlap, as older teachers are more likely to be associated with greater teaching experience. Both factors were found to be significant predictors of TSE for inclusion, however, this varied across studies [54].

There was no association between TSE and teachers' qualifications. The following may shed light on this finding. Woodcock and Hardy [49] found that formal training at or beyond an undergraduate degree may convey to teachers a sense of the complexity and demands of catering to student diversity. This has the potential to impact teachers' beliefs in their capabilities in inclusive classrooms, possibly masking the beneficial effects of further training. However, these findings contrast with others who have seen a positive relationship between teachers' qualifications and their TSE for instructional strategies, potentially due to additional study that contributes to improved teacher capabilities, and thus, mastery experiences [56]. Different forms of qualifications (formal and informal) may have differing effects on TSE levels, and further research is needed to identify which qualification methods and which areas of focus have positive or negative impacts on TSE. Professional development and training that supports self-efficacy is important, considering that teachers with low self-efficacy may use low-impact teaching strategies (e.g., [45]), and teachers can feel insufficiently trained to teach a diverse range of students (e.g., [42,43]).

#### *4.4. Implications and Recommendations*

Teachers' beliefs in their teaching capabilities and beliefs in inclusive education are important factors in the implementation of inclusive education for all (see [38]). For example, teachers with higher TSE may draw on inclusive teaching strategies to cater to the diversity of learners in their classroom [21], while those with lower TSE may hold more negative attitudes towards the inclusion of diverse groups of students and be less able to support students' learning through an inclusive approach [50]. Furthermore, Capp [47] indicates that high levels of self-efficacy are linked to a teacher's capacity to design opportunities for student success, such as through strategically structuring and implementing strategies that

take into consideration how students engage, how learning material is presented, and how students express their learning. As such, it is critical that teachers understand the importance of inclusive education for all and are provided with the appropriate support in order to bolster their belief in their capabilities to teach within, and generate for their students, inclusive learning environments. Research also suggests the need for teacher education and professional development that build teachers' understanding and self-efficacy in each of the three TSE domains (instruction, student engagement, and classroom management) (e.g., [56]).

While pre-service teachers are often provided with classroom experiences in the field with experienced older colleagues, this study raises questions about the development of pre-service teachers' beliefs and efficacy in inclusive classrooms if older mentors' beliefs on inclusion may be constrained. This supports the need for consistent understandings of inclusion at local, state, and national levels, such as developing guiding frameworks that unpack what it means for educators to effectively teach all students within inclusive classrooms in Australia [52]. Professional development which supports older teachers' beliefs in inclusion may have a positive impact upon the younger colleagues they mentor and support them in becoming role models in terms of inclusive practice for students of teacher education. Furthermore, considering the influences on TSE, that is, the three-way bi-directional interaction of personal, behavioural, and environmental factors [28], research may seek to understand ways in which education systems can support teachers to build their confidence in implementing inclusive practices. Furthermore, the ways in which the amount and quality of teacher training in inclusive education that preservice teachers receive impacts upon their attitudes towards inclusion during their teaching career requires investigation.

In addition to the future research recommended earlier, further investigation into the impact that the COVID-19 pandemic and the associated pressures on the education system have had on teachers' beliefs in their capabilities to support diverse learners in dynamic inclusive classroom environments may be necessary. Additionally, longitudinal research, particularly in countries that are in the early stages of implementing inclusive education, may assist in identifying the factors that influence teachers' beliefs in inclusion over time and what may strengthen teachers' belief in their capabilities to effectively teach all students in inclusive classrooms.

#### 4.5. Limitations

In all studies, there are limitations that should be considered when interpreting the results. The participants selected were in-service teachers in Queensland, Australia, within mainstream educational settings, but inclusive policy and understandings are known to differ inter- and intra-nationally. As such, caution should be taken when generalising beyond the study sample. Additionally, participants were self-reporting their belief in inclusive education and the social desirability of inclusive beliefs may have influenced participants' responses; however, the results of this study show that this does not seem to have limited the findings as significant differences in teachers' beliefs in inclusion were seen across the sample.

## 5. Conclusions

This study illustrates that teachers' belief in the effectiveness of inclusive education for catering to all learners in their classroom has positive associations with teacher self-efficacy. These two associated factors are both key in the implementation of inclusive education, with implications for students' own learning experiences in inclusive classrooms, and should be bolstered across the various stages of teachers' professional learning and career. In addition, the relationships observed between teacher demographics and their levels of both TSE and belief in inclusion raised a number of questions, including about the role of additional qualifications post-graduation and the potential influence of attitudes in society towards inclusion on teachers' own beliefs over time; each of these require

further investigation. In the ongoing quest to increase the inclusivity of all educational environments, and as we look to factors amenable to change, it is yet to be seen whether teachers' belief in inclusion has an important role to play in relation to teachers' self-efficacy within inclusive classrooms. Furthermore, if this is so, how best can we assist teachers to develop confidence in their capabilities to support the learning and achievement of an increasingly diverse range of students, rather than constrain them in their capacity to implement inclusive teaching practices?

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## References

1. UNESCO. The Salamanca statement and framework for action on special needs education. In Proceedings of the World Conference on Special Needs Education: Access and Quality, Salamanca, Spain, 7–10 June 1994; United Nations Educational, Scientific, and Cultural Organisation: Paris, France. Available online: <https://eric.ed.gov/?id=ED377665> (accessed on 24 October 2022).
2. Amor, A.M.; Hagiwara, M.; Shogren, K.A.; Thompson, J.R.; Verdugo, M.A.; Burke, K.M.; Aguayo, V. International perspectives and trends in research on inclusive education: A systematic review. *Int. J. Incl. Educ.* **2019**, *12*, 1277–1295. [CrossRef]
3. Ainscow, M. Promoting inclusion and equity in education: Lessons from international experiences. *Nord. J. Stud. Educ. Policy* **2020**, *6*, 7–16. [CrossRef]
4. Ainscow, M.; Slee, R.; Best, M. The Salamanca statement: 25 years on. *Int. J. Incl. Educ.* **2019**, *23*, 671–676. [CrossRef]
5. Qvortrup, A.; Qvortrup, L. Inclusion: Dimensions of inclusion in education. *Int. J. Incl. Educ.* **2018**, *22*, 803–817. [CrossRef]
6. Finkelstein, S.; Sharma, U.; Furlonger, B. The inclusive practices of classroom teachers: A scoping review and thematic analysis. *Int. J. Incl. Educ.* **2021**, *25*, 735–762. [CrossRef]
7. Dally, K.A.; Ralston, M.M.; Strnadova, I.; Dempsey, I.; Chambers, D.; Foggett, J.; Paterson, D.; Sharma, U.; Duncan, J. Current issues and future directions in Australian special and inclusive education. *Aust. J. Teach. Educ.* **2019**, *44*, 57–73. Available online: <https://ro.ecu.edu.au/ajte/vol44/iss8/4> (accessed on 18 February 2023). [CrossRef]
8. Sharma, U.; Sokal, L.; Wang, M.; Loreman, T. Measuring the use of inclusive practices among pre-service educators: A multi-national study. *Teach. Teach. Educ.* **2021**, *107*, 103506. [CrossRef]
9. Nilholm, C.; Göransson, K. What is meant by inclusion? An analysis of European and north American journal articles with high impact. *Eur. J. Spec. Needs Educ.* **2017**, *32*, 437–451. [CrossRef]
10. Boyle, C.; Anderson, J. The justification for inclusive education in Australia. *Prospects* **2020**, *49*, 203–217. [CrossRef]
11. Boyle, C.; Anderson, J.; Allen, K. *Inclusive Education: Global Issues and Controversies*; Brill: Leiden, The Netherlands, 2020.
12. Department of Education of Queensland Government. *Inclusive Education Policy*; Queensland Government: Brisbane, Australia, 2021. Available online: <https://ppr.qed.qld.gov.au/pp/inclusive-education-policy> (accessed on 24 October 2022).
13. Forlin, C. Developing sustainable, accountable and contextually appropriate policy to ensure high quality inclusive education. *Asian J. Incl. Educ.* **2018**, *6*, 3–20.
14. Mavropoulou, S.; Mann, G.; Carrington, S. The divide between inclusive education policy and practice in Australia and the way forward. *J. Policy Pract. Intellect. Disabil.* **2021**, *18*, 44–52. [CrossRef]
15. Subban, P.; Round, P.; Sharma, U. 'I can because I think I can': An investigation into Victorian secondary school teacher's self-efficacy beliefs regarding the inclusion of students with disabilities. *Int. J. Incl. Educ.* **2021**, *25*, 348–361. [CrossRef]
16. Chao, C.N.G.; Forlin, C.; Ho, F.C. Improving teaching self-efficacy for teachers in inclusive classrooms in Hong Kong. *Int. J. Incl. Educ.* **2016**, *20*, 1142–1154. [CrossRef]
17. Valiandes, S.; Neophytou, L. Teachers' professional development for differentiated instruction in mixed-ability classrooms: Investigating the impact of a development program on teachers' professional learning and on students' achievement. *Teach. Dev.* **2018**, *22*, 123–138. [CrossRef]
18. West, A. Academies in England and independent schools (Fristående Skolor) in Sweden: Policy, privatisation, access and segregation. *Res. Pap. Educ.* **2014**, *29*, 330–350. [CrossRef]

19. Woodcock, S.; Jones, G. Examining the interrelationship between teachers' self-efficacy and their beliefs towards inclusive education for all. *Teach. Dev.* **2020**, *24*, 583–602. [CrossRef]
20. Kielblock, S.; Woodcock, S. Who's included and Who's not? An analysis of instruments that measure teachers' attitudes towards inclusive education. *Teach. Teach. Educ.* **2023**, *122*, 103922. [CrossRef]
21. Woodcock, S.; Sharma, U.; Subban, P.; Hitches, E. Teacher self-efficacy and inclusive education practices: Re-thinking teachers' engagement with inclusive practices. *Teach. Teach. Educ.* **2022**, *117*, 103802. [CrossRef]
22. Loreman, T.; Sharma, U.; Forlin, C. Do pre-service teachers feel ready to teach in inclusive classrooms? A four country study of teaching self-efficacy. *Aust. J. Teach. Educ.* **2013**, *38*, 27–44. [CrossRef]
23. Ismailos, L.; Gallagher, T.; Bennett, S.; Li, X. Pre-service and in-service teachers' attitudes and self-efficacy beliefs with regards to inclusive education. *Int. J. Incl. Educ.* **2022**, *26*, 175–191. [CrossRef]
24. Sharma, U.; Sokal, L. Can teachers' self-reported efficacy, concerns, and attitudes toward inclusion scores predict their actual inclusive classroom practices? *Australas. J. Spec. Incl. Educ.* **2016**, *40*, 21–38. [CrossRef]
25. Bandura, A. *Social Foundations of Thought and Action: A Social Cognitive Theory*; Prentice Hall: Englewood Cliffs, NJ, USA, 1986.
26. Bandura, A. Social cognitive theory: An agentic perspective. *Asian J. Soc. Psychol.* **1999**, *2*, 21–41. [CrossRef]
27. Bandura, A. On the functional properties of perceived self-efficacy revisited. *J. Manag.* **2011**, *38*, 9–44. [CrossRef]
28. Bandura, A. *Self-Efficacy: The Exercise of Control*; W.H Freeman and Company: New York, NY, USA, 1997.
29. Chiu, C.-M.; Hsu, M.-H.; Wang, E.T.G. Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decis. Support Syst.* **2006**, *42*, 1872–1888. [CrossRef]
30. Wilson, C.; Marks Woolfson, L.; Durkin, K. School environment and mastery experience as predictors of teachers' self-efficacy beliefs towards inclusive teaching. *Int. J. Incl. Educ.* **2020**, *24*, 218–234. [CrossRef]
31. Sharma, U.; George, S. Understanding teacher self-efficacy to teach in inclusive classrooms. In *Asia-Pacific Perspectives on Teacher Self-Efficacy*; Garvin, S., Pendergast, D., Eds.; Sense Publishers: Rotterdam, The Netherlands, 2016; pp. 37–51.
32. Tschannen-Moran, M.; Johnson, D. Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teach. Teach. Educ.* **2011**, *27*, 751–761. [CrossRef]
33. Lukáčová, V.; Fenyvesiová, L.; Tirpáková, A.; Malá, E. Teachers' self-efficacy as a determinant of lesson management quality. *TEM J.* **2018**, *7*, 662–669. [CrossRef]
34. Tschannen-Moran, M.; Woolfolk Hoy, A. Teacher efficacy: Capturing an elusive construct. *Teach. Teach. Educ.* **2001**, *17*, 783–805. [CrossRef]
35. Tschannen-Moran, M.; McMaster, P. Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new teaching strategy. *Elem. Sch. J.* **2009**, *110*, 228–248. [CrossRef]
36. Abu-Tineh, A.M.; Khasawneh, S.A.; Khalaileh, H.A. Teacher self-efficacy and classroom management styles in Jordanian schools. *Manag. Educ.* **2011**, *25*, 175–181. [CrossRef]
37. Zee, M.; Koomen, H.M.Y. Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Rev. Educ. Res.* **2016**, *86*, 981–1015. [CrossRef]
38. Urton, K.; Wilbert, J.; Hennemann, T. Attitudes towards inclusion and self-efficacy of principals and teachers. *Learn. Disabil. A Contemp. J.* **2014**, *12*, 151–168.
39. Hosford, S.; O'Sullivan, S. A climate for self-efficacy: The relationship between school climate and teacher efficacy for inclusion. *Int. J. Incl. Educ.* **2016**, *20*, 604–621. [CrossRef]
40. McGarrigle, L.; Beamish, W.; Hay, S. Measuring teacher efficacy to build capacity for implementing inclusive practices in an Australian primary school. *Int. J. Incl. Educ.* **2021**, 1–14. [CrossRef]
41. Savolainen, H.; Engelbrecht, P.; Nel, M.; Malinen, O.-P. Understanding teachers' attitudes and self-efficacy in inclusive education: Implications for preservice and in-service teacher education. *Eur. J. Spec. Needs Educ.* **2012**, *27*, 51–68. [CrossRef]
42. Blanton, L.P.; Pugach, M.; Florian, L. *Preparing General Education Teachers to Improve Outcomes for Students with Disabilities*; American Association of Colleges for Teacher Education: Washington, DC, USA, 2011; Available online: <http://aacte.org/research-policy/recent-reports-on-educator-preparation/preparing-general-education-teachers-to-improve-outcomes-for-students-with-disabilities.html> (accessed on 1 November 2022).
43. Chambers, D.; Forlin, C. An historical review from exclusion to inclusion in western Australia across the past five decades: What have we learnt? *Educ. Sci.* **2021**, *11*, 119. [CrossRef]
44. Sharma, U.; Loreman, T.; Forlin, C. Measuring teacher efficacy to implement inclusive practices. *J. Res. Spec. Educ. Needs* **2012**, *12*, 12–21. [CrossRef]
45. Gibson, S.; Dembo, M.H. Teacher efficacy: A construct validation. *J. Educ. Psychol.* **1984**, *76*, 569–582. [CrossRef]
46. Tschannen-Moran, M.; Barr, M. Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadersh. Policy Sch.* **2004**, *3*, 189–209. [CrossRef]
47. Capp, M.J. Teacher confidence to implement the principles, guidelines, and checkpoints of universal design for learning. *Int. J. Incl. Educ.* **2020**, *24*, 706–720. [CrossRef]
48. Australian Bureau of Statistics. Schools: Data on Students, Staff, Schools, Rates and Ratios for Government and Non-Government Schools, for All Australian States and Territories. 2021. Available online: <https://www.abs.gov.au/statistics/people/education/schools/latest-release#staff> (accessed on 24 October 2022).

49. Woodcock, S.; Hardy, I. Probing and problematizing teacher professional development for inclusion. *Int. J. Educ. Res.* **2017**, *83*, 43–54. [[CrossRef](#)]
50. Vaz, S.; Wilson, N.; Falkmer, M.; Sim, A.; Scott, M.; Cordier, R.; Falkmer, T. Factors associated with primary school teachers' attitudes towards the inclusion of students with disabilities. *PLoS ONE* **2015**, *10*, e0137002. [[CrossRef](#)] [[PubMed](#)]
51. Van Steen, T.; Wilson, C. Individual and cultural factors in teachers' attitudes towards inclusion: A meta-analysis. *Teach. Teach. Educ.* **2020**, *95*, 103127. [[CrossRef](#)]
52. Anderson, J.; Boyle, C. Looking in the mirror: Reflecting on 25 years of inclusive education in Australia. *Int. J. Incl. Educ.* **2019**, *23*, 796–810. [[CrossRef](#)]
53. Schwab, S.; Hellmich, F.; Gorel, G. Self-efficacy of prospective Austrian and German primary school teachers regarding the implementation of inclusive education. *J. Res. Spec. Educ. Needs* **2017**, *17*, 205–217. [[CrossRef](#)]
54. Wray, E.; Sharma, U.; Subban, P. Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teach. Teach. Educ.* **2022**, *117*, 103800. [[CrossRef](#)]
55. Gkolia, A.; Dimitrios, B.A.; Koustelios, A. Background characteristics as predictors of Greek teachers' self-efficacy. *Int. J. Educ. Manag.* **2016**, *30*, 460–472. [[CrossRef](#)]
56. Fackler, S.; Malmberg, L.; Sammons, P. An international perspective on teacher self-efficacy: Personal, structural, and environmental factors. *Teach. Teach. Educ.* **2021**, *99*, 103255. [[CrossRef](#)]

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