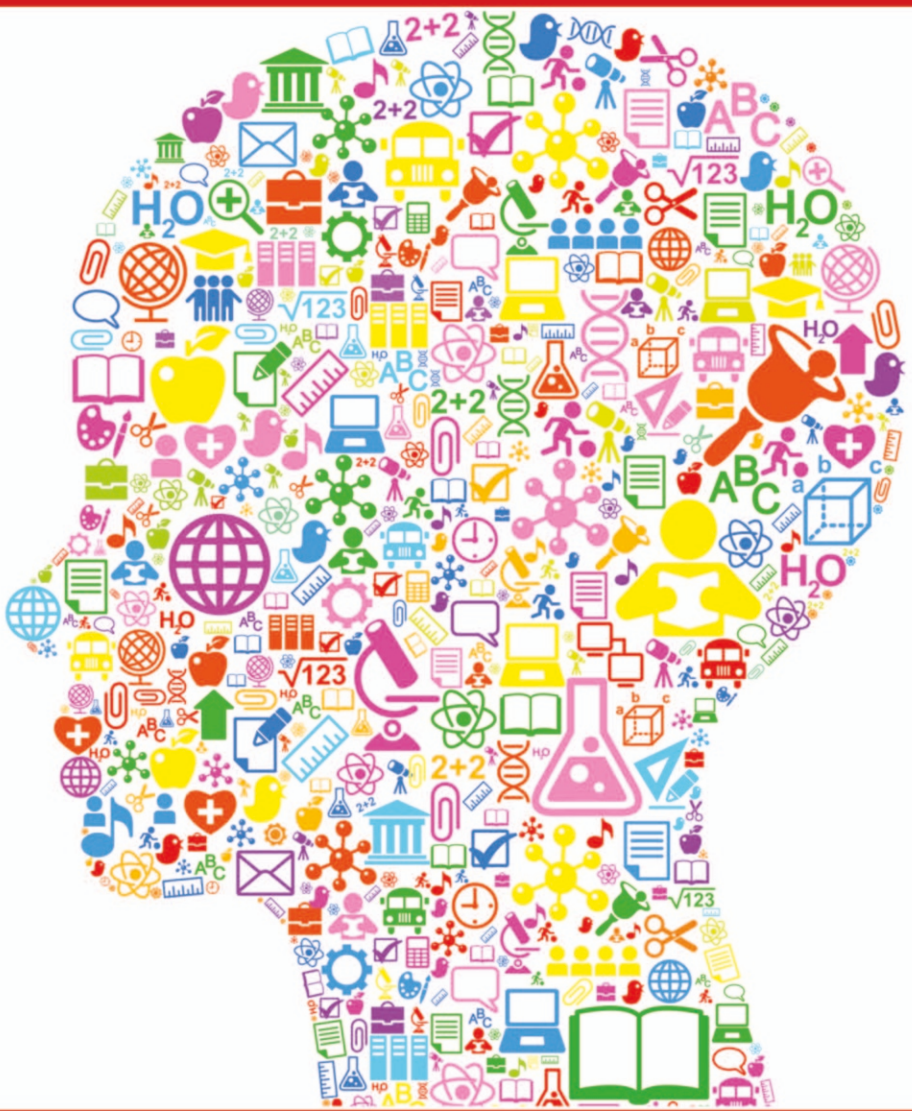
Asia-Pacific Perspectives on Teacher Self-Efficacy

Susanne Garvis and
Donna Pendergast (Eds.)



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Asia-Pacific Perspectives on Teacher Self-Efficacy

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We dedicate this book to our colleagues who work in the field of initial teacher education and professional learning. Globally, the teaching profession has been subjected to closer than usual scrutiny over recent years and the brilliant work of teacher educators is sometimes less valued than it should be. We affirm the important work of our colleagues and respect their contribution to shaping the present and future educators of the world, who in turn shape the present and future generations of young people who will be our future.

TABLE OF CONTENTS

ACKNOWLEDGEMENT

We wish to acknowledge the contribution made by Joy Reynolds to the production of this book.

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

Acronym	*Meaning*
ABS	Australian Bureau of Statistics
AD	Adapting instruction to individual needs
AITSL	Australian Institute for Teaching and School Leadership
ANOVA	analysis of variance
BE	Beliefs
CAJ	China Academic Journals
CCC	Child Care Center
CH	Coping with change
CI	Confidence interval
CM	Classroom management
CNKI	China Knowledge Resource Integrated
CO	Cooperate with colleagues and parents
DET	Department of Education and Training
DETE	Department of Education, Training, and Employment
DI	Maintaining discipline
DV	Dependent variable
ECE	Early Childhood Education
ECEC	early childhood education and care
ECED	Early Childhood Education Department
ECM	Educational Change Model
ECTES	Early Childhood Teacher Efficacy Scale
EEC	early education and childcare
GCC	Gulf Cooperation Council
GTE	general teaching efficacy
GTE	Teacher efficacy
IEP	individualized education plans
IN	Instruction
IS	Instructional strategies
IV	Independent variable
K-OSTES	Korean version of Ohio State Teacher Efficacy Scale
K-TESE	Korean version of Teacher Self-Efficacy Scale
LSD	Least Significant Difference
M	Mean
MANOVA	Multivariate analyses of variance
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs

MD	Motivating students
MOE	Ministry of Education
NAEYC	National Association for the Education of Young Children
NCSS	National Council of Social Service
NCTAF	National Commission on Teaching and America's Future
NIE	National Institute of Education
NTSES	Norwegian Teacher Self-Efficacy Scale
OECD	Organisation for Economic Cooperation and Development
OSTES	Ohio State Teacher Efficacy Scale
PD	professional development
PISA	Programme for International Student Assessment
PTE	personal teaching efficacy
SC	School Climate
SC Aff	School Climate Affiliation
SC EC	School Climate External Control
SC Em	School Climate Empowerment
SC MC	School Climate Mission Consensus
SC RA	School Climate Resource Adequacy
SC SL	School Climate Supportive Leadership
SC SS	School Climate Student Support
SC WP	School Climate Work Pressure
SD	Standard deviation
SE	Student engagement
SEIPD	Self-Efficacy toward Future Interactions with People with Disabilities Scale
SES	Socio economic status
SLEQ	School-level environment questionnaire
SOBMP	Survey of Behaviour Management Practices
SPED	special education
SQU	Sultan Qaboos University
TCE	Teacher collective efficacy (table 2)
TEIP	Teacher Efficacy for Inclusive Practices
TES	Teacher Efficacy Scale
TSE	Teacher self efficacy
TSES	Teachers' Sense of Efficacy Scale
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
VWO	Voluntary Welfare Organizations
WT	Working in teams

SUSANNE GARVIS AND DONNA PENDERGAST

INTRODUCTION

This book has come about from numerous discussions we have had over the years about the importance of developing a joint understanding of teacher self-efficacy within the Asia-Pacific region. While much research has come from the American context largely due to the foundational work of Albert Bandura in regards to teacher self-efficacy, a growing body of research has begun to emerge in the Asia-Pacific region as ideas of teacher behaviour and the mediator of such behaviour grows in focus. By understanding the beliefs of teachers, we are able to understand the associated behaviour. This book is therefore perhaps also foundational, in that it is the first to attempt to organise and provide a snapshot of teacher self-efficacy research.

Our joint focus on teacher self-efficacy research began when Susanne was a doctoral candidate and Donna was her supervisor, together trying to navigate the often fluid landscape of teacher self-efficacy in Australia. Over the years we have continued our collaborations in the field of teacher self-efficacy, expanding it to the contexts of teacher education programmes, beginning teachers and experienced teachers. This had led us to also ask more and more questions about teacher self-efficacy as details emerge about relationships, environmental factors and other societal possibilities. Throughout the years we have also become interested to know what similarities and differences exist across countries within the Asia-Pacific region. Do they share similar understandings about the construct of teacher self-efficacy?

In this introduction we do not attempt to define and describe teacher self-efficacy for the reader. Rather we have let authors share their own understanding of teacher self-efficacy, also providing cultural and contextual understandings in their descriptions and definitions. This has also allowed authors to provide an understanding of teacher self-efficacy within countries in the Asia-Pacific region.

The authors of each chapter also share their own tools for collecting, measuring and analysing teacher self-efficacy. While some chapters have used similar measurements, other authors have shared their own scales and tools within teacher self-efficacy research. The reader is able to see variety across the Asia-Pacific region but also at the same time make important connections across countries.

Looking across the chapters, we have learnt that all teacher self-efficacy research is based on the same research belief:

> If we can support the positive development of teacher self-efficacy beliefs we can improve teacher practice with students.

We believe this is an important goal not only for teacher self-efficacy research, but also for educational reform in any country. If we want to improve the outcomes of teaching and learning, we must first consider the beliefs and behaviour of the teacher and how the environment influences this. Such a message is important for all people interested in improving educational outcomes for all.

ORGANISATION OF THE BOOK

In this book we have drawn together leading experts across the Asia-Pacific region. They have provided snapshots of their research and detailed summaries of teacher self-efficacy across the countries. The book begins with an overall summary of research in the Asia-Pacific region before moving to a specific focus on research in different countries.

In the first chapter Berg and Smith provide a summary of current research and methods used across the Asia-Pacific region regarding teacher-self efficacy – including pre-service and in-service teachers – and have found research from Australia, China, Korea, Malaysia, New Zealand, Singapore and Taiwan. They also however acknowledge the limited number of studies and point out that more work is needed to be done. Of the studies that have been conducted they were able to suggest that possible variation across the region could be a consequence of collectivist cultures and greater expectations of teachers. Berg and Smith also share a mixed method study that compared Malaysia and New Zealand in a mixed methods approach to provide greater richness beyond statistical data. While using a statistical scale, they also had focus groups with participants that allowed the exploration of cultural difference. Berg and Smith contend that researchers should be mindful of such important difference in the national cultures that make up the Asia-Pacific region. They suggest there may be a different understanding of the role of the teacher, as well as responsibilities and expectations. Mixed methods approaches are one possibility to exploring these differences.

After a general summary of the research across the region, the book moves into exploring specific examples within countries. In the second chapter, the reader is provided with an understanding of the Singapore context. The Singapore education system provides ten years of formal general education, comprised of six years of primary schools and four years or more of secondary school. Children who are unable to attend mainstream school can apply to attend special schools. Chong and Ying provided a detailed exploration of the mediating role of collective teacher efficacy beliefs in the relationship between school climates and teacher self-efficacy across mainstream and special needs schools. Exploring the beliefs of 183 teachers, a mediational analyses indicated that teacher collective efficacy mediated the relationship between teacher self-efficacy and seven aspects of a school climate. Chong and Ying call for schools to consider using the four sources of efficacy to guide their practice with opportunities for master of experience at the individual and school level, as well as productive school leadership to promote school change. They

also suggest that within Asian schools, it may be important to pay closer attention to teachers' perceptions of competence as opposed to their actual competence.

In the third chapter, Sharma and George specifically focus on how teacher self-efficacy can be used to teach in inclusive classrooms. Teachers with a strong sense of inclusive teaching efficacy tend to crate classroom environments where students with a range of abilities and learning styles can succeed. This field of research, as the authors' state, is relatively new but gaining significant attention by researchers worldwide. Their chapter provides current findings in the Asia-Pacific region, exploring studies from Bangladesh, Hong Kong, Indonesia and China. Sharma and George believe that attitudes and efficacy together influence teachers' behaviour rather than one of the two constructs. They suggest that more research is needed regarding the factors that influence the behaviour of teachers. For example, teachers who are supported in schools are likely to include learners from a range of abilities.

The context of South Korea is explored in the fourth chapter. Seo provides recent research about the importance of teacher efficacy beliefs as a new paradigm for teacher career development and professionalism within the context of early childhood education and care. Early childhood education and care consists of children aged birth to five years that can attend two different types of settings – kindergarten (children aged three to five years) and day care centres (children aged zero to five years). Seo suggests that putting teacher efficacy beliefs into practice will pay off for teachers in early childhood education and care. The central idea is that the quality of childcare is enhanced through positive teacher behaviour. Seo also suggests that teacher training programs and teacher career development could benefit by having a greater focus on self-efficacy beliefs within early childhood education and care. An example of a 12-week training program is provided at the end of the chapter, showing the possibilities of enhanced professionalism when teacher efficacy beliefs are put into practice. By providing special attention to the ongoing teacher education or career development experience, enhancing professionalism can lead to the delivery of effective services for children.

In the fifth chapter, Garvis and Tekin report findings from another early childhood teacher education study within the context of Australia and Oman. In a comparative study, they were interested to know how teacher self-efficacy might function differently in different sociocultural contexts. Specifically focusing on early childhood teacher self-efficacy beliefs around arts education, they provide a quantitative understanding of perceived capability for 5 arts disciplines: dance, drama, music, media and visual arts compared to English and maths. Such comparative studies that focus on teacher professionalism and beliefs are vital, both in terms of learning from the other setting as well as going beyond the familiar in order to highlight was is taken for granted. Garvis and Tekin found that while the early childhood education context and teacher training was different in Australia and Oman, similarities emerged in the levels of teacher self-efficacy. In particular, English and maths were ranked higher by student teachers than any of the arts subjects. The arts disciplines that also require

a performance (music, dance and drama) were also ranked lower. Garvis and Tekin suggest that emotional arousal as a source of efficacy may play an important role in perceived competence within arts education in early childhood education contexts. A hidden curriculum within disciplines subjects may also exist within early childhood education and care in both countries.

In the sixth chapter Woodcock and Reupert explore the concepts of inclusion, classroom management and teacher self-efficacy in an Australian context. They suggest that in order to embrace diversity and inclusivity, teachers need to have the belief in their own capability to teach inclusivity. Woodcock and Reupert provide a summary of a recent study between newly graduated teachers' sense of teacher self-efficacy and how often they used various classroom management strategies. They found that newly qualified teachers with a higher sense of teacher self-efficacy towards student engagement and instructional strategies used rewards more frequently than those with a lower sense of teacher self-efficacy. Woodcock and Reupert conclude that for inclusion to be more successful, teacher self-efficacy regarding inclusion needs to be considered, monitored and supported for new teachers as they transition through their first years of teaching. Supportive ways are also needed to allow teachers to develop support mechanisms through the development of positive teaching behaviours.

Pendergast and Main are the authors of chapter seven, which provides a rich insight into one of many rapid changes in education policy and practice in Australia. Educational change is a complex process with schools typically seeming to be in a state of constant change. The complexity of educational change is further exacerbated as a result of a range of national, state and local reform agendas where schools are often attempting to implement a number of reforms simultaneously. The pointy end of this reform is in the classroom itself, and specifically related to teacher's work. In this chapter, the authors outline a reform program involving 259 schools. They focus on insights into the perceptions of teacher self-efficacy to implement the reform of junior secondary classrooms around the state of Queensland. Leadership teams from each school completed a self-efficacy survey to provide a snap-shot of their perceptions of the preparedness of their teachers to teach in Junior Secondary. This occurred at the beginning of the program and was administered again at the end of the program. The results reveal a continued focus on teacher instruction, adapting instruction to individual student needs, and motivating students. Perhaps the real insight gained from this chapter is the role that self-efficacy research can play as a guiding consideration in a major reform project.

The final chapter by Malinen explores teacher efficacy research in mainland China. In recent years there has been a growing interest towards mainland China and Chinese teachers because of high Programme for International Student Assessment (PISA) results. Much of the research however is publisher in the local language, limiting dissemination to the international community. This chapter provides a summary of current teacher self-efficacy research publisher in Chinese academic

journals. This allows readers from outside of China to also become familiar with Chinese teacher self-efficacy research.

CONCLUSION

The chapters have been able to provide a snapshot of current research being undertaken in the Asia-Pacific region in regards to teacher self-efficacy beliefs. This includes specific focuses on inclusive teaching, professionalism, subject domains, collective efficacy as well as specific contexts of early childhood education and care, primary schools education, special needs schools and teacher education. This allows the reader to begin to develop an understanding about the complexity of teacher self-efficacy as well as the development and relationship between self-efficacy and others theoretical constructs and concepts.

Looking across the chapters, we are able to see many similarities. This includes the importance of understanding cultural and contextual differences within teacher self-efficacy research. The chapters acknowledge that within the Asia-Pacific region there is much difference and variation in regards to traditions, norms, languages etc. leading to different perceptions and understandings about the roles and responsibilities of a teacher. As such, many of the chapters call for more research in the area, as well as the implementation of mixed-methods and qualitative tools to explore cultural and contextual differences.

All of the chapters also provide hope to the reader about the possibilities of understanding and supporting teachers and schools beliefs to enhance teacher behaviour. Through the implementation of teacher self-efficacy beliefs into educational contexts, teacher education programmes and professional development programmes, there is strong hope that the outcomes of education systems in supporting all students in their learning can be achieved. By allowing teachers to develop their own sources of efficacy and supporting these through all stages of career development, all children can be supported in their own learning.

As you read this book, we ask you to also reflect about your own understanding of teacher self-efficacy and how you could also further support the development and implementation of teacher self-efficacy beliefs. By sharing these important studies across the Asia-Pacific region, the intention is to also develop the understanding of teacher self-efficacy in the Asia-Pacific region to help support teachers, schools, teacher educators, administrators and policy makers in their decisions regarding educational policy and provision, while constantly highlighting the complexity of the field. Teacher self-efficacy provides endless possibilities for an overall reform to education across the Asia-Pacific region. It begins however with a joint understanding of knowing what has been done.

DAVID A. G. BERG AND LISA F. SMITH

1. PRESERVICE TEACHER SELF-EFFICACY BELIEFS

An Opportunity to Generate "Good Research" in the Asia-Pacific Region

ABSTRACT

This chapter examines how teachers' self-efficacy beliefs can lead to the enhanced wellbeing of students, teachers, and preservice teachers. We first present a brief historical tour of the construct of teacher self-efficacy, followed by findings of research pertaining to preservice and in-service teacher self-efficacy beliefs. We then describe how teacher self-efficacy beliefs have been measured and the challenges associated with the measurement of this construct. We develop this discussion by sharing findings from a mixed methods approach that explored teacher self-efficacy in the Asia-Pacific region. The chapter concludes with a discussion of what has been learned to date, how findings from the research can contribute to enhancing teachers' self-efficacy beliefs, and the importance of mixed-methods research to inform this area of study.

INTRODUCTION

Educational research is often judged to be good based on having a strong conceptual framework and an elegant design. Unfortunately, consideration of the ultimate purpose and impact of the research on human well-being can be neglected (Hostetler, 2005). Similarly, Bandura (1997) has argued that theories are often evaluated by their "explanatory and predictive power." However, as he noted, "The value of a psychological theory must also be judged by the power to change people's lives for the better" (p. viii). We believe that social cognitive theory (Bandura, 1997) provides a strong conceptual framework for educational researchers to use in the development of studies of teachers' self-efficacy beliefs that can lead to the enhanced wellbeing of students, teachers, and preservice teachers. By extension, we believe that improving the well-being of students, teachers, and preservice teachers will provide opportunities for increasing educational outcomes.

In this chapter, we seek to provide a warrant for this claim and encourage research on teacher self-efficacy in the Asia-Pacific region. We begin by offering a brief historical tour of teacher self-efficacy as a construct and presenting findings of

S. Garvis & D. Pendergast (Eds.), Asia-Pacific Perspectives on Teacher Self-Efficacy, 1–17.

research pertaining to preservice and in-service teacher self-efficacy beliefs. Next, we offer an exploration of how teacher self-efficacy beliefs have been measured and the challenges for those who seek to measure them. Following this, we consider some of the most significant findings to date: namely the factors that affect teacher self-efficacy beliefs and factors that are related to those beliefs. We develop this discussion by sharing a mixed methods approach for researching teacher self-efficacy in the Asia-Pacific region. We then conclude by considering what we have learned, how we might respond to what we have learned, what limitations are evident, and then we make suggestions as to what research could be done to contribute to this body of scholarship in the region.

As a starting point, Tschannen-Moran and Hoy (2007) described useful possibilities for those seeking to research the self-efficacy beliefs of preservice teachers.

> Teachers entering the field have typically experienced "apprenticeships" of at least 17 years as students. What are the qualities of the teachers they remember and what is the impact of these memories on preservice teachers' developing sense of efficacy as teachers? Likewise, what is the impact of modelling by university professors and by cooperating teachers during student teaching? What is the impact of images of teachers in movies and the news media? Studies such as these would be helpful as we seek to learn about the source of self-efficacy beliefs among preservice and novice teachers. (p. 954)

We are intrigued by these questions, but have others that we believe can make a significant difference to how initial teacher education is shaped in terms of building self-efficacy beliefs.

In our work, we have considered how graduates from different initial teacher education pathways vary in their self-efficacy beliefs and have asked if those in three- and four-year undergraduate programmes have higher or lower self-efficacy beliefs as compared to those who have completed one year post graduate programmes (Berg & Smith, 2014b). Further, we have considered how the number of days that preservice teachers spend on practica may affect preservice teachers' self-efficacy beliefs (Berg, 2011; Smith, 2006) and how the timing and the nature of the practica may make an impact (Smith, 2006). In our comparison of the self-efficacy beliefs of preservice teachers from three nations (Berg & Smith, 2014b), we have identified differences among cohorts and considered how an understanding of teacher self-efficacy beliefs and the antecedents for those beliefs can provide important information for teacher educators who are responsible for initial teacher education.

It is still the case that the majority of teacher self-efficacy research has been conducted in North America. Research such as ours described above is merely scratching the surface of what it possible and of what needs to be explored in our Asia-Pacific context. We would like to encourage the growth of a body of research that considers measurement issues, contextual influences of teacher self-efficacy,

and the influence of cultural preferences on the formation of teacher self-efficacy beliefs across the Asia-Pacific region.

TEACHER SELF-EFFICACY BELIEFS

Background

Self-efficacy beliefs are those beliefs that people hold about the skills and competencies they have to achieve a specific task (Bandura, 1997). These beliefs influence how both thought processes and emotions affect an individual's motivation. Those who believe they have the capability to succeed are more likely to persist in the face of adversity and invest significant effort to achieve goals of importance to them; whereas, those who doubt their skills and competencies are more likely to see such efforts as futile and will not endure (Bandura, 1997; de la Torre Cruz & Arias, 2007). These beliefs have considerable impact as a result of their self-referential nature, and mediate among knowledge, skills, and behaviour in goal achievement (Henson, Kogan, & Vacha-Haase, 2001). Given the potency of self-efficacy beliefs, scholars have sought to understand how they affect people's occupational activities (Bandura, 1997). As evident in the chapters of this volume, the self-efficacy beliefs of teachers and preservice teachers have come to be recognised as important topics of educational research.

North American researchers have been engaging with the topic of teacher self-efficacy for almost four decades, following questionnaire studies conducted by the Rand Foundation (Armor et al., 1976) and Berman, McLaughlin, Bass, Pauly, and Zellman (1977). In the ensuing years, two questionnaire items were added that led to potent findings (Tschannen-Moran & Woolfolk Hoy, 2001). The first item asked, "When it comes down to it a teacher can't really do much because most of a student's motivation and performance depends of his or her home environment" (Armor et al., 1976). Ashton, Olejnik, Crocker, and McAuliffe (1982) named this *general teacher efficacy* (GTE). The second question, labelled by Ashton et al. as *personal teacher efficacy*, asked, "If I try really hard, I can get through to even the most difficult and unmotivated students" (Armor et al., 1976).

At this stage, the emerging construct of teacher efficacy was theoretically underpinned by Rotter's (1966) locus of control theory and was understood by the "extent that to which teachers believed reinforcement lay within themselves or the environment" (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 202). Nearly two decades later in 1984, Gibson and Dembo looked to Bandura's (1977) social cognitive theory to more fully understand teachers' self-efficacy beliefs. This amounted to a significant breakthrough in the field and by the outset of the new millennium, the majority of teacher self-efficacy research was conceptually underpinned by Bandura's theory (Wheatley, 2002). This not withstanding, the use of these two similar, but separate conceptual strands has caused confusion surrounding in teacher self-efficacy research (Goddard, Hoy, & Woolfolk Hoy, 2000).

Tschannen-Moran, Woolfolk Hoy, and Hoy's (1998) model of teacher self-efficacy offered an important breakthrough by combining Rotter's (1966) and Bandura's (1997, 1995) theories. They used Rotter's (1966) locus of control theory to understand context and task analysis, but more significantly, looked to the attribution analysis and interpretation of Bandura's (1997, 1995) four principal sources of information for the construction of teacher self-efficacy beliefs. These four sources are: mastery experience, physiological and emotional states, vicarious experience, and social persuasion. This dual conceptual foundation can be seen in the two dimensions that their model offers. The first of these is "self perceptions of teaching competence" and the second, "the teaching task and its context" (p. 228). Notwithstanding, findings from our search of the literature suggest that much of the recent research that has been conducted on teacher self-efficacy has been more obviously underpinned by Bandura's self-efficacy theory (see for example, Skaalvik & Skaalvik, 2007). Reference to Rotter's (1966) locus of control theory is more evident in historical accounts of the evolution of teacher self-efficacy research (Berg, 2011).

There are important reasons why initial teacher educators should be mindful of their students' teacher self-efficacy beliefs: once established, self-efficacy beliefs seem to be resistant to change. That is, once a belief is formed, its holder is likely to attend to confirmatory experiences and ignore or minimise evidence that challenges the belief (Bandura, 1997). Thus, it is likely to be easier to encourage the development of healthy teacher self-efficacy beliefs during initial teacher education than to engage in remedial action once those beliefs are formed. Consequently, it is not surprising that a body of research exists exploring the impact of early mastery experiences on the formation of preservice teachers' self-efficacy beliefs (Hoy & Spero, 2005). The findings from this body of research, however, are inconsistent and are not easily interpreted (Berg, 2011, Berg & Smith, 2014; Ganser, 1996, Henson, 2002; Parker, Guarino, & Wade Smith, 2002; Smith, 2006). Conceptual and measurement issues offer some explanation for the inconsistencies, as do context variables. Examples of conflicting findings include research into the effects of urban and suburban environments (Ashton, Webb, & Doda, 1983; Knoblauch & Woolfolk Hoy, 2008; Smith, Klein, & Mobley, 2007). Nevertheless, some highly applicable findings are evident from this body of research including those that identify the significance of appropriate mentoring and other support for preservice teachers for the formation of their teacher self-efficacy beliefs (Burley, Hall, Villeme, & Brokmeier, 1991; Knoblauch & Woolfolk Hoy, 2008; Woolfolk Hoy, 2000).

Measurement

Tschannen-Moran et al.'s (1998) model of teacher self-efficacy has been widely accepted; yet, questions of how to best measure teacher self-efficacy beliefs remain. Indeed, Tschannen-Moran and Woolfolk Hoy (2001) have argued that

"persistent measurement problems have plagued those who have studied teacher efficacy" (p. 783). Skaalvik and Skaalvik (2010) also have drawn attention to measurement problems that are evident in the research literature. They noted that there is a lack of common agreement as to how teacher self-efficacy should be measured and conceptualised. Their claims support those made almost a decade earlier by Roberts and Henson (2001), who challenged "the construct validity of scores from a variety of instruments purporting to measure teacher efficacy…" (p. 5). Here, we identify five challenges of which researchers of teacher efficacy beliefs need to be mindful.

The first challenge we face is to ensure conceptual clarity. As already discussed, researchers have looked to Rotter's (1966) locus of control theory and Bandura's (1977) social cognitive theory, to provide conceptual frameworks for their studies. Goddard, Hoy, and Woolfolk Hoy (2000) have suggested that although some researchers have presumed that these theories are, to a degree, analogous, important differences are evident. Indeed, social cognitive theory identifies beliefs about an individual's ability to bring about an outcome; whereas, locus of control theory considers beliefs about the power of actions to affect outcomes. Bandura (1997) has shown that only a weak correlation exists between these two constructs and has argued that self-efficacy is a robust antecedent of behaviour, but locus of control is not. Furthermore, he offered the following example to illustrate how locus of control is very different from self-efficacy belief: "students may believe that high academic grades are entirely dependent on their performance (high locus of control) but feel despondent because they believe they lack the efficacy to produce those superior academic performances" (Bandura, 2006, p. 309). Equally, teachers may believe that student success is largely dependent on the effectiveness of teachers, but doubt their own ability to be effective in the classroom.

Secondly, we suggest researchers should consider the challenges of ensuring reliability and validity when measuring self-efficacy beliefs. Bandura (2006) has argued that, "the construction of sound efficacy scales relies on a good conceptual analysis of the relevant domain of functioning" (p. 310). In short, to be reliable, teacher self-efficacy scales must reflect a strong understanding of what it means to be an effective teacher. Bandura further argued that efficacy beliefs should be measured against potential barriers to success or obstacles to pass, as everyone has high efficacy beliefs for easily achievable activities. We would add that self-efficacy measures should be examined in terms of their relationships to similar constructs such as concerns about teaching (see e.g., Smith, 2006; Smith et al., 2007; Smith, Corkery, & Buckley, 2009; Smith, Corkery, Buckley, & Calvert, 2012). In that way, evidence of validity can be established and findings can be more readily generalised.

Thirdly, researchers must consider how general or situation specific the measurement of teacher efficacy should be to best support the purpose of their research. Bandura (1997) identified the lack of uniformity of teachers' self-efficacy beliefs across different subjects. He pointed out that as a consequence of this,

"omnibus measures" (p. 243) resulted in compromise and reduced the predictive power of findings. Nevertheless, the work of teachers is complex and success in the classroom demands a wide range of abilities that exceed narrow understandings of teaching a given subject. These include managing a safe and learning focussed classroom; building and maintaining positive professional relationships with students, parents, and colleagues; and, collecting and using assessment data summatively and formatively to support and report on learning. Tschannen-Moran and Woolfolk Hoy (2001) have highlighted the danger of overly specific enquiry: "I am confident that I can teach simple subtraction to middle-income second graders in a rural setting who do not have learning disabilities as long as my class is smaller than 22 students and good manipulatives are available" (p. 795). Instruments that reflect broader conceptions of the work of teachers allow researchers to measure global teacher self-efficacy beliefs and thus increase the external validity and opportunities for findings to be applied in practical contexts (Pajares, 1996; Tschannen-Moran & Woolfolk Hoy, 2001). Such multi-itemed instruments allow researchers to select specific items germane to their enquiries (Bandura, 1997).

The fourth challenge for teacher self-efficacy researchers is to consider is how understandings and antecedents of teacher self-efficacy beliefs may vary across cultures. Indeed, Oettingen (1995) has argued that sources of efficacy beliefs vary across cultures in their pervasiveness, forms, and significance. However, culture as a concept is problematic and researchers considering culture are open to allegations of stereotyping (Mason, 2007). Mason has argued that cultures comprise diverse individuals who operate in a world, "characterised by increasing degrees of plurality, multiculturalism, interdependence, hybridity and complexity (p. 169). This notwithstanding, it is important to recognise that both the theoretical roots and much of the emerging work on teacher self-efficacy has been developed in a North American context and reflects the work and expectations of teachers in American classrooms. Work remains to be done to consider the suitability of both the foundational understanding of theory and validity and suitability of measures when used in different settings.

A final challenge for researchers is to continue to expand the field of study by applying new and creative methods of data gathering and analysis. Berg's (2011) review of the teacher self-efficacy literature reflected the dominance of quantitative methods in researching teacher self-efficacy beliefs. This is disappointing as almost two decades earlier, Pajares (1992) argued "additional measures such as open-ended interviews, responses to dilemmas and vignettes, and observation of behaviour must be included if richer and more accurate inferences are to be made" (p. 327). Labone (2004) and Wheatley (2005) also have called for richer, more in depth qualitative studies. In our recent study (Berg & Smith, 2014a), we looked to mixed methods research. We used the Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) in conjunction with a series of focus groups. Thus, we were able to build upon the rich quantitative research base that

has evolved over the last 40 or more years by incorporating a qualitative phase that allowed us to critically examine the survey results. Through subjecting the data that emerged from the focus groups to thematic analysis, we obtained a richer, more complex story and more in-depth results than the survey alone would have provided. We suggest that a pragmatic approach, such as this, offers opportunities to glean rich insights into teachers' self-efficacy beliefs in a range of contexts.

There are currently two very useful quantitative measures of teacher self-efficacy beliefs. The first of these, the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) has been used to establish a significant body of research. Henson's (2002) claim that it had potential to make a rich contribution to teacher self-efficacy research has since been well warranted in a wide-range of contexts, not least in the measurement of preservice teachers' self-efficacy beliefs (Berg & Smith, 2014b; Cheung, 2008; Klassen et al., 2009; Knobloch & Whittington, 2002). The TSES comprises 24 items. However, a potential disadvantage is that these items represent what may be considered a narrow range of tasks, which principal components analyses have consistently factored into three components: efficacy for student engagement; efficacy for instructional strategies; and efficacy for classroom management. Further, Roberts and Henson (2001) have cautioned that the eigenvalues belonging to the third factor are borderline. Avanzi et al. (2013) have noted that the TSES does not reflect the importance of teachers working with colleagues and parents, and does not consider self-efficacy beliefs about adapting to the accelerated pace of change evident in the education systems of many schools. This notwithstanding, the narrower understanding of the work of teachers may mean that this scale is more generic and has a wider utility, as is evident in its use with preservice teachers without the need for amendment. Indeed, use of the instrument with preservice teachers has generally resulted in a single dimension, suggesting that preservice teachers may initially not distinguish among the different aspects of a teachers work (Berg & Smith, 2014a; Duffin, French, & Patrick, 2012; Smith et al., 2007; Smith et al., 2012).

The second measure, a more recent development, is the Norwegian Teacher Self-Efficacy Scale (NTSES) (Skaalvik & Skaalvik, 2007). The NTSES appears to have the potential to make a valuable contribution to the field. A notable strength is its close alignment with Bandura's (2006) recommendations for the construction of self-efficacy scales (Avanzi et al., 2013). Additionally, it measures six dimensions of teacher efficacy: instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, coping with changes and challenges (see p. 614), thus offering a broader conception of the range of tasks that teachers must engage in to ensure student success, as compared to the TSES. This measure has been used successfully in Norway by its authors and has been cross-validated by Avanzi et al. (2013) in Italy. However, as yet it has not been adapted for use with preservice teachers or been used in research in the Asia-Pacific region.

Significant Findings from Teacher Efficacy Research

Despite the conceptual and methodological uncertainty that has been evident in the field of teacher efficacy beliefs, the importance of this construct is strongly supported by an extensive list of positive outcomes for students, preservice teachers, and practising teachers that have been found to be associated with strong teacher efficacy beliefs (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Clearly, correlation does not equal causation, yet the strength of the findings is such that teacher self-efficacy beliefs are recognised as an important influence on teacher performance (Avanzi et al., 2013; Wolters & Daugherty, 2007). Indeed, students taught by teachers with high teacher self-efficacy beliefs have been found to have higher levels of motivation (Midgeley, Feldlaufer, & Eccles, 1989; Woolfolk, Rossof, & Hoy, 1990), self-efficacy (Anderson, Greene, & Loewen, 1988), and achievement (Anderson et al., 1988; Armor et al., 1976; Ashton & Webb, 1986; Moore & Esselman, 1992; Ross, 1992).

In terms of in-service teachers, those with strong teacher self-efficacy beliefs have been found to:

- be more committed (Coladarci, 1992; Evans & Trimble, 1986; Wolters & Daugherty, 2007);
- be enthusiastic about teaching (Allinder, 1994; Guskey 1984; Hall, Burley, Villeme, & Brockmeier, 1992; Skaalvik & Skaalvik, 2010);
- be more likely to continue to work as a teacher (Burley, Hall, Villeme, & Brockmeier, 1991; Glickman & Tamashiro, 1982);
- be tenacious, resilient, and more understanding of less successful students (Ashton & Webb, 1986);
- be more likely to trial pioneering methods and innovative ideas (Allinder, 1994; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977; Cousins & Walker, 2000; Ghaith & Yaghi, 1997; Guskey, 1988; Meijer & Foster, 1988; Smylie, 1988; Wertheim & Leyser, 2002);
- use hands on teaching methods (Riggs & Enochs, 1990);
- show evidence of more effective organisation and planning (Allinder, 1994); and, are more satisfied with their jobs (Klassen et al., 2009; Skaalvik & Skaalvik, 2014).

In contrast to these, teachers reporting negative efficacy beliefs have been found to report higher levels of emotional exhaustion, burnout, and stress (Bandura, 1997; Skaalvik & Skaalvik, 2007, 2014); have negative expectations of students' learning outcomes (Bandura, 1997); identify more student behaviour problems (Caprara, Barbaranelli, Borgogni, & Steca, 2003); and report lower levels satisfaction with their work (Caprara et al., 2003; Caprara, Barbaranelli, Steca, & Malone 2006; Klassen et al., 2009).

As we have identified, research into preservice teacher self-efficacy beliefs is important as a consequence of the resilience of these beliefs once they are established (Hoy & Spero, 2005). Bandura (1997) has conjectured that this is a result of the stable nature of people's self-schemata of personal efficacy. However, inconsistent findings have hindered the interpretation of research into the teacher self-efficacy beliefs of preservice teachers (Ganser, 1996; Henson, 2002; Parker, Guarino, & Wade Smith, 2002; Smith, 2006). The conceptual and measurement issues (as discussed in this chapter) that have challenged researchers may offer a partial explanation for this. However, context variables may also offer a rationale for inconsistent findings. Examples of apparently conflicting results are evident in the study of the locus of school setting for preservice teachers' school based experience in rural, suburban, or urban environments (Ashton et al., 1983; Knoblauch & Woolfolk Hoy, 2008; Smith et al., 2007); and in studies investigating the impact of school stage (Fortman & Pontius, 2000; Lin & Gorrell, 1998).

Researchers have, for the most part, found that teacher self-efficacy increases during preservice teacher preparation programmes (Gorrel & Hwang, 1995; Gurvitch & Metzler, 2009; Housego, 1992; Hoy & Spero, 2005; Hoy & Woolfolk, 1990; Malmberg & Hagger, 2009; Wenner, 2001). Hoy and Spero (2005) noted that measurement issues might explain the exceptions to this that was evident in Romi and Daniel's (1999) and Lin and Gorrell's (2001) findings. An alternative explanation is that the discrepancies could be accounted for by important differences in the practicum component of these programmes (Gurvitch & Metzler, 2009).

Further findings of interest include the value of giving preservice teachers practicum experiences early in their programmes, with opportunities for working with small groups, tutoring, and observation (Clift & Brady, 2005; Smith, 2006); and, the importance of the relationship between reduced support and lower levels of self-efficacy beliefs (Burley, Hall, Villeme, & Brokmeier, 1991, Woolfolk Hoy, 2000). Teachers mentoring preservice teachers in classrooms have been identified as potential powerful sources of self-efficacy information. Teachers provide the opportunity for vicarious experience (when preservice teachers see role models successfully achieving teaching goals) and verbal persuasion (by making and sharing judgements about preservice teachers' abilities) (Knoblauch & Woolfolk Hoy, 2008). Research has shown that preservice teachers' teacher self-efficacy beliefs are negatively correlated with their concerns about teaching, suggesting that efforts to bolster teacher efficacy beliefs may ameliorate concerns about self (Berg & Smith, 2014a). This supports Fuller's (1969) foundational research about teachers' concerns, which suggested that as teachers and preservice teachers become less concerned about themselves, they focus their concerns on their students and their learning. In fact, concerns about teaching have been shown to be a related but distinct concept from teacher self-efficacy (Berg & Smith, 2014a; Smith et al., 2009).

TEACHER EFFICACY RESEARCH IN THE ASIA-PACIFIC REGION

An emerging, but significant body of research is evident that explores teacher self-efficacy beliefs in the Asia-Pacific region, including studies involving preservice and in-service teachers from Australia (Garvis & Pendergast, 2011; Ho & Hau, 2004; Pendergast, Garvis, & Keogh, 2011), China (Cheung, 2006, 2008; Kennedy & Hui, 2006; Ho & Hau, 2004; Tsui & Kennedy, 2009), Korea (Klassen et al., 2009), Malaysia (Berg & Smith, 2014a), New Zealand, (Anthony, Haigh, & Kane, 2011; Berg & Smith, 2014a; Haigh & Anthony, 2012; Smith et al., 2009; Smith et al., 2012); Singapore (Klassen et al., 2009); and, Taiwan (Lin, Gorrell, & Taylor, 2002).

Findings from the limited number of studies that seek to measure the teacher efficacy beliefs of teachers and preservice teachers across contexts are of interest, as they offer the opportunity to consider how the construct is realised across the Asia-Pacific region. For example, Ho and Hau's (2004) study of Chinese and Australian teachers found the construct of teacher efficacy to be cross-culturally valid, though they noted important cultural differences. The Australian teachers who participated in their study reported stronger efficacy beliefs in all areas, as compared to their Chinese peers. Ho and Hau suggested that this was a consequence of the self-effacing behaviour expected in collectivist cultures and greater expectations of teachers in Chinese society. Similarly, in their comparative study of US and Taiwanese preservice teachers, Lin, Gorrell, and Taylor (2002) found that the Taiwanese preservice teachers prioritised strong relationships with parents and had an increased awareness of the difficulty of teaching large classes. Further, Cheung (2008), using Kennedy and Hui's (2006) Chinese version of Tschannen-Moran and Woolfolk Hoy's (2001) Teachers' Sense of Efficacy Scale (TSES) to compare the beliefs of teachers in Hong Kong and Shanghai, posited that "a cultural preference for being modest" (p. 119) offered an explanation for the lower efficacy scores of the Hong Kong teachers in comparison to their peers in Shanghai. This is an important reminder of the cultural differences that may be evident within nations and broad cultural groups. Furthermore, these studies highlight differing cultural understanding of the role of the teacher, and how culture may cloud the direct comparisons of answers given to the same question by those from different cultures.

A MIXED METHODS MODEL

Here, we describe in more detail the design and findings from our mixed-methods study (Berg & Smith, 2014a) with the hope that they may be useful to others seeking to conduct similar research. We suggest that our findings have shown that teacher self-efficacy is a useful construct for exploring the beliefs of preservice teachers from two distinct Asia-Pacific nations: Malaysia and New Zealand (The study also included preservice teachers from England) and that a mixed methods approach to comparative teacher self-efficacy research allows for empirical findings to be

interpreted in a rich and nuanced way, thus avoiding overly simplified or superficial explanations of difference.

In the first phase of the research, we used the Teachers' Sense of Efficacy Scale (long form) (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) to gather quantitative data. A principal components analysis of these data yielded a single factor solution for each national group. The coefficient alpha reliabilities for the TSES for the New Zealand, Malaysian, and English samples were .95, .96 and .87 respectively. Using scale scores based on the one factor solutions, a univariate analysis of variance (ANOVA) was used to examine differences between the samples, which resulted in a significant difference among groups, F (2,251) = 5.534, p = .004, partial eta squared = 0.042. Following this, we re-examined the mean differences using Least Significant Difference (LSD) post hoc procedures at alpha = .05. These revealed that the mean for the Malaysian sample (M = 143.41, SD = 25.96) was significantly lower than that of the New Zealand sample (M = 156.23, SD = 22.63) and the English sample (M = 156.80, SD = 26.90). With a mean score of .50 standard deviations below the other cohorts, it appeared that the Malaysian preservice teachers believed that they were less likely to function well as a teacher as compared to their New Zealand and English peers.

The mixed-method design allowed us the opportunity to explore these findings in focus groups. The findings from these were fascinating and alerted us to important differences among the three cohorts. Most notably, the Malaysian preservice teachers reported important contextual factors, including less time spent on practicum experiences in the first year of their study. They also reported class sizes that were twice that of New Zealand classes, and an expectation that they would engage in subject-based primary teaching. With this in mind, it was hardly surprising that participants would indicate lower scores on TSES items such as, "How much can you motivate students who show low interest in their school work?" With less time spent in larger classes, the task was clearly more challenging than for their New Zealand peers.

However, the rich discussion from the focus groups allowed us the opportunity to explore cultural differences both across and within the cohorts. We contend that researcher should be mindful of such important differences in the national cultures that make up the Asia-Pacific region. We argue that different understandings of the role of the teacher must be considered (Berg & Smith, 2014a; Cheung, 2006; Ho & Hau, 2004; Lin, Gorrell, & Taylor, 2002; Tsui & Kennedy, 2009). Indeed, going back to 1980, Hofstede contended that teachers in high power difference societies, such as Malaysia, are likely to take greater responsibility for the success or failure of their students than teachers in low power difference societies, such as New Zealand. A further cultural difference that must be considered when comparing reported self-efficacy beliefs is a society's cultural norms. For example, the self-effacing tendencies often expected in collectivist cultures (Ho & Hau, 2004) may not

align with extolling one's self-efficacy as a teaching education student. Even within the Malaysian cohort, differences were the norm among the backgrounds – and beliefs – of the students. We recommend Oettingen (1995) for a useful discussion of Hofstede's cultural dimensions and Bandura's sources of self-efficacy, to consider how sources of self-efficacy belief may vary across the cultures evident in our study.

CONCLUSION

In this chapter, we have argued that teacher efficacy research offers investigators rich opportunities to conduct research that might be considered "good" both in its capacity to support the development of educational outcomes that enhance the well-being of students, teachers and preservice teachers, and in its sound method and conceptual framework. However, we have also described important limitations that must be recognised: a lack of conceptual clarity, measurement issues, and the need to understand how cultural and contextual variables may affect teacher efficacy beliefs. Our research (see Berg & Smith, 2014 for a more detailed description) proved to be a useful reminder of the challenge of conducting comparative studies, and the difficulty in attributing difference to culture and/or context. This notwithstanding, we have been able to use our findings to argue that contextual and cultural factors must be considered as we, as teacher educators, seek to support the development of new teachers with robust self-efficacy beliefs. We believe that using a mixed-methods design greatly increased the depth of information gathered from the participants and more importantly, the interpretation of their responses. We encourage other researchers to make use of mixed-methods to provide a more comprehensive account of reported teacher self-efficacy beliefs. In that way, we can provide more nuanced explanations of difference and make better use of results obtained. We hope that our research may be considered to be "good" because it has potential to, in a modest way, encourage a more sophisticated understanding of preservice teachers from different contexts, and their well-being. Nevertheless, we acknowledge this work is still in its infancy. Consequently, we encourage researchers across the region to engage with the powerful idea of teacher efficacy in their own contexts and advance the platform of scholarship presented in this volume.

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2. THE MEDIATING ROLE OF COLLECTIVE TEACHER EFFICACY BELIEFS IN THE RELATIONSHIP BETWEEN SCHOOL CLIMATE AND TEACHER SELF-EFFICACY ACROSS MAINSTREAM AND SPECIAL NEEDS SCHOOLS

ABSTRACT

This study explores how prior student achievement, through school types, predicts teacher self- and collective efficacy and perceived academic climate of 183 teachers from mainstream primary and secondary schools and special needs schools in Singapore. Teachers differed in their perception of self- and collective efficacy to promote organizational changes and student achievement, and of the school climate of the school. Mediational analyses indicated that teacher collective efficacy mediates the relationship between teacher self-efficacy and seven aspects of school climate except for work pressure. These findings were discussed with respect to the socio-cognitive perspective.

INTRODUCTION

Efficacy research shows that academic achievement is not influenced by student efficacy alone but that teachers' efficacy also has the capability to make equally substantial contribution to students' motivation, achievement, and their sense of efficacy. Situated in Bandura's (1997) social cognitive theory, these beliefs are about teachers' appraisal of their capabilities to influence student outcomes (Wheatley, 2005). A growing body of research has demonstrated its functionality in contributing to teachers' persistence, resilience and efforts in teaching-related activities and experimenting with new pedagogies, and various aspects of professional well-being (Caprara, Barbaranelli, Borgogni, & Steca, 2003) and the reciprocal relationship between initial teacher instructional quality and their later self-efficacy (Holzberger, Philipp, & Kunter, 2013; Rubie-Davies, Flint, & McDonald, 2012). We undertake this study to extend our earlier work in understanding the role of various school context variables in fostering teacher efficacy beliefs in Singapore schools. In an earlier study, we examined if the types of school teachers work in provide different contextual influences to shape their perceptions of their teaching efficacy. We found school types, as a proxy measure of student prior achievement, to predict both collective teacher efficacy and perceived academic climate among middle

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school teachers but this differed for those teaching in high and regular track schools (Chong, Klassen, Huan, Wong, & Kates, 2010). We explored this issue in an Asian context where educational achievement and expectations for student performance are particularly demanding as compared to Western educational contexts (Chong, Chye, Huan, & Ang, 2014). These high demands and expectations have important implications for teacher beliefs about their practice to bring about desired student learning outcomes. This chapter describes and discusses our findings in other types of schools and reiterates the role of school contextual influence in shaping teacher efficacy.

TEACHER COLLECTIVE EFFICACY

Teaching is an interpersonal activity typically performed in a group context, and as such, teacher self-efficacy can be influenced and shaped by a number of contextual variables in the school (e.g., Rubie-Davies, Flint, & McDonald, 2012; Yeo, Ang, Chong, Huan, & Quek, 2008). In particular, teacher self-efficacy has been known to be influenced by teachers' collective beliefs in a school or faculty that they can work together productively and effectively to influence student outcomes (Bandura, 2000). High perceived teacher collective efficacy enhances a group's capability to enlist administrative support, fosters creative problem solving, influences decision-making and the individual capability for classroom management, which in turn relates to teacher commitment (Goddard, 2001). It also makes an independent contribution to specific learning tasks (Goddard, Logerfo, & Hoy, 2004). Specifically, research shows that teachers' sense of efficacy varies with the level of teacher collective efficacy, which is able to predict variation in the former above and beyond the variance explained by other school contextual variables such as socioeconomic status and school achievement (Goddard & Goddard, 2001). More importantly, teacher collective efficacy has also been shown to demonstrate indirect effects. Indeed, Chong et al. (2010) found teacher collective efficacy to partially mediate the relationship between teacher self-efficacy and academic climate in a sample of Singapore middle schools.

SCHOOL CONTEXTUAL INFLUENCE AND TEACHER SELF- AND COLLECTIVE EFFICACY

To the knowledge of the authors, research examining the relationships of both teacher self- and collective efficacy with school contextual variables remains scant. With respect to teacher self-efficacy, Woolfolk-Hoy and Spero (2005) reported that student SES in specific classes relates to teacher perception of support. Teachers assigned to higher SES classrooms felt more supported and found their teaching assignment less difficult than teachers assigned to lower SES classrooms. However, the link between collective teacher efficacy and SES has not been clearly established. Instead, what Tschannen-Moran and Barr (2004) had found was that teachers in middle schools serving populations with low SES can have

either high or low collective efficacy beliefs. These beliefs varied with the school's academic climate. Other school processes such as shared school goals, school-wide decision-making, fit of plans with school needs, and empowering principal leadership have been shown to exert strong influences on these collective beliefs (Ross, Hogaboam-Gray, & Gray, 2004).

A line of research that has begun to look at the relationship between teacher self- and collective efficacy is in their respective relationship with student achievement. For teacher self-efficacy, student academic performance has often been measured through teachers' appraisal of their capability in engaging students effectively through instruction, managing disruptive student behaviours, and discipline (Tschannen-Moran & Woolfolk Hoy, 2001; Yeo et al., 2008). On the other hand, numerous studies on teacher collective efficacy linked student achievement through how it was fostered by sources of efficacy beliefs – mastery experiences, vicarious reinforcement, verbal persuasion, and physiological states (Chong & Kong, 2012). Consistent with socio-cognitive theory, mastery experiences, through student prior achievement and their subsequent performance, have been repeatedly identified as the major source in fostering collective teacher efficacy (Bandura, 1997). Research indicated that teachers reported they were more efficacious when teaching high-track students, particularly for those teaching mathematics and science, but least so with vocational- and general-track classes (Raudenbush, Rowan, & Cheong, 1992). In addition, those who indicated higher levels of perceived efficacy reported higher levels of control over instructional conditions and higher levels of staff collaboration. These differences in efficacy levels disappeared when perceived student engagement was taken into account. That is, when students are engaged in learning, teachers are naturally more able to manage and control class instruction, thereby reinforcing confidence in one's ability to teach. In low-track schools, student engagement has been known to pose particular challenges to teachers, which can undermine their self-efficacy (Chong et al., 2010; Fredricks, Blumenfeld, & Paris, 2004; Yeo et al., 2008).

Many current studies restricted the measure of student achievement to specific subjects or as an outcome measure (Hoy, Sweetland, & Smith, 2002). That is, teachers' efficacy was perceived as either being shaped through their provision of mastery experiences to the students or that it fostered specific subject achievement (e.g., Ross et al., 2004). A major shortcoming with this is that it is usually based on a mandated assessment scores from a single grade and subject (Goddard, 2001). Specifically, the influence of teacher efficacy at the collective level, and not that of the subject faculty, was inferred from one such subject-specific measure. This may not reflect the predictor power of teacher collective efficacy as a construct in organizing student change at the school level. To examine the role of prior achievement in teacher efficacy beliefs, Chong, Klassen, Huan, Wong and Kates (2010) examined schools for students with different academic tracks in Singapore. We found that teachers assigned to high-track and regular middle schools differed in their perception of self- and collective efficacy to promote organizational changes and student achievement, and of the academic climate of the school. Further analyses

revealed that collective teacher efficacy partially mediated the relationship between teacher self-efficacy and academic climate.

SCHOOL CLIMATE FACTORS

Socio-economic status, family characteristics, and urbanity have been known to influence student achievement (Hoy et al., 2002; Rubie-Davies, Flint, & McDonald, 2012). While these school characteristics are useful in explaining school variations in teacher efficacy, they are difficult to alter to those seeking to enhance student performance or teacher efficacy beliefs. Emerging evidence has suggested that school climate may be more amenable to change. School climate refers to the quality and character of school life and reflects a subjective view of the learning environment at the school level (Cohen, 2006). Essentially, school climate features that create a cohesive school culture, one that is orderly, with a strong press for academic achievement, where administrators are responsive to teachers' concerns and encourage them to try new ideas, and where teachers encourage one another in their attempts to address student needs are important (Hoy & Sabo, 1998). Bandura (1997) posited that an open and healthy school climate features may help to reverse an unhealthy low sense of collective efficacy beliefs circulating among a staff of teachers.

To date, a small number of empirical studies indicated some school organizational factors such as school mission, cooperative working relationship, and collegiality between teachers (Fuller, Wood, Rapoport, & Dornbusch, 1982), institutional integrity, principal influence, consideration, resource support, morale and academic emphasis (Hoy & Woolfolk, 1993) to be linked to teacher efficacy beliefs. Correspondingly, certain school climate features have been shown to diminish teachers' perceived efficacy. Ashton and Webb (1986) identified excessive role demands, poor morale, inadequate salaries, low status and lack of recognition to contribute to lower teacher efficacy beliefs, which in turn may attribute poor student academic performance to having lower intellectual abilities or poor home environment instead of the quality of teaching. Lee, Dedrick and Smith (1991) similarly found school organizational factors of principal leadership, communal school organization, an orderly environment, and average levels of control granted to teachers to influence their teaching efficacy. Additionally, they found teachers from Catholic schools in the study to perceive higher levels of efficacy than colleagues in public schools. Relatedly, Tsouloupas, Carson and Matthews (2014) have similarly identified school cultural factors of student SES, principal and collegial support and job autonomy aside from teacher characteristics to contribute most significantly to the prediction of teacher efficacy in managing student misbehaviour. These results from the small number of existing studies highlighted that organizational differences and school types do indeed have differential relationships with teachers' self-beliefs in mainstream schools. There appears to be no prevailing evidence to suggest that these findings generalize to atypical school populations such as those serving students with special needs.

STUDY RATIONALE

Although conceptually distinctive, collective and individual measures of teacher efficacy should be seen as interdependent since such beliefs are socially situated, where embedded group dynamics can inevitably influence individual appraisal of efficacy (Bandura, 2000). Indeed, Goddard and Goddard (2001) have found teacher self-efficacy to vary among elementary schools and that teacher collective efficacy explains these significant school-level differences. In schools that serve atypical student populations where the learning environment is more complex and expectations for student learning outcomes and instructional practices are different from mainstream school environments, it is unclear how these teacher variables relate.

Furthermore, relationships between self- and collective efficacy may operate differently in different cultural contexts even for mainstream schools. In Asian societies, achievement goals are strongly emphasized by parents, teachers and school, and the need to succeed educationally and schooling is considered to be of primary importance. High expectations and demands levied on children are also pressed upon schools and teachers to deliver quality student outcomes (Ang & Huan, 2006; Luo, Tamis-LeMonda, & Song, 2013). We reason that in these collectivistic societies like many in East Asia where academic achievement, interdependence and cooperation are greatly emphasized, teacher self-efficacy, with a positive academic climate, may be insufficient to bring about sustained student change. Instead, personal efficacy of teachers may be bolstered by a shared sense of collective efficacy (Caprara et al., 2003). In our earlier study on academically high- and regular- track schools, we have shown that collective teacher efficacy does indeed partially mediate the relationship between teacher self-efficacy and academic climate (Chong et al., 2010). This study attempts to validate this finding by exploring the extent to which other school types are related to and predict teacher efficacy variables and school climate in an Asian setting. Singapore provides an exemplary setting to investigate the interplay of these relationships since students attending mainstream schools are streamed to different academic tracks according to their prior achievement in elementary schools but students with moderate to severe learning challenges attend special needs schools.

SINGAPORE EDUCATIONAL CONTEXT

There is an average of ten years of formal general education which comprised of six years of compulsory primary education and four years or more at the secondary level. Elementary or primary education commences in January of the year in which a child reaches the age of seven. Mainstream schools accept children with mild learning difficulties (such as dyslexia, Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder). The government provides a range of educational support and facilities to enable these students to integrate into mainstream education. These include the provision of resource educational personnel such as Allied Educator (Learning and Behavioural Support) and teachers with training in special needs. Teachers in

mainstream schools are recruited by the Ministry of Education and trained by the National Institute of Education (NIE), the national teacher training institute in the country, before their deployment. Children with special educational needs who are unable to attend mainstream schools because of moderate to severe disabilities would apply to attend special schools. The education of children with disabilities remains very much with special education (SPED) schools run by Voluntary Welfare Organizations (VWOs) but which receive substantial funding from the Ministry of Education (MOE) and the National Council of Social Service (NCSS). These SPED schools run different programs catering to distinct disability groups of children (http://www.moe.gov.sg/education/special-education/retrieved on 28.5.2015). Teachers in SPED schools are recruited by the respective schools and are typically untrained teachers. They would however have opportunities to obtain special education training through attendance in a Diploma in Special Education program offered at NIE (Ministry of Education Singapore, n.d.). Other courses are also available at the training institute to strengthen these teachers' capacity in special education.

METHOD

Participants

Participants were 183 teachers (29% males and 71% females) from five schools in Singapore. One hundred and three of them were teaching in 3 mainstream primary and secondary schools and eighty were from 4 Special Needs Schools (SPED). To allow for better comparison between school types, mainstream schools with students having special needs and of primary and secondary levels were targeted. These are typical neighbourhood schools. Teachers were asked to indicate their age range and this fell between 20s and 50s, with 39% in the 30s. The mean number of years in the teaching service was 10.58 (SD = 10.73), with 6.24 years (SD = 7.13). Majority of the teachers were of Chinese origin with the remaining minority of Malay, Indian, and Eurasian origin. Independent t-tests showed pre-existing differences between special education teachers and mainstream teachers in terms of age, gender, race, teaching experience and qualification. Approval for data collection was obtained from Ministry of Education, Singapore.

Measures

Demographic information about years of teaching service, gender, ethnicity, and age were obtained. Prior achievement measure was based on the type of schools the students were attending: Mainstream or SPED school.

Teacher self-efficacy scale (TSE; Tschannen-Moran et al., 2001) consists of 24 items, with 8 items in each of three hypothesized factors:

- teacher efficacy for instructional strategies (IS),
- classroom management (CM), and

- student engagement (SE).

Examples of the items consist of the following:

- How much can you do to craft good questions for students? (IS);
- How much can you do to control disruptive behaviour in the classroom? (CM); and
- How much can you do to motivate students who show low interest in school work? (SE).

Participants responded to using 9-point response scale, anchored by *1 Nothin*g to *9 A great deal*. Higher scores indicated higher levels of perceived teacher self-efficacy. Cronbach alphas obtained were: .91 for IS, .87 for SE, .90 for CM, and .92 or the combined scale.

School-level environment questionnaire (modified SLEQ; Rentoul & Fraser, 1983). Teachers' perception of School Climate was measured with a modified version of the SLEQ with 54 items in 9 scales: Student Support, Affiliation, Mission Consensus, Empowerment, External Control, Resource Adequacy, Work Pressure, Supportive Leadership, and Collective Teacher Efficacy. Participants rated their responses on a 5-point Likert scale ranging from SD (*strongly disagree*) to SA (*strongly agree*). Cronbach's alphas for the various subscales are: Student Support (0.78), Affiliation (0.84), Mission Consensus (.88), Empowerment (0.67), Resource Adequacy (.70), Work Pressure (0.75), Supportive Leadership (0.86) and Perceived Collective Efficacy (0.75).

Procedure

Official permission was obtained with the school principal and the questionnaires were administered during a weekly staff meeting. The teachers were assured that their responses were strictly anonymous and confidential and that there was no right or wrong answers to the questions. They had the option not to participate. The questionnaires were administered in English and no translation was needed.

RESULTS

Descriptive Analysis

The data were analysed using SPSS version 21. Specifically, school climate was significantly correlated with both measures of teacher collective (M = 3.37, SD = .38; r = .59, p < .000) and self-efficacy (M = 6.52, SD = .99; r = .24, p < .001) in the expected directions. That is, higher teacher perception of collective and self-efficacy correspond with higher scores on school climate. Finer analyses with each school climate component showed teacher collective efficacy to be significantly correlated with Student Support, Mission Consensus, Affiliation, Resource Adequacy Empowerment and Supportive Leadership in the positive direction with r ranging from .42 to .65. Work Pressure (r = –.16, p < .05) and External Control

($r = –.32$, $p < .000$) were significantly but negatively correlated with Teacher Collective Efficacy. Teacher self-efficacy was shown to be significantly correlated with Student Support, Mission Consensus, Affiliation, Empowerment, Resource Adequacy and Supportive Leadership in the positive direction with r ranging from .18 to .27. It was also found to be negatively correlated with External Control ($r = –.24$, $p < .001$) but not with Work Pressure ($r = –.03$, $p =$ ns). Only the association with External Control was significant. Expectantly, Teacher Collective Efficacy was significantly correlated Teacher Self-efficacy ($r = .25$, $p < .001$) in the positive direction (Table 1).

Table 1. Correlations of teacher self-efficacy, teacher collective efficacy and school climate factors (n = 183)

	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*
a	1										
b	0.25±	1									
c	0.24±	0.59±	1								
d	0.21±	0.43±	0.57±	1							
e	0.18±	0.43±	0.65±	0.39±	1						
f	0.19±	0.65±	0.79±	0.38±	0.39±	1					
g	0.19*	0.42±	0.66±	0.41±	0.32±	0.51±	1				
h	0.27±	0.45±	0.68±	0.39±	0.27±	0.56±	0.48±	1			
i	0.03	–0.16*	0.12	–0.13	0.1	–0.08	–0.21±	–0.13	1		
j	–0.24±	–0.32±	–0.11	–0.48±	–0.17*	–0.16*	–0.38±	–0.19±	0.16*	1	
k	0.18*	0.56±	0.80±	0.41±	0.50±	0.69±	0.64±	0.46±	–0.20±	–0.20±	1

*Note: *p < .05, ±p < .001*

a *Teacher Self-Efficacy (TSE)*
b *Teacher Collective Efficacy (TCE)*
c *School Climate Total (SC T)*
d *School Climate Student Support (SC SS)*
e *School Climate Affiliation (SC Aff)*
f *School Climate Mission Consensus (SC MC)*
g *School Climate Empowerment (SC Em)*
h *School Climate Resource Adequacy (SC RA)*
i *School Climate Work Pressure (SC WP)*
j *School Climate External Control (SC EC)*
k *School Climate Supportive Leadership (SC SL)*

Independent *t*-tests conducted on all the variables revealed significant differences between school types. Teachers from mainstream schools as compared to their colleagues in special needs schools reported significantly higher scores on Collective Teacher Efficacy and School Climate components of Affiliation, Mission Consensus, Empowerment, Resource Adequacy and Supportive Leadership (Table 2).

Table 2. Means, standard deviations and range of variables (n = 183)

Variables	*Means (SD)*	*Minimum*	*Maximum*
Teacher Self-Efficacy	**6.52 (0.99)**	**2.21**	**8.67**
Mainstream Schools	6.56 (0.94)	3.92	8.50
SPED Schools	6.46 (1.05)	2.21	8.67
Teacher Collective Efficacy	**3.38 (0.38)**	**2.00**	**4.29**
Mainstream Schools	3.45 (0.30)	2.71	4.14
SPED Schools	3.27 (0.44)	2.00	4.29
School Climate Total	**3.38 (0.28)**	**1.86**	**4.01**
Mainstream Schools	3.44 (0.22)	2.80	3.89
SPED Schools	3.30 (0.33)	1.86	4.01
Student Support	**3.35 (0.55)**	**1.43**	**4.71**
Mainstream Schools	3.38 (0.51)	1.57	4.29
SPED Schools	3.31 (0.59)	1.43	4.71
Affiliation	**4.00 (0.46)**	**2.42**	**5.00**
Mainstream Schools	4.06 (0.40)	2.71	5.00
SPED Schools	3.87 (0.52)	2.43	5.00
Mission Consensus	**3.63 (0.52)**	**1.00**	**4.86**
Mainstream Schools	3.71 (0.40)	2.71	4.71
SPED Schools	3.52 (0.62)	1.00	4.86
Empowerment	**2.91 (0.51)**	**1.29**	**4.14**
Mainstream Schools	2.99 (0.48)	1.57	4.00
SPED Schools	2.80 (0.54)	1.29	4.14
External Control	**2.84 (0.55)**	**1.20**	**4.80**
Mainstream Schools	2.79 (0.53)	1.40	4.20
SPED Schools	2.89 (0.57)	1.20	4.80
Resource Adequacy	**3.33 (0.53)**	**1.57**	**4.57**
Mainstream Schools	3.46 (0.42)	2.29	4.29
SPED Schools	3.16 (0.61)	1.57	4.57
Work Pressure	**3.56 (0.55)**	**2.00**	**5.00**
Mainstream Schools	3.59 (0.52)	2.71	5.00
SPED Schools	3.53 (0.59)	2.00	5.00
Supportive Leadership	**3.48 (0.66)**	**1.00**	**5.00**
Mainstream Schools	3.57 (0.57)	1.80	4.6
SPED Schools	3.36 (0.74)	1.00	5.00

Interestingly, the teachers from different school types did not differ significantly in their perceived teacher self-efficacy.

The data was further analysed according to Preacher and Hayes's (2008) recommendations for assessing the presence of mediator effects and with the use of bootstrapping to test for the significance of indirect effects of mediator(s). Eight equations were tested using the macros developed by Preacher and Hayes. The eight components of School Climate were entered separately as DVs. Simultaneous analyses were performed for Collective Teacher Efficacy as mediator. Teacher self-efficacy was entered as IV. The bootstrap estimates were based on 5000 bootstrap samples.

Collective Teacher Efficacy fully mediated the effects of five School Climate factors except for Work Pressure. A 95% bias corrected bootstrapped CI suggested that the difference between the total and direct effects of TSE (teacher self efficacy) on the seven School Climate components were different from zero. The directions of the *a* and *b* paths of the analyses are consistent with the interpretation that higher Teacher self-efficacy is associated with higher Collective Teacher Efficacy, which in turn is associated with higher perceived Student Support, Affiliation, Mission Consensus, Empowerment, Resource Adequacy, External Control and Supportive Leadership (Table 3).

Table 3. Testing for teacher collective efficacy as a mediator in the relationship between teacher self-efficacy and school climate factors (n = 183)

	Path Coefficients				*Bootstrapping (ab path)*					
									BC 95% CI	
	a	*b*	*c*	*c'*	*PE*	*Boot*	*Bias*	*SE*	*L*	*U*
SC T										
TCE	0.10	0.41			0.04	0.04	0.00	0.01	0.02	0.07
TE			**0.07**	**0.02**	**0.04**	**0.04**	**0.00**	**0.01**	**0.02**	**0.07**
TC SS										
TCE	0.10	0.54			0.06	0.05	0.00	0.02	0.02	0.10
TE			**0.16**	**0.10**	**0.06**	**0.05**	**0.00**	**0.02**		
SC Aff										
TCE	0.10	0.49			0.05	0.05	0.00	0.02	0.02	0.10
TE			**0.12**	**0.07**	**0.05**	**0.05**	**0.00**	**0.02**		
SC MC										
TCE	0.10	0.85			0.09	0.08	0.00	0.03	0.04	0.15
TE			**0.11**	**0.02**	**0.09**	**0.08**	**0.00**	**0.03**		
SC Em										
TCE	0.10	0.52			0.05	0.05	0.00	0.02	0.02	0.10
TE			**0.95**	**0.04**	**0.05**	**0.05**	**0.00**	**0.02**		

(Continued)

Table 3. (Continued)

	Path Coefficients				*Bootstrapping (ab path)*					
									BC 95% CI	
	a	*b*	*c*	*c'*	*PE*	*Boot*	*Bias*	*SE*	*L*	*U*
SC RA										
TCE	0.10	0.60			0.06	0.06	0.00	0.02	0.02	0.12
TE			**0.11**	**0.05**	**0.06**	**0.06**	**0.00**	**0.02**		
SC WP										
TCE	0.10	-0.24			-0.03	-0.03	0.00	0.02	-0.08	0.00
TE			**-0.03**	**0.00**	**-0.03**	**-0.03**	**0.00**	**0.02**	**-0.08**	**0.00**
SC EC										
TCE	0.10	-0.39			-0.04	-0.04	0.00	0.02	-0.08	0.01
TE			**-0.16**	**-0.12**	**-0.04**	**-0.04**	**0.00**	**0.02**	**-0.08**	**0.01**
SC SL										
TCE	0.10	0.93			0.10	0.10	0.00	0.03	0.05	0.17
TE			**0.14**	**0.05**	**0.10**	**0.10**	**0.00**	**0.03**	**0.05**	**0.17**

Notes

a	*path between Teacher Self-Efficacy (predictor) and Teacher Collective Efficacy (mediator)*
b	*path between Teacher Collective Efficacy and School Climate Factor (outcome)*
c	*direct effect between Teacher Self-Efficacy and Teacher Collective Efficacy*
c'	*indirect effect between Teacher Self-Efficacy and Teacher Collective Efficacy*
TSE	*Teacher Self-Efficacy*
TCE	*Teacher Collective Efficacy*
TE	*Total Effect*
SC T	*School Climate Total*
SC SS	*School Climate Student Support*
SC Aff	*School Climate Affiliation*
SC MC	*School Climate Mission Consensus*
SC Em	*School Climate Empowerment*
SC RA	*School Climate Resource Adequacy*
SC WP	*School Climate Work Pressure*
SC EC	*School Climate External Control*
SC SL	*School Climate Supportive Leadership*
PE	*Point Estimate*
L	*Lower*
U	*Upper*

DISCUSSION

Varying Relationships between Perceived Teacher Self-Efficacy and School Climate with School Types

This study sets out to explore the interrelationships among school types, teacher self- and collective efficacy, and various school climate factors. The finding indicated that teachers teaching in mainstream and special needs schools varied in both their perception of self- and collective efficacy, and school climate. Teachers in mainstream schools were more efficacious compared to fellow teachers in special needs schools. Specifically, they perceived greater support and acceptance from colleagues; that greater consensus exists with regard to the overarching school goals; greater empowerment and encouragement in decision making processes; and that there are suitable and adequate resources to support them which include supportive school leadership. Teachers from both school types however did not differ in their perception about the degree of rapport between them and their students, the external control and work pressure they experienced in school. Although the contextual variables differ somewhat, these findings lend support to that of other research (Goddard, 2001; Raudenbush et al.,1992) with respect to the corresponding influence of the types of schools, which may serve as a proxy measure of student prior achievement, on perceived teacher efficacy at both the collective and individual levels. That is, it expanded current understanding of the role of prior achievement on teacher efficacy beliefs by considering it from the point of view of school types stratified according to national scores of student achievement (Goddard et al., 2004).

Socio-cognitive theory provides a framework for understanding the role of specific contextual influences in shaping teacher efficacy (Bandura, 1997). In this study, prior achievement as reflected in school type and student characteristics at the point of entry may not necessarily serve to boost levels of teacher self-efficacy. Particularly for those in special needs schools, teachers applied to these schools with some clear ideas about why they wanted to teach children with special needs and expectations of wide ranging student challenges in engaging them for instruction. However, lagging motivation and rampant misbehaviours are more likely to persist over the course of time in these schools, making it difficult for teachers to maintain their initial levels of self-efficacy (Woolfolk-Hoy & Spero, 2005). Holzberger, Philipp, and Kunter (2013) postulated that there may be a reciprocal relationship between initial teacher efficacy, their instructional competence and how these factors inform their subsequent perceived teaching efficacy. In better resourced mainstream schools that are required to follow a national curriculum with compulsory state-level examinations, teachers may be drawn together in working towards common goals that would benchmark their schools' performance against those of others in the country. Although special needs schools do have a curriculum to follow, these are less high-stake achievement-related goals to work towards. Teachers in these schools are likely to be focused on everyday concerns and challenges that relate to

student learning such as managing instructional and behavioural issues rather than academic work.

Teachers' beliefs about the task of meeting the challenges in teaching are therefore shaped in part by the attitudes of other teachers about specific resources and constraints available to facilitate their work, and organizational expectations and goals. As such, mainstream schools need to have higher levels of teacher collective efficacy and school climate to promote greater press in student achievement to meet various stakeholders' high expectations. For teachers in special needs classrooms, it may take more than self-efficacy to provide for students with varied learning-related issues (Fredricks et al., 2004). Their perceived capability in working with their students also require frequent collaborations with parents who are expected to be more involved in their children's training at home. Teachers in these schools often need to come together to exchange ideas on effective ways to manage the daily behavioural challenges posed by students, look for ways to enhance student learning and performance that tend to be more diverse, and propose school-level changes that would facilitate their work. Similarly, the school leadership would need the collective feedback and support to bring about organized change in the organization. Many of these school-level challenges relate to frequent staff turnover, high burnout and limited resources, making it difficult to orchestrate long lasting changes that support teachers' efficacy. Indeed, Tschannen-Moran, Woolfolk-Hoy, and Hoy (1998) postulated that "teachers' perceptions of their own capabilities (to) form in the midst of a particular set of challenges and opportunities" (p. 241).

Mediational Role of Teacher Collective Efficacy

Mediational analyses revealed that teacher collective efficacy fully mediated teacher self-efficacy and all school environment factors except for Work Pressure. The finding suggests that when teachers feel efficacious about their self- and collective capability to promote learning and instruction, they are more likely to perceive high expectations, standards and press from the school leadership, parents and students for academic success. Hence, schools characterized by high levels of teacher self- and collective efficacy and school climate seemed better positioned to communicate a press for effective teaching and learning that produces positive outcomes. Where schools have varied student ability groupings, efforts aimed at enhancing teacher efficacy will need to focus on specific school and teacher factors that facilitate student learning. The teacher behaviours measured here suggest that the teachers' perceived efficacy were related to their use of instructional strategies, ability to manage the classroom and engage students in learning, and in administering student discipline. On the other hand, work pressure that relates to personal and organizational expectations in meeting work demands, may be deemed as something that collective efficacy may be insufficient to resolve since much of the pressure is imposed by external agencies (such as state, school and parent expectations) that are beyond the teachers' control.

Constraints with Teacher Efficacy Beliefs

In interpreting the significance of efficacy beliefs, a note of caution may be appropriate. Although efficacy theory and research have highlighted the association between high teacher efficacy and positive school and student outcomes, it may be presumptuous that this will lead to enhanced learning and organizational changes. Wheatley (2002) made a distinction between teachers' efficacy beliefs about their performance and their efficacy beliefs regarding their ability to learn, cautioning that high teacher efficacy for performance need not necessarily transform into incentives for change. Teachers who are highly efficacious with specific ways of student instruction may see no reason for change. Similarly, schools with high teacher collective and self-efficacy may choose to stay on a proven track instead of exploring new ways to bring students to another level or dimension of learning. As such, Wheatley argued that teachers' doubts in their efficacy can serve to provide the impetus in spearheading educational and organizational changes. Additionally, a longitudinal analysis by Holzberger, Philipp and Kunter (2013) may provide a tentative avenue to foster change. These researchers showed that even among those with years of experience, teachers modify their efficacy beliefs over the course of the school year as they use information about their competence obtained from their instruction. As such, teacher efficacy is not necessarily stable and may be a function of a range of school-related factors relevant in shaping teacher competence. Tsouloupas et al. (2014) and Chong and Kong (2012) provided further evidence to suggest that professional development may be the avenue that affords teachers opportunities to strengthen their capacity through obtaining further mastery experiences – a source of efficacy beliefs as postulated by Bandura (1997) to enhance efficacy development.

To date, few studies have examined the role of teacher efficacy beliefs and school climate as these relate to the nature of student population in cross-cultural contexts. Despite being conceptualized in individualistic western cultures, the study indicates that self-efficacy does have relevance for practice in the Asian educational context. It suggests that it may be useful for Asian schools to begin paying attention to teachers' perceptions of competence as opposed to their actual competence, and come to appreciate that these perceptions may be valuable in predicting their capability to facilitate student academic performance.

Limitations and Implications

A number of limitations arise from this study. First, this study utilized a self-report instrument to measure teachers' perceived self-beliefs. A disparity between the subjective and objective measure of a phenomenon is to be expected. The findings should also be interpreted in relation to the dimensions of school, teacher and student behaviours tapped, as teaching is increasingly complex and difficult to capture as a

unitary construct (Tschannen-Moran et al., 2001). In addition, the self-report may not have captured sufficient demographic information about teachers that may have influence their self-beliefs and perceptions. This study also highlights a need to consider how teacher efficacy and academic climate vary between schools and classrooms as a function of student (such as, students' perception of academic climate, academic efficacy) and subject (e.g., teacher-centred versus learner-centred teaching approaches) variables. In addition, our model did not test the reciprocity of effects between school types, teacher efficacy and school climate. Future investigations could focus on identifying precise ways in which these variables influence student achievement and specific teaching processes.

In considering the applicability of these findings from an Asian and specifically Singapore context, it is important to bear in mind that the implications arising for practice may differ for different cultural contexts depending on how academic tracking is determined. In Asian schools where academic achievement and competition is heavily emphasized, this may largely be determined through prior achievement scores obtained from national examinations. It can further be conflated by student and school variability arising from special needs status of the students, socio-economic and minority status, and other demographic factors. Consideration should therefore be paid to these possible confounding factors for those seeking to further understand the interplay of relationships between teacher efficacy beliefs, school and student factors. While research has indicated the theoretical utility of these concepts, it must be acknowledged that there is little empirical work in this regard. Hoy et al. (2002) suggest that schools use the four sources of efficacy beliefs to guide their practice (Bandura, 1997). First, more opportunities for mastery experiences in various teaching-related activities could be offered to teachers. Chong and Kong (2012) have demonstrated that providing collaborative contexts in which teachers work together in developing Lesson Study plan can have an impact on both their self- and collective efficacy. Second, schools could actively seek out, learn and adapt successful practices and models from schools with similar characteristics. Third, the school leadership could engage other schools that led successful efforts to describe their stories of change, what they did to make it happen, and how their practices work. Stakeholders may be more readily persuaded by actual models of change. Fourth, schools also need to be aware that such times of organizational changes can invoke positive and negative affective states. Ensuring avenues to support and manage these affects are important for the schools to embrace change and cope with uncertainty.

To our understanding, there is a dearth of research in Asian contexts that examines the influence of such psychological variables on teacher performance. Research efforts need to continue examining specific features of the teaching context that may make a difference in the formation and enhancement of teacher efficacy beliefs, and the supports that could help build strong efficacy beliefs among teachers, particularly for those working with varied student abilities.

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3. UNDERSTANDING TEACHER SELF-EFFICACY TO TEACH IN INCLUSIVE CLASSROOMS

ABSTRACT

Teaching in the inclusive classroom is complex. One construct that relates closely to the teaching practices is self-efficacy of teachers. Teachers with a high sense of inclusive teaching efficacy tend to create classroom environments where students with a range of abilities and learning styles succeed. Research on inclusive teacher efficacy construct is relatively new and gaining significant attention by researchers worldwide. This chapter provides an overview of self-efficacy in general. The chapter then provides a detailed description of inclusive teacher efficacy, how the construct is measured and some prominent findings. A key focus of the chapter is to review research on inclusive teaching efficacy within the Asian context with possible implications of the research for policy makers and researchers in Asia and beyond.

SELF-EFFICACY

Bandura introduced the concept of self-efficacy over 30 years ago as an important factor in human motivation. The definition of self-efficacy as people's beliefs about their abilities to produce designated levels of performance that has significant influence over their lives (Bandura, 1994) reflects the important role of self-efficacy in human agency. According to Bandura's social cognitive theory (1986, 1989), self-referent thought of an individual acts as a mediator between her/his knowledge and actions. Most individuals often evaluate their own experiences and thought process through self-reflection. Bandura views people as self-organising, proactive, self-reflecting and self-regulating rather than as reactive organisms (Pajares, 1992, 1996b). From this perspective, human functioning can be explained as the product of a dynamic interaction between personal, behavioural and environmental influences. In other words, how people interpret the results of their own behaviour will inform and alter their self-beliefs as well as their environments, which in turn alter their subsequent behaviours. This is the foundation of Bandura's (1986) concept of *reciprocal determinism*, in which behaviour, personal factors, and environmental factors generate interactions resulting in a *triadic reciprocality*.

Bandura's social cognitive model considers self-reflection as a unique human capability, through which an individual evaluates and alters his behaviour, including the perceptions of self-efficacy. Bandura (1997) suggested that some people have a

S. Garvis & D. Pendergast (Eds.), Asia-Pacific Perspectives on Teacher Self-Efficacy, 37–51.

strong sense of self-efficacy, and others do not; some have self-efficacy that covers many situations, whereas others have narrow self-efficacy; and some believe they have high self-efficacy to do the most difficult tasks, while others do not. Bandura's key contention regarding the role of self-efficacy beliefs in human functioning is that an individual's motivation to do a particular task and actions may not be based on what he or she really is, but on what he or she believes he or she can do.

Bandura (1997) argues that, as individuals' behaviour can often be better predicted by the beliefs they hold about their capabilities, rather than by what they are actually capable of accomplishing. It can thus be assumed that self-efficacy perceptions can determine what individuals do with the knowledge and skills they have. He also acknowledges that beliefs and reality are seldom perfectly matched, and individuals are typically guided by their beliefs when they engage with the world. As a consequence, people's accomplishments are generally better predicted by their self-efficacy beliefs than by their previous achievements, knowledge, or skills.

TEACHER SELF-EFFICACY

A remarkable growth of teacher self-efficacy research has been noted since Bandura published his influential work, "Self-efficacy: Toward a unifying theory of behavioural change", in 1977. Extensive research supports the claim that self-efficacy has an important influence on human achievement in a variety of settings, including educational achievement (e.g., Pajares, 1997; Ross, 1992; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001).

Many well-crafted studies have been conducted in the area of teacher self-efficacy and researchers are interested in practical application of their work. Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) proposed an integrated model of teacher self-efficacy in late 1990s. They particularly emphasised the context specific nature of teacher self-efficacy (an idea originally proposed by Bandura). They proposed that teachers do not feel equally efficacious for all teaching situations. For example, one may feel efficacious to teach a particular subject, or to teach a particular group of students, and she/he may feel more or less efficacious under different circumstances such as using a new method for teaching instead of the traditional method.

Thus, Tschannen-Moran and Woolfolk Hoy insisted that while judging teachers' self-efficacy, it is necessary to consider the teaching task, context as well as personal competence. The integrated model identifies two broad dimensions: *teaching task and context*, related with the available resources to facilitate the learning process, and *personal competence* which is related with the skills, knowledge, and personality traits of the individual (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). The interaction of these two dimensions results in the judgement about self-efficacy. There are significant implications of the teaching task and context specificity for

inclusive teacher education research. The implications are discussed in greater detail later in the chapter.

Research over the past 30 years has provided sound evidence supporting the relationship between teachers' self-efficacy and student outcomes such as higher academic achievement and motivation (e.g., Ashton & Webb, 1986; Caprara, Barbaranelli, Steca, & Malone, 2006; Deemer, 2008; Klassen & Chiu, 2010; Labone, 2004; Pajares, 1996a, 1996b, 2008; Schunk, 1991). Teachers' self-efficacy beliefs are associated with outcomes such as their instructional behaviours (Morris-Rothschild & Brassard, 2006; Wolters & Daugherty, 2007), wellbeing (Betoret, 2006; Brouwers & Tomic, 2000), and job satisfaction (Caprara, Barbaranelli, Borgogni, & Steca, 2003; Moè, Pazzaglia, & Ronconi, 2010; Skaalvik & Skaalvik, 2007). Teachers with higher self-efficacy beliefs provide more effective feedback, show openness to innovate, and communicate effectively with each group of students in the classroom (Emmer & Aussiker, 1990; Emmer & Hickman, 1991). They exhibit greater levels of planning and enthusiasm (Allinder, 1994), and are open to new ideas and more willing to experiment with innovative methods to meet the diverse needs of the students (Cousins & Walker, 1995), and persist in following up on students' incorrect answers (Ashton & Webb, 1986).

There are more analogous observations reported in literature. For example, teachers who expressed higher level of self-efficacy tend to work longer with struggling students (Gibson & Dembo, 1984), attend to the special needs of children and work with their parents (Soodak & Podell, 1993), and make less negative predictions about students' abilities (Tournaki & Podell, 2005). Such teachers also more likely to listen to students, are less ego-involved, are less angered or insulted and more willing to solve students' problems rather than punish them when confronted by students (Hoy, 2001).

TEACHER SELF-EFFICACY FOR INCLUSIVE EDUCATION

Inclusive education is defined variously in the literature. Most researchers (e.g., Ainscow, Dyson, Goldrick, & West, 2011; Loreman, Sharma, & Forlin, 2013) agree that inclusive education is a system issue rather than a student issue. It requires the system to adapt and meet the individual learning needs of students rather than asking a student to change to fit in the way schools function. Most importantly, inclusion requires educators to teach and include all students in a range of school activities irrespective of differences in learning abilities, styles and ethnic backgrounds of students. According to the United Nations Educational Scientific and Cultural Organization (UNESCO, 2009) "… an 'inclusive' education system can only be created if ordinary schools become more inclusive – in other words, if they become better at educating all children in their communities (p. 8)". Implementation of inclusive practices thus requires educators to use practices that accommodate students with diverse backgrounds.

Extrapolating teacher self-efficacy to inclusive education it can be assumed that teachers with higher self-efficacy for implementing inclusive practices in the classroom are likely to engage in teaching-learning practices that ensure effective learning of students with additional learning needs compared to teachers with lower sense of self-efficacy for implementing inclusive practices (Sharma, Loreman, & Forlin, 2012). It is also important to recognize that teachers with general sense of high efficacy may not necessarily have high sense of inclusive teaching efficacy (Sharma, Forlin, & Loreman, 2012). Teaching in inclusive classroom requires teachers to possess unique skills that may not have been acquired by them during their teacher education programs (Sokal & Sharma, 2014). Some of the skills that teachers need to teach effectively in inclusive classrooms include: ability to collaborate effectively with para-professionals and parents; ability to use group teaching strategies (such as co-operative learning, peer tutoring and differentiated instruction); ability to use assessment for learning; and ability to accommodate curricular and teaching activities to suit different learning styles and abilities of students (Mittler, 2000; Sharma, 2011; UNESCO, 2009). A teacher who lacks these skills is likely to face difficulties in including students with a range of abilities and would likely to have poor sense of inclusive teaching efficacy. It would thus make sense to use measures that tap into the specific skills required to teach in inclusive classrooms rather than to use measures that may not fully address the domain of inclusive education.

ISSUES IN MEASURING TEACHER EFFICACY FOR INCLUSIVE EDUCATION

Use of problematic measures has been identified as a serious issue in self-efficacy research by many researchers (e.g., Henson, 2002; Klassen, Al-Dhafri, Hannok, & Betts, 2011; Pajares, 1997; Zimmerman, 1996). The use of global measures, which assess teachers' classroom self-efficacy as a single construct has been a main cause for concern. Bandura cautioned researchers that 'self-efficacy belief should be measured in terms of particularised judgment of capability that may vary across realms of activity, different levels of task demands within a given activity domain, and under different situational circumstances' (1997, p. 6). Although Bandura specifies the multifaceted and context-specific nature of self-efficacy, researchers have differed in defining an optimal level of specificity and many have warned against development and with extreme situational specificity, resulting in loss of practical utility and external validity (e.g., Lent & Hackett, 1987; Pajares, 1997; Tschannen-Moran et al., 1998).

Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001) is considered one of the most congruent measures with self-efficacy theory and the one most widely used in the field. TSES includes three factors: self-efficacy for classroom management, self-efficacy for student engagement, and self-efficacy for instructional strategies, addressing (a) context specificity, as the judgments are to be made based on specific outcomes, and (b) focus on capabilities to carry out a particular course of action.

Reviewing studies on self-efficacy for inclusion, it is evident that the field is not exempt from criticisms that relate to the use of inappropriate scales to measure inclusive teaching efficacy. Some researchers (e.g., Romi & Leyser, 2006; Weisel & Dror, 2006) have used general teacher efficacy measures (e.g., Gibson & Dembo, 1984) to collect data on teacher efficacy in including students with diverse needs in regular classrooms. While general teaching efficacy measures provide useful information about overall teaching efficacy, such scales fail to tap into the specific aspects of inclusive teaching efficacy.

Another scale used in the field is the Self-Efficacy toward Future Interactions with People with Disabilities Scale (SEIPD), a measure of self-efficacy toward future interactions with people with disabilities (Hickson, 1996). The scale was designed to analyse whether an individual feels efficacious or inefficacious to interact with people with disabilities. The 15-item scale assessed the single factor self-efficacy towards future interactions with people with disability. Although high reliability ($\alpha = .80$) has been reported for this scale (Woodcock, Hemmings, & Kay, 2012), the scale does not address the multifaceted nature of self-efficacy. The scale is largely conceptualised using the medical paradigm of disability. The scale may be of limited use if researchers truly wish to examine the teaching efficacy to teach in inclusive classrooms where learners with a range abilities study together.

Based on TSES, a measure for teacher self-efficacy for inclusive education was developed by Sharrma, Loremn, and Forlin in 2012 highlighting the context-specificity of inclusion and the task-specific skills that teachers need to possess to be successful in an inclusive setting. The scale, Teacher Efficacy for Inclusive Practices (TEIP), assesses perceived teacher efficacy to teach in an inclusive classroom. The scale makes it explicit that there is a shift from the medical model to social model of disability as the focus of the items is not on individuals with disability, but the learning environment and teaching practices. It measures three dimensions of teacher self-efficacy: efficacy to use inclusive instructions, efficacy in collaboration, and efficacy in managing behaviour. This scale has been widely used across eastern and western contexts and high internal consistence has also been reported for the three subscales; ranging from 0.85 to 0.93 (Sharma et al., 2012). Clearly there is need for new scales that can tap into the domain of inclusive teaching efficacy as the construct of inclusion is being re-defined by policy makers and researchers internationally. There is also a need for the revision of the existing scales that measure inclusive teaching efficacy to ensure that they are contemporary with the field of inclusive education.

CAN TEACHING EFFICACY FOR INCLUSIVE EDUCATION BE CHANGED?

Bandura (1994, 1997) has proposed four main sources of self-efficacy beliefs: (i) mastery experiences, (ii) vicarious experiences, (iii) social persuasion, and (iv) emotional states. It is suggested that utilizing any of these four sources, a change

in self-efficacy can be instigated, although Bandura considers mastery experiences as the most effective way of creating a strong sense of efficacy.

There is limited research that has examined how inclusive teaching efficacy can be changed. The majority of the research on this aspect is conducted with pre-service teachers. For example, it is reported in Israel that there was no change in both general and personal teaching efficacies for special education trainees by the end of their course (Romi & Daniel, 2000, as cited in Leyser, Zeiger, & Romi, 2011). Interestingly, there are discrepancies in results reported on the impact of participation in teacher training or course work on pre-service teachers' self-efficacy beliefs to teach in inclusive classrooms. For example, there are researchers who have observed positive effect of teacher training courses addressing issues of inclusion such as, including students with disabilities, behaviour management, and assistive technology on pre-service teachers' self-efficacy to work with special education needs (Brownell & Pajares, 1999; Buell, Hallam, & Gamel-McCormick, 1999; Lancaster & Bain, 2007). At the same time, there are researchers who have reported no significant impact of the inclusion courses completed at the undergraduate levels on pre-service teachers' self-efficacy for inclusive education (Freytag, 2001), despite the fact that teacher training period is the apt time to intervene and promote more positive views and beliefs about inclusion and inclusive practices (Lambe & Bones, 2006). Similar findings are reported in an Australian study by Woodcock, Hemmings, and Kay (2012), where the researchers could observe no change in pre-service teachers' self-efficacy towards inclusion, by studying an inclusive education subject during their teacher training programme.

It would be interesting to analyse this 'static nature' of self-efficacy for inclusion from the perspectives of researchers who highlighted pre-service teachers' apprehension to work with students with disabilities (Hemmings & Weaven, 2005; Winter, 2006). This uneasiness in turn is apportioned to the relatively less time that the pre-service teachers are provided with to develop mastery (by offering a subject or unit in inclusive education), or to get vicarious experiences (by offering a short term practicum at schools) to strengthen their self-efficacy towards inclusive practices. As Woodcock and colleagues (2012) suggest, pre-service teachers need more exposure to best inclusive strategies, modelled by their supervising teachers and others in a classroom environment. This contention is further supported by findings reporting increase in self-efficacy for inclusive practices by implementing structured course designs using 'Embedded Design Principles' that followed pedagogical approaches including explicit teaching, cooperative learning, and task analysis in inclusive education (Fraser & Lancaster, 2012).

It can thus be concluded that for any significant change to occur in teachers' self-efficacy beliefs just participation in a course on inclusive education may not be sufficient. The quality of the program is also critical. Positive changes in teacher efficacy beliefs are likely to occur in a course when the relevant content related to inclusive education is comprehensively covered as well as when the participants

have opportunities to apply new knowledge and gain mastery in implementing inclusive education (Sharma & Sokal, 2015).

UNRAVELLING THE RELATIONSHIP BETWEEN TEACHER EFFICACY AND ATTITUDES TOWARDS INCLUSIVE EDUCATION

A significant body of research is emerging that has examined the relationship between attitudes and teaching self-efficacy within the inclusion domain (Meijer & Foster, 1988; Soodak, Podell, & Lehman, 1998; Sharma & Sokal, 2015). There are many studies reporting a positive relationship between teacher self-efficacy and attitudes toward inclusive education (e.g., Meijer & Foster, 1988). In fact, teachers' self-efficacy is identified as the strongest predictor of their attitudes towards inclusion by some researchers (e.g., Soodak, Podell, & Lehman, 1998). Similar results are reported also in Israel where teachers' self-efficacy was identified as the best predictor of primary teachers' attitude towards including students with disabilities (Weisel & Dror, 2006). Studies conducted by Sharma and colleagues in different contexts have revealed a positive relationship between teachers' self-efficacy and their attitudes towards inclusion (Forlin, Loreman, Sharma, & Earle, 2009; Sharma, Moore, & Sonawane, 2009).

As researchers have observed negative attitudes of teachers towards inclusion as the most significant barriers towards inclusion (e.g., Mittler, 2000) it is important to identify the interplay between teachers' attitude and self-efficacy. A study comparing the relationships among teachers' self-efficacy, attitudes, and concerns towards inclusive education was undertaken in South Africa and Finland (Savolainen, Engelbrecht, Nel, & Malinen, 2012). The researchers found positive correlations between teachers' self-efficacy and attitudes, although the strength of correlation was not high. Finnish teachers displayed a relatively stronger correlation between their self-efficacy and attitude for inclusive education, compared to their South African counterparts. Self-efficacy in collaborating with other teachers and parents was the strongest predictor of attitudes in both countries.

A positive correlation between teachers' attitude towards inclusion and their self-efficacy in practising inclusion was reported in Tanzania (Hofman & Kilimo, 2014). Another study conducted in Canada indicated that higher self-efficacy for collaboration was the only predictor associated with more positive attitudes about inclusive education for students with developmental disabilities (Montgomery & Mirenda, 2014). The results highlight the importance of both pre and in-service education providing educators with training to be competent to maintain effective collaboration with parents and other members of a school-based team. A study by Sokal and Sharma (2014) of Canadian in-service teachers' concerns, efficacy, and attitudes about inclusive teaching revealed positive correlations among the constructs. The researchers, however, warned against arriving at any conclusion on the causal ordering; i.e., self-efficacy predicts attitude or vice versa. More

longitudinal studies are recommended to interpret the mechanisms through which self-efficacy is related to attitudes.

There are studies that further support this positive correlation between teachers' attitude towards inclusion and self-efficacy for inclusive practices from different country contexts (e.g., Malinen, Savolainen, & Xu, 2012; Sharma, Forlin, & Loreman, 2008). All these findings highlight that exposing the teachers (pre-service and/or in-service) to inclusive classrooms will not cause a sudden dramatic change in their self-efficacy for inclusive practices or their attitude towards inclusion. On the other hand, if they are placed in too demanding situations in order to get maximum exposure to the challenges faced in an inclusive classroom, the results may be rather adverse, since negative experiences decrease self-efficacy and produce negative attitudes (Bizer, Barden, & Petty, 2003). Provision of relevant support plays a key role here. It is likely that abundant support from teachers with greater experience in working with students with disability and adequate training could have positive impact on their efficacy beliefs and attitude towards inclusion. Recent research by Ahmmed, Sharma, and Deppeler (2013) with a large number of in-service primary school teachers in Bangladesh identified perceived school support to implement inclusive practices as a strong predictor of teachers' self-efficacy for inclusion. This research further supports the contention that support plays a significant role in shaping participants' efficacy beliefs. Educators who feel to be teaching in supportive environments tend to have high sense of teaching efficacy.

TEACHING EFFICACY FOR INCLUSIVE EDUCATION IN THE ASIA-PACIFIC CONTEXT

In recent years a number of researchers have examined the construct of teaching self efficacy for inclusive practices within Asian context. The impact of teaching self-efficacy for inclusion on teachers' inclusive practices and attitudes is not any different in non-Western contexts. For example, in a Bangladeshi study Ahmmed Sharma, and Deppeler (2014) examined how teaching efficacy, attitudes and perceived support would influence primary school teachers intention to include students with disabilities in their classrooms. It was observed that Bangladeshi teachers with higher sense of efficacy to teach in inclusive classrooms had stronger intentions to include children with disabilities in their classroom and they possessed a more positive attitude towards inclusion when compared with their counterparts with lower levels of self-efficacy in relation to inclusive education (Ahmmed, Sharma, & Deppeler, 2014). The study conducted by Loreman, Sharma, and Forlin (2013) across four countries including two South East Asian countries (Hong Kong and Indonesia) investigated the antecedents of pre-service teachers' self-efficacy for inclusion. It was observed that prior teaching experience with children with disabilities, interaction with people with disabilities, and knowledge of inclusive education policies and legislation had significant impact on their self-efficacy for inclusion. Interestingly participants from Hong Kong reported lower self-efficacy

for inclusive practices than their Indonesian counterparts. Despite the acknowledged international differences reflected in the data, the researchers identified the need of providing pre-service teachers with ample opportunities for direct interactions and practical experiences with students with disabilities in inclusive settings along with theoretical knowledge, to enhance their levels of self-efficacy for inclusive practices.

Not many studies were reported on teachers' self-efficacy for inclusive practices from China until recently, although Chinese legislation and policies have been promoting inclusive approach to education since the 1980s (Liu & Jiang, 2008, as cited in Malinen, Savolainen, & Xu, 2012). Malinen et al. investigated teacher's self-efficacy and attitudes towards inclusion, collecting data from teachers working in both mainstream as well as special education schools in China. Teachers with more experience in working with children with disabilities were found to hold more positive perceptions towards inclusion. It was also observed that efficacy in collaboration was the only significant predictor of teachers' attitude towards inclusive practices, highlighting the importance of teachers' levels of confidence in their ability to collaborate effectively with other teachers, professionals, and parents. Based on these findings the researchers recommend for giving more emphasis to collaboration in teaching and planning for teaching in schools as well as in pre-service and in-service teacher education.

Another large scale study by Malinen et al. (2013) explored practising teachers' self-efficacy for inclusive practices, collecting data from three countries: China, South Africa, and Finland. The Chinese teachers included those from mainstream and special education schools, who varied in their perception of self-efficacy for inclusion. While mainstream teachers rated themselves higher on self-efficacy for managing students' behaviour than their counterparts, the teachers from special schools expressed higher efficacy in collaboration, which could be attributed to the school context factors. It was revealed that teachers' experience in teaching students with disability significantly predicted their efficacies in instruction, collaboration, and management of student behaviour which further support the contention to provide teachers with more opportunities to get involved with inclusive practices to enhance their efficacy for inclusion.

A study by Wang, Zan, Liu, Liu, and Sharma (2012) in Shanghai, China reported general and special education teachers differing in their self-efficacy for inclusion. Teachers in the mainstream school reported lower efficacy for inclusive instructional strategies and collaboration, which was justified by the earlier observation of Ma and Tan (2010, as cited in Wang et al., 2012) that minimal knowledge of teachers in general schools for catering to the diverse needs of children with disabilities as the biggest barrier to successful implementation of inclusive practices. Wang et al. (2012) raised their concerns about the lack of training that general education teachers receive (both theoretical and practical) through their teacher education programs. They recommended that all preservice teachers be provided with adequate training in implementing inclusive strategies.

There is existing evidence from the South Asian region for the impact of pre-service teachers' attitudes towards inclusive practices and their levels of teaching self-efficacy on implementing inclusive practices in schools (Ahsan, Deppeler, & Sharma, 2013; Sharma, 2011; Sharma, Forlin, Deppeler, & Yang, 2013). Studies by Ahmmed, Sharma, and Deppeler identified antecedent variables such as perceived school support, previous success in teaching students with disabilities, and interactions with students with disabilities as positive strong predictors of teachers' attitude towards inclusion (2012) and their self-efficacy for inclusive practices (2013). However, a recent study from Pakistan reported a contradictory outcome (Sharma, Saukat, & Furlonger, 2015). The researchers found negative correlations between teachers' attitude towards inclusion and self-efficacy beliefs for inclusive practices (Sharma, Saukat, & Furlonger, 2015). The researchers report greater teaching experience, higher level of training, and good knowledge of inclusive policies and legislation as key antecedent variables that predicted higher self-efficacy of pre-service teachers. Sharma et al. (2015) also highlight the significant difference between the attitudes of pre-service teachers (who were preparing to teach in special education programmes and in general education programmes) towards inclusive education. Unlike prior studies reporting pre-service teachers preparing for special education programmes showing a more positive attitude towards inclusion (e.g., Sharma et al., 2008), this study revealed an exactly opposite trend—pre-service teachers preparing for general education programmes were reported to have a more positive attitude towards inclusion than those preparing for special schools, inviting further attention of relevant authorities to consider restructuring the programme. Researchers found it difficult to explain the results. It is possible that there are important contextual variables that differentially impact on the construct of teaching efficacy and attitudes. They recommended a need to conduct new in-depth qualitative studies to examine the relationship between attitudes and self–efficacy beliefs.

OUTLOOK AND FUTURE DIRECTIONS

The construct of teachers' self-efficacy has been researched for a long time. However, there are still under-researched aspects of this complex construct. Teaching efficacy is a complex construct and interpreting a numerical score as the true representation of a person's teaching efficacy score could be problematic. We have conducted a number of studies examining teaching efficacy score within the Asian context. One thing that has surprised us is that the majority of participants tend to rate themselves high on inclusive teaching efficacy measures. In some ways their sense of inclusive teaching efficacy is comparable to a majority of participants in Australia and Canada. One could then expect that teachers' actual practices would be similar in Eastern (e.g. India, Pakistan, China, Bangladesh) and Western countries if their efficacy scores are comparable. However, it is not true. Although there is no published research available to compare actual inclusive classroom practices of teachers from

East with those of teachers in the West, anecdotal evidence suggest that teachers generally in the former part of the world tend to use less inclusive practices. Why do then they tend to rate themselves highly on teaching efficacy measures? It is a question for future research. However, it can be hypothesised that in the absence of witnessing truly inclusive classrooms, teachers in the Eastern countries tend to view their current practices as inclusive. It is possible that once they have seen a truly inclusive classroom, they would have a more realistic sense of their inclusive teaching efficacy beliefs.

In this chapter we frequently referred to attitudes and examined its relationship with inclusive teaching efficacy. Attitudes and teaching efficacy are two highly inter-related constructs. It may not be useful to examine one construct and ignore the other construct. We believe that attitudes and efficacy together influence teachers' behaviour rather than one of the two constructs. In fact, if we are truly interested in understanding teachers' actual classroom behaviour; we should also examine other factors that can influence the behaviour of teachers. One such construct is support in the teaching environment. Teachers who have high sense of inclusive teaching efficacy, have positive attitudes towards inclusion and teach in schools where they are fully supported are likely to include learners with a range of abilities.

Research on inclusive teaching efficacy construct is relatively new in the Asian countries. Future research in this area can have long lasting effect on actual classroom practices. We need to understand how socio-politico and religious factors influence the development of teaching efficacy construct. We also need to understand the best ways we can prepare our teachers with high sense of teaching efficacy. It may be useful to examine level of teaching efficacy at different levels of the program and determine if participation in teacher education and in-service education courses is having any significant impact on their efficacy beliefs. It would also be equally important to examine if educators' self-reported efficacy beliefs are consistent with their actual classroom practices.

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4. TEACHING EFFICACY BELIEF AS A NEW PARADIGM FOR TEACHER CAREER DEVELOPMENT AND PROFESSIONALISM IN KOREA

ABSTRACT

The construct of teachers' teaching efficacy is re-examined in relation to its effect on teachers and young children in the arena of Korean early childhood education and care (ECEC) through a review of research postulated from Bandura's social cognitive theory. This chapter addresses the policies and social contexts that influence ECEC settings in Korea, paying specific attention to how the construct of teaching efficacy among teachers in ECEC matters in the midst of the radical changes that Korean society is experiencing. A review of Korean studies on the factors that affect the development of teaching efficacy is presented. In addition, a summary of recent key studies pertaining to how the direct or indirect effects of teachers' teaching efficacy beliefs affect both teachers and their students is provided. The research findings reviewed herein substantiate the contention that putting teaching efficacy beliefs into practice will pay off for teachers in ECEC and the training program, specifically targeted for enhancing teaching efficacy beliefs, should be provided either at the beginning stage of teacher career development or prior to entering the teaching profession. The implications for research and policy are discussed.

INTRODUCTION

The first five years of years of life are critical to later development, as this is the period in which the groundwork for the physical, cognitive, and socio-emotional development of young children is laid (Seo & Moon, 2012). During this period, young children's interactions with their intimate surrounding environments not only help them advance their current developmental stage, but also affect their later development (Park, Seo, & Bornstein, 2005; Seo & Moon, 2012).

To date, a body of compelling research evidence on the importance of quality non-maternal care during the first five years of early childhood of life has been consistently addressed by researchers and educators. At the core of the discussion about the importance of early childhood education and care is the consensus that teachers are considered potentially significant as early intervention agents, because

S. Garvis & D. Pendergast (Eds.), Asia-Pacific Perspectives on Teacher Self-Efficacy, 53–69.

young children spend a significant amount of their time in early childhood and care settings (Arnold, McWilliams, & Arnold, 1998; Seo & Moon, 2013). Due to the emerging recognition of the role played by teachers in early childhood education and care (ECEC) settings, teachers and other educators in that field need to be well equipped with both appropriate teaching skills and socio-emotional competence, so that they can provide the behavioural and emotional support their young students require to learn and grow (Stormont, Beckner, Mitchell, & Richter, 2005; Seo & Moon, 2013).

In the same vein, researchers have underscored that the notion of teaching efficacy with significant implications should take into account the formula for quality childcare (Popa & Acedo, 2006; Lai & Lo, 2007; Locke, Vulliamy, Webb & Hill, 2005; Tschannen-Moran & Hoy, 2001). In reality, a teacher in a classroom has only limited influence because a child's home environment and their inherent characteristics are large influences on his or her development. However, the possession of inner strength based on a sense of personal competence may function as a buffer against challenges and situations that occur in a teaching environment, thus enabling them to cope with such difficulties. As Bandura (1997) pointed out, effective functioning requires people to develop competency and skills and also requires them to possess a strong belief in their efficacy to put those skills to good use. The centre of Bandura's contention is the question of how teachers' individual or contextual characteristics affect their belief in the efficacy of their teaching and in turn, how enhancing teachers' belief in their efficacy affects both teachers and their students. To simplify matters, the question becomes to what extent do teachers in ECEC improve their levels of teaching efficacy, and does enhancing the level of their teaching efficacy directly or indirectly impact the quality of non-maternal childcare? Thus, the construct of teachers' belief in their efficacy has been in the spotlight as an idea with the potential for having a big impact on both teachers and on the children in their classrooms (Ashon & Webb, 1986; Seo & Moon, 2013).

In this chapter, the notion that teaching efficacy among teachers in Korean ECEC is explored through a review of the research postulated from Bandura's social cognitive theory. This chapter is divided into four sections: The first section describes the policy and social contexts in which ECEC settings exist in Korea, paying specific attention to how the construct of how teachers' teaching efficacy matters in the midst of the radical changes that Korean society is experiencing. In the next section, a review of the research into the factors that affect the development of teaching efficacy among Korean teachers in ECEC is presented; as with much of the work presented in this chapter, the theoretical framework is based on Bandura's social cognitive learning theory. Then, a summary of the research findings pertaining to how teachers' teaching efficacy beliefs affect themselves and their students is discussed. The implications of this are provided in the concluding section.

EARLY CHILDHOOD EDUCATION AND CARE (ECEC) IN KOREA

This section describes the contexts in which ECEC exist in Korea. A short description of ECEC's big picture within Korea's current policy and social contexts is necessary to understand the deep historical split between childcare and education, which is still evident in the unevenness and diversity of the 'early years' service sector. In Korea, the early childhood and care system has been dichotomized into the following two separate systems: Kindergartens for 3–5 year olds and day-care centres for 0–5 year olds, under the respective supervision of the Ministry of Education and the Ministry of Health and Welfare.

Korean ECEC systems have continued to develop in terms of quantity and quality after the enactment of the Early Childhood Education (ECE) Supporting Act in 1982, and the Early Childhood Education and Care (ECEC) Act in 1991 (revised in 2004). Due to Korea having the lowest birth rate (1.25) among Organisation for Economic Cooperation and Development (OECD) countries, Korean ECEC has been extensively supported by the government (Korean Statistics, 2015). In the last decade, the emphasis of childcare policies under the two separate systems has shifted from the expansion of day care facilities to low-income families in need of childcare services to all eligible families with young children (aged 0–5 years old).

There is much room for improving the efficiency, effectiveness, and consistency of the childcare policies for children who are 3–5 years old under the current separate systems. In the current dichotomized system, teachers and childcare staff were found to receive lower salaries than kindergarten teachers. Teachers employed by private institutions were more likely to receive lower salaries than those employed by publicly subsidized childcare settings (Kim & Seo, 2010b). It has been consistently reported that teachers and childcare staff employed by private institutions were found to have lower levels of both job satisfaction and teaching efficacy (Kim & Seo, 2010b) compared to their counterparts working in the public sector.

In terms of pedagogy, there has been a distinct unevenness because the initial training of those who work in the education (kindergarten) and childcare sectors has differed. Kindergarten teachers have had at least three years of higher education, while those trained for the "care" sector have normally had two years of childcare and development educational training. Thus, these deep-rooted discrepancies in early childhood educators have resulted in differing perceptions of the nature of early childhood education being held by the diverse stakeholders in ECEC. The issue of how all elements can be integrated in early childhood curriculum and pedagogy has been debated by those stakeholders in Korea.

Why Do Teaching Efficacy Beliefs Matter?

Since 2004, there has been a social consensus and concerted effort on the part of the Korean government to develop national standards of provision across the range

of available childcare providers to ensure that young children (3–5 years old) have equal access and entitlement to quality ECEC while maintaining parental choice. As the initial step towards the integration of the current separate systems addressed herein, the integrated educational curriculum was developed in 2012. This national standard curriculum for 0–5-year-old children enrolled at ECEC entitled, Nuri Curriculum has been implemented since 2013. The core of the Nuri Curriculum is to introduce a common set of early childhood learning goals for all 3–5-year-old children who receive early childhood education and care services in Korea.

With regard to the implementation of the Nuri Curriculum, the findings of the current study showed that the level of difficulty perceived by teachers in ECEC significantly differed according to the teachers' background characteristics, such as their educational background, institution type, and teaching experience (Tae & Hwang, 2013). In consideration of the inequality in qualifications and conditions of service, this evidence is not surprising, but it is worthwhile to note that kindergarten teachers had more experience of practicing the Nuri Curriculum and they felt more efficacious in teaching, compared to their counterparts who work at government-subsidized childcare centres. Even after the implementation of the Nuri Curriculum, the gap between kindergarten teachers and teachers from government subsidized childcare centres remains prevalent, and its ramifications may impact the teachers and children in ECEC.

In terms of job training and career development, the inequality in qualifications, conditions of service and remuneration still need to be addressed. The data show that ECEC staff generally have a high turnover rate, particularly in the private sector, and there was a great deal of variation in both the training offered and what staff were able to access. A stronger educational emphasis was found where there were well-trained teachers, with teachers playing a leading role in curriculum planning and in offering a positive pedagogical role model to less well-qualified staff (Sosinsky, Lord, & Zigler, 2007). It was evident that teacher behaviour is extensively influenced by what the teacher brings to their situation. In Korean society, which has experienced radical social policy developments, the characteristics of the teacher and of their context are at least partially intertwined. It would be inappropriate to conclude here that most teachers who work in a disadvantaged climate or circumstance simply evoke or create similar reactions to their surroundings. However, researchers have by no means argued in favour of simple or direct linkages from causes to effects, because these occur through the medium of psychological and interpersonal resources and behaviour patterns. Using this line of reasoning, an individual with a positive sense of self or self-efficacy beliefs who is open to new ideas and experiences and believes in his or her ability to make changes may be more likely to bring about positive outcomes.

THEORETICAL FRAMEWORK

Much of the related research work on teachers' teaching efficacy is grounded in Bandura's social cognitive theory. As Bandura (1997) defined, self-efficacy is the

perceived belief in one's capability to organize and execute courses of action that are required to produce specific attainments, and this judgement is not a global trait but a differentiated set of self-beliefs that are linked to one's ability to function in specific domains.

Since the late 1990s and early 2000s, Bandura's construct of self-efficacy has influenced thinking about the construct of teachers' teaching efficacy in the research of Korea. Most earlier studies that examined teaching efficacy among teachers in primary school settings were influenced Western studies. To be specific, Ashon and Webb (1982) were among the first researchers to apply the concepts of Bandura's teaching efficacy, employing a measure of teacher efficacy developed by researchers at the RAND Corporation to assess two dimensions—*general teaching efficacy* and *personal teaching efficacy*—of the construct.

After that, by extending the work of Ashton and Webb and incorporating Bandura's conceptual underpinnings, Gibson and Dembo's (1984) scale, which has a 30-item Teacher Efficacy Scale (TES, later developed into a short version with only 16 items) to measure two dimensions of teacher efficacy was translated into Korean and has been predominantly utilized by Korean researchers. Like Western studies, the first dimension of TES (Gibson & Dembo, 1984) is a measure of "personal teaching efficacy", which represents a teacher's belief in his or her own skill and ability to be an effective teacher. The second dimension, general teaching efficacy, represents a teacher's belief that effective teaching can bring about student learning regardless of external variables such as the home environment, family background, or parental influence.

Most extant studies that predominantly focused on teaching efficacy beliefs among teachers in primary school settings utilized the TES measurement (Gibson & Dembo, 1984), except for one study by Shin (2000). Shin (2000) examined the effects of teachers' efficacy belief have on the development of socio-cognitive play among Koreans using a measure of TES. In the evidence from Shin's (2000) study that the effects of teaching efficacy on children were mediated by teacher – child interaction, it is worthwhile to note that the hypothesized mechanism between teachers' efficacy belief and their students' outcomes was first empirically proved in the research arena. Accelerated by Shin's (2000) study, a stream of research initiatives has been made to reflect the burgeoning interest in speculating about the extent to which the construct of teaching efficacy is applicable or transferable to the field of ECEC (Seo & Moon, 2013).

There has been a strand of research into conceptualizing the construct of a teacher's teaching efficacy, but the definition and measurement of this construct has been controversial (Kim & Kim, 2010). At the centre of this debate about the validity of teaching efficacy measurement is the question of its usefulness, because the scope of extant measurement is too narrow. The research question of how to re-conceptualize and adequately measure the construct of teaching efficacy has been addressed and tested to lend support for the use of the existing measurements that correspond to Bandura's theory of self-efficacy. In the midst of the on-going

controversy about the validation and refinement of existing Teacher Efficacy measures, Bandura (2006) re-introduced his Teacher Self-Efficacy Scale (TSS) with 28 items in six constructs within the two dimensions (general and domain-specific traits) of his initial model.

Some researchers have employed Bandura's TSS and validated it with a sample of Korean teachers in ECEC. The Korean version of TSS was found to have four constructs when applied to Korean teachers in ECEC:

- instructional self-efficacy,
- efficacy to influence decision-making,
- efficacy to create positive, social contexts and parental involvement, and
- efficacy to enlist community involvement (Kim & Kim, 2008).

In their follow-up study (Kim & Kim, 2013), the consistent finding is in line with the proposition that the teacher self-efficacy construct is a multi-dimensional and situationally-specific concept (Aston & Webb, 1982; Tschanne-Moran & Hoy, 2001).

Korean researchers have utilized both the Ohio State Teacher Efficacy Scale (OSTES), which was developed by Tschannen-Moran and Hoy (2001), and Bandura's teaching efficacy scale. Shim (2007) first translated the OSTES into Korean and lent support for the use of a Korean version of the OSTES (K-OSTES). The K-OSTES consists of three factors with 24 items:

- efficacy for instructional strategies,
- efficacy for classroom management, and
- efficacy for student engagement.

Among the recent studies that have employed the K-OSTES, Son and Sung (2014) examined the effects of teachers' self-efficacy on children's sociality with a sample of 71 children (aged 4–5 years) through the mediating effects of job-satisfaction and the quality of teacher–child interactions with a sample of 71 children (aged 4–5 years) and 21 teachers in Korea.

Focusing on the situational-specific concept of teaching self-efficacy among teachers within the distinct context of Korea, Kim and Seo (2010a) proposed the Early Childhood Teacher Efficacy Scale (ECTES), based on the premise that Korean teachers are faced with the challenge of providing both education and home-like loving care based on their secure attachment with their young students. The psychometrics of ECTES were tested by a series of factor analyses, and six factors with 59 items were proposed. The result pertaining to the concurrent validity of the ECTES with Bandura's Korean version of Teacher Self-Efficacy Scale (K-TESE) was satisfactory (*Pearson's product-moment correlation coefficients*, $rs = .17 – .62$). The six factors of the ECTES are:

- Provision of environmental stimulus to children,
- routine-setting,

- classroom management,
- teaching strategies,
- care, and
- interaction with children (Kim & Seo, 2010a).

The ECTES is a multi-dimensional and situation-specific instrument, and each item on the ECTES is rated on a nine point scale anchored with the notations noting: v*ery little*, *some influence*, *quite a bit*, and *a great deal*, with higher scores for greater levels of teacher efficacy in ECEC. In several follow-up studies, the ECTES was employed to investigate the relationships between teacher characteristics and their sense of efficacy in teaching (Kim & Seo, 2010b; Song & Seo, 2011; Seo & Moon, 2013; Son, 2014; Lee, 2014). However, a number of research issues need to be addressed. Using the ECTES construct validation should continue to be investigated across different populations and settings, since teaching efficacy is situation specific by nature, and may not generalize from one setting to another. With the valid and reliable measurement of teaching efficacy, investigations into the effects of teacher efficacy on teacher behaviour or teaching practices, such as use of mastery teaching strategies, and decision making in classroom organizations and management, as well on children's learning outcomes, should be pursued by researchers.

REVIEW OF LITERATURE

Sources of Teaching Efficacy Beliefs

Coupled with the issue of the applicability of teaching efficacy to ECEC, there has been a growing need to identify the potential factors that affect teaching efficacy beliefs in the Korean research arena. Specifically, researchers have consistently asserted the importance of sources that contribute to the development of teaching efficacy beliefs among teachers in ECEC. This argument is rooted in the proposition that efficacy beliefs appear to be somewhat resistant to change once they have been established (Hoy & Spero, 2005; Seo & Moon, 2013). Therefore, greater knowledge of the antecedents of efficacy beliefs among teachers improves the ability to assist educators and practitioners foster their sense of efficacy (Seo & Moon, 2013).

Along the same lines, supporting the claim that teachers' efficacy beliefs are best enhanced through the effective combination of different sources for the development of efficacy beliefs, while speculative, draws upon the following three sets of related findings: First, a range of variables including demographic characteristics were investigated to predict teaching efficacy beliefs among teachers in ECEC. Several recent studies have provided consistent findings that teachers' background characteristics influenced the level of their teaching efficacy. In particular, the number of years that an in-service teacher has taught was found predictive of their teaching efficacy (Kim & Seo, 2010b; Seo & Moon, 2013). Korean teachers

were found to be better able to cope with challenges and similar situations in more mature ways when they next occurred in the classroom. As consistently evidenced in Korean literature, one influential factor that may elicit teaching efficacy involves direct personal experience, such as past performance with more years of teaching experience (Anderson & Betz, 2001). Teachers' level of education was also found to affect their teaching efficacy belief (Han, 2015; Kim & Seo, 2010b), corresponding to previous Korean studies (Kim & Seo, 2010b).

Few studies have investigated the influence of contextual factors on teaching efficacy (Kim & Kim, 2010; Seo & Moon, 2013). The child–teacher ratio was reported as a significant factor, corresponding to previous studies conducted both in Korea and Western cultures (Kwon & Yi, 2001; Kim & Kim, 2010; de Schipper, Riksen-Walraven, & Geurts, 2006). The existence of a supportive working climate for teachers and their level of job satisfaction were also found to significantly affect the teaching efficacy of ECEC teachers (Kim & Kim, 2010; Lee & Ahn, 2012, respectively). It is interesting to note that in-service teachers' income was found to be a significant predictor of their teaching efficacy belief (Seo & Moon, 2013). Korean teachers, as in other countries, are faced with increasingly intensified workloads (Korean Association of Child Studies, 2009; Song & Seo, 2011; Seo & Moon, 2013), but their compensation levels and work benefits are relatively low compared with those of other professions (Korean Association of Child Studies, 2009). There have been very few studies that explore the issue of to what extent teachers' teaching efficacy beliefs might be influenced by external resources and the constraints that Korean teachers perceive.

To date, the overwhelming bulk of studies on teaching efficacy have been conducted with in-service teachers, and relatively little is known about self-efficacy belief among pre-service teachers in Korea. Among the very few studies that sampled pre-service teachers, Song and Seo (2011) investigate a range of variables that contribute to a strong sense of efficacy among pre-service teachers, followed by Seo and Moon (2013), and Kim and Cho (2014). For pre-service teachers, prior internship experience, the level at which they perceive their own professionalism, and their college major specialization were found to be significant factors that affect the level of their teaching efficacy (Song & Seo, 2011; Seo & Moon, 2013; Kim & Cho, 2014). This finding is in parallel with those gained by other studies with a sample of in-service teachers, implying that the development of teaching efficacy may be a result of direct experience. In a recent study by Kim and Cho (2014), pre-service teachers' teaching efficacy was found to be a significant factor in the level to which they experienced reality shock as teachers in the near future. It is imperative for pre-service teachers to possess inner strength based on a sense of efficacy in teaching and develop strong efficacy beliefs very early in their career (Mulholland & Wallace, 2001; Tschannen-Moran & Hoy, 2001). Hence, there appears to be a consensus that a strong sense of efficacy for optimal motivation in teaching may function as a buffer against the wide range of challenges and difficulties that pre-service teachers will face in the future.

Along with the findings pertaining to the effects of direct personal experiences and background characteristics on teaching efficacy, researchers have shifted their attention to physiological and psychological traits, or the affective dispositions of teachers in association with their teaching efficacy beliefs. The second line of support arises from the claim addressed by researchers who have investigated the effects of either personal traits or personality dispositions among in-service teachers on their teaching efficacy beliefs. Lee (2008) found that teachers' personal dispositions towards reflective thinking, emotional adaptability, and motivation approach were all significant predictors of their level of teaching efficacy. Another study by Kim and Kim (2010) reported that the more teachers perceived depression symptoms, the less efficacious they felt in their teaching, though the depression symptoms reported by teachers in ECEC appeared to be controversial. Furthermore, the more teachers perceived themselves as possessing self-determination capabilities, the more efficacious they felt in implementing instructional and disciplinary strategies and involving children in the learning process, highlighting the importance of teachers' capabilities as potential sources of teaching efficacy (Kim & Kim, 2010).

The construct of teacher professionalism has been explored in teaching efficacy literature. Researchers have paid attention to teacher professionalism as an important dimension of teaching efficacy in Western cultures (Lai & Lo, 2007; Tschanne-Moran & Hoy, 2007) and Korea (Kim & Seo, 2010b; Song & Seo, 2011; Seo & Moon, 2013), but the interpretation of this construct is multidimensional and varies between contexts and times (Popa & Acedo, 2006; Seo & Moon, 2013). In line with the contention by Azbi and Elliot (2005), the issues of what teachers do and how they perceive their profession as teachers have both changed significantly over the last decade. Therefore, it is necessary to debate the meaning of teacher professionalism within the context of changing work practices and educational policies, and how the shared meaning of teacher professionalism is associated with or affects the construct of teaching efficacy.

Based on the theoretical literature, the most common dimensions of professionalism perceived by teachers across cultures and national borders are teacher efficacy and teacher practice. Those extant studies found consistent evidence that teacher professionalism was affected teaching efficacy as a distinct and strong factor (Seo & Moon, 2013). By comparing pre-service and in-service teachers on their perceived levels of teacher professionalism, Song and Seo (2011) found that pre-service teachers were more idealistic and optimistic about the teaching profession than their counterpart in-service teachers. However, a similar result pattern found that teachers' perceived level of professionalism was the most powerful predictor in all domains of teaching efficacy for these two groups (Seo & Moon, 2013). The proposition that if teachers strive to improve their qualifications to maintain their career development at a satisfactory level, they could feel more professional and efficacious when teaching needs to be tested empirically; furthermore, to what extent does teacher professionalism contribute to their teaching efficacy and vice versa?

Systematic research efforts should be made to scrutinize plausible relationships between teacher professionalism and teacher efficacy to provide insight into the components of effective career development.

Continuity or Changes in Teaching Efficacy Beliefs

Bandura (1997) argued that once teachers' teaching efficacy beliefs are established, they may often be challenged to change, because belief about the task of teaching and personal teaching competence will likely remain unchanged unless compelling evidence intrudes, causing them to be re-evaluated (Bandura, 1997; Oh & Seo, 2012). However, during the early phases of learning to teach, the opportunity to change these initial levels of teaching efficacy belief may increase to some extent. That is why researchers have focused on the teaching efficacy belief of pre-service or novice teachers (Oh & Seo, 2012).

To address the issue of changes to preservice teachers' efficacy beliefs over time, Seo (2015) utilized a comparable design to the original Charalambous, Philippou, and Kyriakides (2008) research. Charalambous et al. (2008) lend empirical support to the argument that pre-service teachers' teaching efficacy belief would not develop uniformly, especially in certain areas of teaching instruction (mathematics) and classroom management during a field work course with a sample of 111 pre-service Korean teachers. Their sample of 111 pre-service Korean teachers was divided into four different groups based on the level of their efficacy belief in the two dimensions of "teaching strategies" and "classroom management" (Seo, 2015). The resonance between the results of Charalambous et al. (2008) and Seo (2015) is striking; almost every main finding from these two studies is very similar. Specifically, the main results were as follows: (1) The pre-service teacher's efficacy belief of the group (group A, n = 38), in which they had moderate mean scores in teaching strategies and classroom management at the beginning of fieldwork were steadily strengthened but did not intensify during the four-week internship course; (2) The efficacy beliefs of pre-service teachers (group B, n = 32) who entered fieldwork with relatively low efficacy belief in one dimension were intensively improved in both targeted dimensions throughout the course; (3) The pre-service teachers' efficacy belief in the group (group C, n = 22) with the highest mean scores for both dimensions at the beginning of the course were further enhanced during the course, but not as much as their group B counterparts. (4) Finally, the group of pre-service teachers (group D, n = 19) who scored the lowest level for teachers' efficacy belief in both dimensions remained low throughout the course, particularly with regard to classroom management. For teaching strategies, it was changeable during the course of fieldwork, compared to another dimension of classroom management. Such replication with different populations in different cultures greatly adds to the credibility of the findings from the Charalambous et al. (2008) study in which there are different types of pattern in the development of pre-service teachers.

These findings from Seo (2015) lend empirical support for those evidenced in the Seo and Oh (2012) study with a sample of in-service Korean teachers, for which the level of teachers' teaching efficacy was changeable over time. Such studies (Seo & Oh, 2012; Seo, 2015) invite further investigation into the influential factors that contribute to stability or changes in the levels of pre-service teachers' teaching efficacy, specifically about how these efficacy beliefs are formulated, sustained, and developed throughout the course of fieldwork.

Effects of Teaching Efficacy Belief on both Teachers and Children

Over the last few decades, researchers have investigated the direct and indirect effects of teaching efficacy on teachers and children. Intuitively, high and low efficacy teachers exhibit different patterns of teacher behaviour in the classroom, and this proposition has been empirically supported by Western studies with a sample of students in primary education settings. Among the prominent recent studies conducted in Korea, Son and Sun (2014) investigated the effects of teacher's self-efficacy on children's sociality (4–5 years old) and they found that teachers' self-efficacy belief had significant indirect effects on children's sociality through job satisfaction and quality teacher – child interaction. This finding suggests that a higher level of teaching efficacy may contribute to greater job-satisfaction and more positive teacher – child interaction, leading to children's outcome of increased sociability.

Han (2015) hypothesized that teachers with higher levels of teaching efficacy would be more likely to utilize positive and responsive strategies when dealing with children's internal and external problem behaviours than teachers with lower levels of teaching efficacy. The effects of teaching efficacy on positive teaching practices were mediated by the children's internal or external problems, as assessed by teachers. In addition, Sohn (2014) found that there were significant effects of teaching efficacy in pre-schoolers' learning behaviours. The extended work by Kim and Seo (2015) explored plausible relationships between teaching efficacy, teaching flow, and instructional creativity, and found that teaching efficacy was significantly related to both teaching flow and instructional creativity. The effects of teaching efficacy on teaching flow were partially mediated through instructional creativity (Kim & Seo, 2015). The current studies were most intriguing, and expected that others would use their descriptions and findings to motivate larger studies into the means by which new ideas are introduced and incorporated into teaching efficacy belief systems. Such research could have important implications for teacher training programs.

SUMMARY

The previous section, reviews the literature that links teaching efficacy belief to teacher behaviour, or teaching practices and child outcomes, which is followed by a

brief summary of the studies on the re-conceptualization of the construct of teaching efficacy based on Bandura's efficacy theory. Although this chapter was not meant to be a comprehensive review and many aspects of teaching efficacy belief were not chosen to be addressed, there are certain issues that seem to have been neglected by Korean researchers. Considering the efforts of teacher training programs and teacher career development programs would be profitable in this area to improve teaching practices by changing their efficacy beliefs. Most researchers measured efficacy beliefs and behaviours simultaneously, and it is not clearly understood whether efficacy beliefs lead to teacher behaviours or if these beliefs are the direct result of specific teaching behaviours. Under what circumstances or conditions are teaching efficacy beliefs and teaching behaviours likely linked, and what types of internal psychological or affective traits and/or contextual factors lead to the continuation or modification of beliefs? Longitudinal studies that investigate student teachers before and after they enter the teaching profession could enrich our understanding of both the development of teaching efficacy beliefs and the dynamic relationships between efficacious beliefs and behaviours among teachers in ECEC. Beyond these plausible relations, the direct or indirect effects of teaching efficacy on both teacher behaviours and child outcomes should be investigated.

CONCLUSION

Given the research already reviewed, there is still a need to rationalize the new curriculum (entitled *Nuri curriculum*), maintain pressure for a consistent approach, and conduct high quality evaluations across all the sectors providing early education and childcare (EEC) services in Korea. In recent years, the field of social policy studies has shifted the focus of research to the issue of how social policies affect the daily experiences of those whom they are intended to serve. Not only do young children seem more vulnerable to the consequences of being cared for by teachers in early childhood education and care settings, but teachers with such students are also likely to be affected positively or negatively.

In accordance with the new trend in social policies, the improved training program that allows teachers to deliver ECEC systems and remuneration has assumed importance. The central idea behind this recognition is that the quality of childcare is enhanced through positive teacher behaviour related to teaching practices in the classroom, and the perceived confidence in teaching will be taken into account as one of the key elements in the evaluation process. It may be more relevant for policy makers and practitioners to consider the impact of ECEC provision packages, rather than to separate the impact of specific features in isolation, and to recognize that the quality of provisions and the staff qualifications within a valid system of remuneration are determinants of better child outcomes. The following is provided to present insights into the design and implementation of effective training programs for teachers in ECEC.

Putting Teaching Efficacy Beliefs in Practice

Seo and Oh (2012) proposed a two-cluster model as an effective training program, derived from Bandura's theory: One cluster involves direct personal experiences such as past performance, emotional arousal, and social persuasion, and the other reflects indirect experiences such as vicarious learning or modelling (Anderson & Betz, 2001). Throughout the 12-week course, the participating in-service teachers were provided with the ECEC Specialist Program, which entails a package of both direct and indirect components of teachers' experiences. The most prominent features that contributed to the effectiveness of the training program were the identification of how teachers' needs differed depending on their differing qualifications in more refined ways, and the fulfilling of their needs in more innovative ways. Specifically, individualized education plans (IEP) were set up based on the level of teacher career development prior to their participation through a mentor – mentee system. The group of mentors consisted of colleagues or practitioners with higher qualifications and more working experience. Throughout the training period, each participant had the opportunity to observe their mentor's teaching behaviour in the classroom, while receiving a series of small-sized group lectures. Along with offline lectures and workshops, constant feedback and encouragement were provided by the mentors, who visited their matching mentees' classrooms to assess their initial levels of teaching behaviours and classroom management and how their target behaviours were changed over time. The blog and online community set up for the program were operated as an effective communication tool.

The effectiveness of the training program was assessed based on three target outcomes: Teacher efficacy belief, teacher professionalism, and the knowledge of child development. It was statistically supported that the teachers who had participated in the program reported that their level of teaching efficacy and their knowledge of child development from post-tests were increased over time. With regard to teacher professionalism, some dimensions that are related to the teachers' perceptions were increased (e.g., belief about early childhood education and care, taking responsibility), but other dimensions that are usually related to contextual factors (e.g. the provision of career development opportunities, autonomy) were unchanged (Seo & Oh, 2012).

In accordance with those quantitative results, the qualitative data analysis obtained from both in-depth interviews with the teachers and participating teachers' self-reflective journal entries revealed that vicarious experiences from observing the mentors' modelling, and verbal persuasion stemmed from activities such as discussions, coursework, workshops, and both positive feedback and encouragement from mentors served as effective tools for promoting a sense of teaching efficacy and teacher professionalism. In addition, the feelings of joy or pleasure that the teachers experienced from successfully teaching lessons in the process of training increased the participants' levels of both teaching efficacy and teacher professionalism.

Based on information gained from successful training programs (Seo & Oh, 2012), it seems likely that effective training programs that target teachers' efficacy belief and teaching behaviours or practices will include several elements: First, the primary person or mentor providing the education must establish a close relationship with their mentee; this may be the most important element of any successful program for teachers, especially teachers working in ECEC. Teacher educators or mentors will need relatively small caseloads if they are to tailor their assistance and support to the individual needs of each mentee. Novice teachers with less than one year working experience who reported high levels of guidance and supportive feedback from their mentors felt more efficacious in their teaching than those with more work experience. Thus, results suggest that cooperating mentors should receive explicit preparation on how to provide guidance to the novice teachers with whom they will be working. Mentor teachers who share their professionalism, pedagogical ideas, and competence should be trained for their role to provide more supportive feedback and effective communication with novice teachers in training programs.

Moreover, the notion of the ecology of teaching should be introduced to the design and implementation of the training programs for teachers in ECEC, and the support programs should be ecological in orientation. In the midst of the emerging importance of teachers' multiple roles as both caregivers and educators, it is reasonable to apply an ecological perspective to ECEC teachers in Korea. From Bronfenbrenner's ecological perspective, the ecology of teaching may be defined as the interplay of individual and environmental factors that together shape teaching behaviour (Bronfenbrenner, 1986). To be optimally effective, programs must simultaneously address the psychological needs of the teachers (their sense of efficacy and mastery competency), the teaching behaviours that influence child development and learning outcomes, and the contextual factors that can either interfere with or promote the targeted outcomes of interest in training programs (e.g., teaching efficacy, teacher behaviour, teaching practices). The last element is that the program must be of sufficient duration to allow the participating teachers to deal with the various stressors that may underline their teaching efficacy, and thus teaching performance.

If possible, training programs that are specifically targeted at enhancing teaching efficacy belief should be provided at the beginning stages of teachers' career development or prior to their entering the teaching profession. Thus, special attention should be given to ongoing teacher education or career development experience to achieve enhanced professionalism in the delivery of effective services for children. To meet this purpose, the development of a range of appropriate levels, the content of education, educational materials/new technologies, job structuring, and enrichment, and the facilitation of relevant personal skills and interpersonal relationships for both pre-service and in-service teachers should be included as a comprehensive package for both pre-service and in-service ECEC teachers. Such efforts will be

even more effective if they accommodate important research trends, derived as they are from self-efficacy theory. It is hoped that putting teaching efficacy beliefs in practice will pay off for ECEC teachers by allowing them to demonstrate the skills and attributes necessary for working effectively, not only directly with children, but also with the environment, which exerts an indirect but highly potent influence.

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5. A COMPARATIVE STUDY OF EARLY CHILDHOOD TEACHER SELF-EFFICACY FOR ARTS EDUCATION IN AUSTRALIA AND OMAN

ABSTRACT

This chapter provides a comparative study of early childhood teacher self-efficacy for arts education in two countries; Australia and Oman. Arts education is an important part of the curriculum in both countries. Arts education is also considered important for young children as part of their active meaning making and communication. Student teachers in both countries completed an adapted version of the teacher self-efficacy scale for arts education (Garvis, 2010). The findings from this study show the similarities and differences between the two countries in regards to early childhood teacher competence. Findings are important for understanding the importance of teacher education programmes as well as the provision of arts education.

INTRODUCTION

Arts education is an important part of early childhood education and defined as the group of dance, drama, media, music and visual arts within a curriculum. For some researchers (Wright, 2010) arts education is seen as an important language that enables young children to express themselves and it is seen even as an overarching dimension of several educational systems of early years such as Reggio Emilia. While arts education is found in most teacher education programs, sometimes teachers may not feel confident or capable to provide suitable arts experiences for young children. Beliefs about the teaching of arts education inform a teacher's capability to teach the arts. If beliefs are positive, the teacher is more likely to engage with arts experiences in their classroom (Garvis & Pendergast, 2010). If beliefs are negative, they will either limit the exposure of arts education in their classroom or ignore it all together (Garvis & Pendergast, 2010). Many beliefs about arts education are formed during teacher education and from personal and professional prior experience. It is for this reason the exploration of teacher beliefs about arts education is important.

We consider it is important for early childhood educators to develop a sense of agency, created from positive beliefs towards the arts. Aligning with the work of Bandura (1995) we describe agency as the ability to organize, regulate and enact behaviours that will produce desirable consequences. Human agency consists of four core features of: (1) intentionality, (2) the ability to set goals; (3) self-reactiveness,

S. Garvis & D. Pendergast (Eds.), Asia-Pacific Perspectives on Teacher Self-Efficacy, 71–85.

and (4) self-reflectiveness. In this chapter we are particularly interested in the current levels of teacher self-efficacy to reflect the current beliefs of capability of future early childhood teachers.

In this chapter, comparison is not only made within an individual country but across two countries, Australia and Oman that provide early childhood education programs. Comparative studies, focusing on the teacher professionalism and beliefs are vital, both in terms of learning from other settings and going beyond the familiar in order to highlight what is often taken for granted. The two countries, Australia and Oman, might differ or be quite alike in terms of the values related to early childhood education and political ideas about the importance of a supportive and rich childhood with arts education. Since it is hard to comprehend your own country's policy context, comparative studies have become a powerful means by which to uncover new perspectives (Stipek & Byler, 1997). By widening the research from a single national context to a comparison between our two countries, we expect to gain a richer and more complex view of what characterizes early childhood teacher self-efficacy for arts education. Major psychological and educational concepts may function differently in different sociocultural contexts. Therefore, this comparison also provides an opportunity to better understand the efficacy for teaching arts in early years in two quite different contexts in terms of language, geography, religion, and other social structures such as customs and traditions. Thus, the present chapter intends to highlight the relationship between teacher self-efficacy in the two countries. The chapter will conclude with suggestions for the future development of early childhood teacher self-efficacy for arts education.

LITERATURE

Self-efficacy beliefs operate as a key factor in a generative system of human competence (Bandura, 1997). Teacher self-efficacy relates to the beliefs teachers hold about their own perceived capability in undertaking certain teaching tasks. Bandura (1997, p. 3) defines self-efficacy as "beliefs in one's capabilities to organise and execute the course of action required to produce given attainments". Self-efficacy therefore influences thought patterns and emotions that enable classroom actions. In the context of education, teacher self- efficacy is considered a powerful influence on teachers' overall effectiveness with students (Kleinsasser, 2014). Tschannen- Moran and Woolfolk Hoy (2001) suggest that supporting the development of teachers' self-efficacy is essential for producing effective, committed and enthusiastic teachers.

Teacher self-efficacy is itself influenced by four sources: mastery experiences (serving as an indicator of capability); verbal persuasion (verbal influences on your perceived capability); vicarious experiences (modelling and observation of techniques); and emotional arousal (associated with the perceived capability that influence the process and outcomes of the task attempted). The four sources undergo a form of cognitive processing that determines how the source of information will be weighted and influence the desired teaching task. Mastery experiences are

considered the most powerful influence as they provide authentic evidence of one's performance in a teaching situation (Bandura, 1997; Mulholland & Wallace, 2001). Successful performance by a teacher leads to increased self-efficacy, while a failure creates a decrease in self-efficacy. As teachers develop mastery experience that lead to accumulating increases in teacher self-efficacy, they rely on these as memories and interpretations of similar past teaching experiences (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

The context and areas of content are important influences on the formation and judgements of teacher self-efficacy. Tschannen-Moran, Woolfolk Hoy and Hoy (1998) emphasise the importance of cognitive processing in the formation of efficacy expectations. For this to occur, teachers analyse the task to be accomplished and assess their competence in relation it. Analysis of the task is dependent on the context of the teaching situation and the specific content.

As yet, limited research has explored the development of teacher self-efficacy formed during enrolment in teacher education programs and during the beginning phase of teaching. Research suggests that teacher self-efficacy tends to increase during teacher education enrolment (Hoy & Woolfolk, 1990; Wenner, 2001) but decrease after graduation to the end of the first year of teaching (Moseley, Reinke & Bookour, 2003; Woolfolk Hoy, 2000). Besides, although there have been quite a number of research studies conducted about the self-efficacy of teachers (e.g., Skaalvik & Skaalvik, 2010), there is a very limited research about the self-efficacy of early childhood teachers (e.g., Kim & Kim, 2010) particularly in teaching arts. More to the point, the scarcity of cross country comparative research in this subject matter makes this study a significant inquiry to fill the gap in the existing literature.

CONTEXT OF AUSTRALIA

Australia has a population of 22 million and part of the British Commonwealth. It is an oceanic country and considered the 6th largest country by total area. Within Australia are states and territories, each with different regulations for education.

Child care (long day care, kindergarten, preschool, outside school hours care, occasional care) is a growing field within Australia. As of June 2014, of the 3.8 million children aged 0–12 years, 48% (or 1.8 million) usually attended some type of child care setting (Australian Bureau of Statistics [ABS], 2015). Seventy-one per cent of 2 and 3 year olds attended formal care. Of children aged 4–5 years (around 360,600) 83% attended a preschool or a preschool program (ABS, 2015).

To accommodate the increased number of children, there is a growing need for qualified early childhood teachers. Early childhood teachers must complete a bachelor degree and have suitable content knowledge in a variety of learning domains, including arts education. By the time of graduation, it is assumed that the early childhood teacher will be responsible for the teaching and learning of arts education.

Over the past 40 years in Australia, several enquires have been made into the quality of arts education occurring in schools (New South Wales Ministry of Education, 1974; Schools Commission/Australia Council, 1977, Australian Senate Inquiry into Arts Education, 1995; Trends in the Provision of Music Education in Schools, 2003; National Review of School Music Education, 2005; National Review of Visual Education, 2008; National Audit of Music Discipline and Music Education Mandatory Content within Pre-service Generalist Primary Teacher Education Courses: A Report, 2009). These reports have expressed concern at the quality and quantity of arts education occurring in schools. As yet, limited assistance has been implemented to try and improve current problems within teacher education and provision for arts education within schools. One of the established problems over the last 35 years has been the lack of confidence of generalist primary teachers.

The confidence of generalist primary teachers is informed by beliefs about their own confidence. These beliefs are formed during pre-service teacher education and once made, are resistant to change. If we are wanting to explore ways to improve the provision of arts education in Australian classrooms, it is important to explore theoretical understanding of beliefs, known as self-efficacy beliefs.

Few studies in Australia have investigated the impact of teacher self-efficacy for the arts during pre-service teachers' education. Of the handful of studies that have been conducted, they have explored beginning teachers who are qualified in primary education and early childhood education (Garvis & Pendergast, 2010, 2011) and pre-service teachers (Lemon & Garvis, 2013, 2014). These studies highlighted the low levels of perceived capability for teaching the arts compared to English and maths.

Specifically focusing on early childhood teachers, Garvis and Pendergast (2011) also noticed patterns between arts strands. Within the arts strands, early childhood teachers had a higher self-efficacy score for teaching visual arts, followed by music, compared to the remaining strands, with media scoring the lowest on the self-efficacy scale. The study also revealed that not all of the five strands are incorporated in the regular weekly teaching of the arts, with music and visual arts the most likely to be included. Dance was the least included of the strands.

The standards teachers hold for what constitutes good teaching also influences teacher self-efficacy (Bandura, 1997; Tschannen-Moran et al., 1988). From this studies by Garvis and Pendergast (2010, 2011) and Lemon and Garvis (2013, 2014) it could be deduced that early childhood teachers considered English and maths to be more important for constituting 'good teaching' compared to the arts. Teaching beliefs of good teaching may also influence the number of hours given to teaching a particular subject during the week. While these study did not test this relationship statistically, it can be predicted that if teachers had lower beliefs about the importance of the arts in the classroom, they would spend less time teaching the arts.

CONTEXT OF OMAN

A member of the Gulf Cooperation Council (GCC), the Sultanate of Oman is a Muslim-Arab country located in the south-eastern part of the Arabian Peninsula and neighbouring Saudi Arabia and the United Arab Emirates on the north, Yemen on the west, the Arabian Sea on the south, and the Gulf of Oman on the East with a population of 4,118,028, 56% of whom are Omani and 44% are expatriates (National Center for Statistics and Information, 2015). The Sultanate's major national income is derived from two underground resources: oil and natural gas. The country has been referred to have two fundamental stages in terms of its educational stance. The first stage included the period until the onset of Sultan Qaboos Bin Said's ruling. Before 1970, only three formal schools existed in the whole country; today there are 1,052 public schools enrolling 563,236 students (Oman Cultural Office, n.d.). Once Sultan Qaboos bin Said, came into the power in 1970, he initiated an Education Renaissance that has led to great efforts to improve the education standards in the country. Yet while education costs total 24% of total government expenditures (United Nations Children's Fund [UNICEF], 2008), several education variables, including preschool enrolment rate (8.25%; UNICEF, 2008), are not at the desired levels. Significant attempts are being made to increase this enrolment rate. For example, the Omani government recently began to establish kindergarten classes attached to public elementary schools in order to include this period of education in the public system. This application is in its pilot phase. Moreover, Omani parents are becoming more enthusiastic about having their children start their education as early as possible (Tekin, 2014). This demand from families has been echoed in the field of educational entrepreneurship, leading the private sector to found many institutions that enrol students as early as the preschool years.

Following these developments, Sultan Qaboos University (SQU), the premier higher education institution in the country, took an important step and established an Early Childhood Education Department (ECED) in 2007, which has been recently recognized by the NAEYC (National Association for the Education of Young Children). Although, a university degree is not required to practice early childhood education in Oman, the ECED at SQU has become a major source of qualified early childhood teachers in the country. The graduates of this program are expected to become teachers and other practitioners in this field, and this fact makes their self-efficacy to teach an important phenomena related to pupils' education. The program of ECED includes subjects of arts in early childhood education. The pre-service teachers enrolled in this program are also expected to practice teaching arts to young children during their extensive clinical practice at the Child Care Center (CCC) which is a lab school in SQU besides other early childhood education settings in the capital, Muscat.

The CCC is also an early childhood education setting which embraces arts in early childhood education and thus has made it an important part of its curriculum.

The national curriculum in the Sultanate also covers the elements of arts education such as music, dance, and drama. The pre-service teachers' sense of efficacy is of great significance for their positive performance in teaching young children and particularly arts. Their beliefs are critical as these beliefs have significant impact in forming their professional development and shaping their teaching behaviours as suggested by Bandura (1986). In turn, their self-efficacy beliefs will influence their teaching performance and the young children's achievement.

Although there have been a quite number of research conducted on the issue in Western countries, there is no research conducted about Omani early childhood teachers' self-efficacy in teaching arts. The scarcity of such research is not limited to Oman, but also to all Arab countries. As all social concepts and applications in the society are subject to change within the chronosystem (Bronfenbrenner, 1979) through an interaction with the environment and society (Vygotsky, 1978), teachers beliefs in arts education also may be expected to evolve and be dependent on the social context to some extent. Therefore, this study attempts to fill a critical gap in the existing literature as it also examines the differences of self-efficacy levels in teaching arts between two different participant groups from different countries with different social milieu. Moreover, comparing the results obtained from the Omani participants with their Australian counterparts provides an exceptional opportunity to understand the phenomena in different contexts in a broader sense and understanding. By addressing these issues, this study will potentially contribute to the improvement of early childhood education and ideas serving the quality of education at both local and international levels. Thus, this study is of great importance.

FOCUS OF STUDY

This study is focused on the levels of early childhood teacher self-efficacy for arts education in two countries, Australia and Oman. The research question is:

> What are the levels of early childhood teacher self-efficacy for arts education in Australia and Oman?

Method

Ethical approval had been granted for this project. In Australia, an information letter and the survey was administered to all students. Students provided consent to the survey by completing and returning the survey to an anonymous drop box on campus. In Oman, ethical procedures for the study were followed and the participants were provided information about the study and asked to complete and return the surveys within to the investigator.

The Teachers' Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001) was adapted for the context of arts education (Garvis, 2010) and used

for this study. The Scale consists of 24 questions in its long form. The scale has repeatedly shown excellent internal consistency reliability. The full teacher self-efficacy scale has been reported with reliabilities of 0.92 to 0.95 (Woolfolk Hoy, Hoy, & Kurz, 2008). Within the larger scale is also three sub-scales; student engagement, classroom management and instructional strategy. These allow for further investigation within the scale.

Questions related to school support made up a sub-section of the questionnaire. Using a 9 point continuum with anchors at *1 Nothing*, *3 Very Little*, *5 Some Influence*, *7 Quite A Bit*, and *9 A Great Deal*. Respondents were asked to rank their self-efficacy for music, dance, drama, media, visual arts, English and maths.

Sample items include:

Efficacy for Instructional Strategies
In drama:

- To what extent can you provide an alternative explanation or example when students are confused?
- How well can you implement alternative teaching strategies in your classroom?

Efficacy for Classroom Management

- How much can you do to control disruptive behaviour in the classroom?
- How much can you do to calm a student who is disruptive or noisy?

Efficacy for Student Engagement

- How much can you do to motivate students who show low interest in schoolwork?
- How much can you do to get students to believe they can do well in school work?

Data was analysed using descriptive statistics to determine means across the two countries. Data was cleaned and entered into a suitable software program.

Participants

The number of participants in Australia was 206. Students were completing either a Bachelor of Education (73%) or a Graduate Diploma of Education (27%). The majority of students (85%) were aged between 20–24 years. Both programs in Australia had been approved by teacher registration bodies. Students needed to complete between 60 and 80 days of professional experience along with theoretical subjects studied at the university.

The Bachelor of Education program allowed students to be qualified in both early years and primary education The total population of students enrolled was 246. Students undertake a four year programme in which they undertake 80 professional experience days. The graduate diploma of education allowed the students to complete their studies in 1.5 year. The program was for people who already had a qualification in a non-education degree. The students in this particular

program undertake 60 days of practicum. Data was collected from the participants during their first semester.

In Omani context, since a particular group of people, Omani early childhood pre-service teachers, were of interest, the selective sampling method was used in this study as suggested by Coyne (1997). A total of 90 teacher candidates were enrolled in the ECED program at SQU. However, only 63 were registered in department courses, and the rest were enrolled in the foundation program at SQU. The students in the foundation year were excluded since they were engaged exclusively in language courses, and thus not believed to be knowledgeable enough about the research topic. Sixty-three early childhood pre-service teachers were contacted in person, given the modified version of the TSES and an informed consent form, had the purpose of the study explained to them, and were informed about the procedure. They were given two weeks to complete and return the survey. Although participation was voluntary, a high number of pre-service teachers – 61 – agreed to join the study, and subsequently completed and returned the survey. Finally, the surveys were filed and kept confidential in a password-protected personal computer.

Students were also asked about their previous experience with arts activities. The two countries differed slightly as seen in Table 4 below. While more participants from Australia suggested that had previous experience with music, participants from Oman suggested they had more experience with visual arts. Past experience with arts education appears dependent on cultural and contextual notions.

Table 4. Previous experience

	Previous experience with the arts percentages	
	Australian pre-service teachers (n = 206)	*Oman pre-service teachers (n = 61)*
Music	43.0%	27.9%
Dance	24.9%	9.8%
Drama	33.9%	19.7%
Media	26.5%	41.0%
Visual arts	31.4%	63.9%

Past experience with arts education appears dependent on cultural and contextual notions. It may also be dependent on prior experiences during schooling and which arts strands were encouraged or delivered.

Findings

From both countries, there was similar reported scores and rankings of the subjects based on teacher self-efficacy beliefs. For the Australian cohort, the ranking of

Table 5. TSES mean scores

	TSES mean scores	
	Australian pre-service teachers (n = 206)	*Oman pre-service teachers (n = 61)*
Music	4.22	4.93
Dance	4.18	4.86
Drama	4.88	5.94
Media	5.45	6.29
Visual arts	5.82	6.55
English	7.28	6.85
Math	7.07	6.81

teacher self-efficacy competence was English, Math, Visual arts, Media Drama, Music and Dance. For the Oman Cohort the ranking was also English, Math, Visual Arts, Media, Drama, Music and Dance. This suggests that the students in Australia and the students in Oman share similar competence beliefs towards arts education as well as English and math. Findings are shown in Table 5.

The sub-scales within the survey were also explored in regards to student engagement, classroom management, and instructional strategies (Table 6, Table 7 and Table 8). Participants in both countries suggested they had stronger teacher self-efficacy for classroom management compared to the other subscales. In addition, small differences in mean appeared between both countries for student engagement and instructional strategies.

In regards to student engagement, Omani participants had higher teacher self-efficacy compared to Australian participants for the arts subjects, however the Australian participants had slightly higher levels for English and Math.

Table 6. Student engagement

	Student engagement mean scores	
	Australian pre-service teachers (n = 206)	*Oman pre-service teachers (n = 61)*
Music	4.16	4.81
Dance	4.14	4.67
Drama	4.86	6.02
Media	5.46	6.30
Visual arts	5.81	6.53
English	7.22	6.91
Math	7.04	6.89

Table 7. Classroom management

	Classroom management mean scores	
	Australian pre-service teachers (n = 206)	*Oman pre-service teachers (n = 61)*
Music	4.33	5.10
Dance	4.22	5.01
Drama	4.92	5.95
Media	5.47	6.26
Visual arts	6.02	6.55
English	7.34	6.74
Math	7.11	6.65

Again with classroom management, the Oman participants had higher reported levels of classroom management with the art subjects, however the Australian participants had a higher ranking of their teacher self-efficacy for English and Math.

The last subscale also revealed a similar trend, with Oman participants ranking the arts subjects higher for their teacher self-efficacy than the Australian cohort, whereas, the Australian participants again ranked their teacher self-efficacy for English and Math higher than Omani cohort.

Table 8. Instructional strategies

	TSES mean scores	
	Australian pre-service teachers (n = 206)	*Oman pre-service teachers (n = 61)*
Music	4.19	4.89
Dance	4.18	4.90
Drama	4.87	5.85
Media	5.42	6.31
Visual arts	5.65	6.55
English	7.29	6.91
Math	7.06	6.88

The descriptive results will be further discussed in the next section.

DISCUSSION

Teacher self-efficacy is an important motivational construct that allows teachers to have the perceived capability to complete a task successfully. In this chapter

we have explored the teacher self-efficacy beliefs of early childhood pre-service teachers who will become future early childhood teachers in their respective countries. We have been able to provide a snapshot of what future practice for arts education may look like within early childhood education settings.

One of the profound findings of the current study was that the mean for the teacher self-efficacy scale for each of the art strands (dance, drama, music, media and visual arts) and English and Math appeared in the same order for both Australian and Omani participants, suggesting that the students, as a group, from both countries shared similar beliefs about the different subjects of early education. Furthermore, English and Math appeared to have the strong teacher self-efficacy beliefs compared to the arts, suggesting that the 'core' subjects of English and Math compared to the arts subjects may have a similar relationship. The experiences for the arts subjects were also similar, regardless of the sociocultural differences across the countries. One possibility may be the structure of subjects within the curriculum, schooling system and teacher education program within both countries. For example, it may be a traditional system where more time allocation is given to the 'core subjects', where arts subjects may not be considered as academic or as rigorous. More to the point, the current educational systems and curriculum seem to credit more importance on subjects other than arts. For example, in Omani context, the students are asked Math and English questions in university entry exams along with the other subjects such as history and science, however, they are not supposed to answer any questions in arts. Thus, it suggests that the priorities of national educational policies may also have effects on the importance of arts subjects, which, in turn affect the individual beliefs about them. Another possibility could be that the students in both contexts may have had a stronger background in the two countries with English and Math through their own schooling compared to the arts subjects. Hence, the future early childhood teachers of both countries appear to believe they have more competency in teaching English and Math compared to the arts strands.

Such beliefs may be problematic once the pre-service teachers enter the field. If they have higher levels of perceived competence for English and Math, it may mean that these subjects are taught in favour of arts subjects, as the teachers believe they can do these subjects better. One situation could be that over time, as teachers continue to gain confidence in teaching English and Math, confidence for the arts strands may even decrease if they are not engaged with regularly within the classroom. One fear could be the absence of some or all of the art strands within the classroom if confidence is not supported as the practice of teaching a subject feeds the sense of efficacy for teaching it. Thus, it may have an adverse effect on teaching arts in early years, in turn deprives young children of the benefits of learning through arts.

In both countries, the performing arts requiring some form of movement (dance, drama and music) scored the lowest in the rankings of teacher self-efficacy. One hypothesis could be that these subjects require active performance movement that requires an immediate audience, where visual arts and media do not require

a level of direct performance. To some future teachers, the active performance may create much emotional arousal for fear of failing or being scared in front of children or peers. Children and peers may also provide negative verbal feedback about the performance that would cause embarrassment among their peers which is very critical if their ages as young adults are also taken into consideration in the sense of social acceptance, Hence, the fear of failure of performing an art results in avoidance of such activities and develop less positive beliefs towards those particular subjects requiring to perform in person, again contributing to lower level of teacher self-efficacy. The exact cause however is unknown. There needs to be more research to be conducted to fully understand the exact reasons. What is known from this study however is that the pre-service teachers in both countries exhibited similar beliefs about the performing arts compared to the other arts strands.

The subscales provided further insight into student engagement, classroom management and instructional strategies. While the Oman participants reported higher levels for classroom management, instructional strategies and student engagement with the arts subjects, Australian participants reported a higher ranking of their teacher self-efficacy with English and math with the three subscales. Again, a possible explanation could be the strong Australian focus on English and Math within the school curriculum as well as teacher education. English and Math are also formally assessed in national standardised tests in year 3, 5, 7, and 9 of school meaning Australian teachers needs to focus on these two areas of learning because of the school ranking system. The focus on English and Math may have a 'push down effect' into early childhood education. The participants from Australia in this study appeared to have strong perceived capabilities for instructional strategies, student engagement and classroom management within the core subjects. Another reason for Omani participants having less elf of efficacy particularly for English can be that it is not their native language. Omani government and society are well aware of the importance of the English language since it is widely used in almost every aspect of Omani life. In line with this trend, today's parents are more interested in having their children acquire English language skills as early as possible because they see the demands of the globalizing world context and contemporary trends in society and are willing to ensure that their children are ready to be successful members of a future society in which speaking English is a necessity to social and economic survival (Tekin, 2014). Omani early childhood pre-service teachers are also well aware of this fact and they hold positive attitude towards English education in early years (Tekin, 2015). Owing to these developments, the early childhood pre-service may focus on English teaching rather than arts subjects but still look behind in terms of their efficacy in English teaching compared to their Australian counterparts. Hence there needs to be further research evidence to detect the reasons for Omani participants having relatively less self-efficacy for teaching English along with Math.

Further research is needed to track the beliefs of the pre-service teachers as they complete their teacher education and move into early childhood settings. It would

be interesting to know how levels of perceived capability change over time and if a similar hierarchy of subjects continues. If they do, it may suggest that more work is needed within teacher education to challenge current beliefs about arts education and to support positive experience that will lead to enhanced early childhood teacher self-efficacy for arts education. If early childhood teachers are expected to teach a number of different subject areas, it is hoped that they have suitable levels of competence and confidence to do so. It should also be noted quantitative research methodologies were used in this study. Thus, it is very important to conduct different research studies by employing other types of research approaches such as qualitative inquiries, including case or phenomenological studies.

LIMITATIONS

A major limitation impacting on the findings is the self-reporting style of data collection, which is fundamental to the survey style employed in this study. Actual observations of the early childhood teachers, as well as qualitative data in the forms of interviews and field notes has the potential to enrich the understanding of the early childhood teachers. Self-selection is another possible limitation of the results for this study. It is possible that the early childhood teachers who volunteered for involvement in the study were more efficacious than their peers for some subjects. The study was also limited to Australian and Omani participants as it was contextual. Therefore, the findings cannot be generalized to all contexts, however, the findings and recommendations can be benefited while conducting research in other contexts or while making comparisons between different countries. Nevertheless, this study provides a rare insight into the personal self-efficacy beliefs of early childhood teachers.

CONCLUSION

Arts education is an important area for young children. The success of arts education within early childhood education however is dependent on the beliefs and confidence of the early childhood teacher. This chapter has explored early childhood teacher self-efficacy for arts education across two countries, Australia and Oman. The comparison has allowed patterns to emerge about the role of teacher self-efficacy in both countries, and the perceived competence for each of the sub-scales. Such research is important within education to develop a better understanding of sociocultural contexts in relation to teacher self-efficacy beliefs. This study has shown that the pre-service students involved in the study in the two countries shared many beliefs about teaching each of the arts strands and the importance of English and Math.

Future research must continue to explore comparative studies between different countries to undercover new perspectives and to develop a richer understanding of what characterizes early childhood teacher self-efficacy for arts education. We hope

this study can act as a starting point for such comparisons and provide guidance for other interested in comparative teacher self-efficacy studies.

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6. INCLUSION, CLASSROOM MANAGEMENT AND TEACHER SELF-EFFICACY IN AN AUSTRALIAN CONTEXT

ABSTRACT

Accepting, celebrating and accommodating students with diverse educational needs within an inclusive framework is at the heart of current Australian educational policy. In order to embrace diversity and inclusivity, teachers need to have the belief in their own capability to teach inclusively. This chapter will focus on general issues associated with inclusive education, with a particular focus on early career teachers and their (in)ability to effectively manage classrooms, including student behaviour. The importance of teacher self-efficacy will be highlighted alongside previously unpublished data on teacher self-efficacy in relation to classroom management. Implications for practice will conclude this chapter.

INTRODUCTION

Inclusive education can be defined as providing an active and equitable education to all children, regardless of their gender, cultural or religious background or learning needs (Mitchell, 2014). Accepting, celebrating and accommodating students with diverse educational needs is at the heart of current Australian educational policy (Hardy & Woodcock, 2015). For example, the Northern Territory Department of Education and Training Philosophy of Inclusion for Students with a Disability (2009) states that teachers must adjust the curriculum, assessment practices, teaching styles and physical environment to provide for the needs of all students. However, implementing inclusive education practices is not easy, and may require significant shifts to teachers' attitudes and beliefs; such changes then need to be followed by adjustments to the classroom environment to facilitate real improvements (Sharma, Loreman, & Forlin, 2012). In order to embrace diversity and inclusivity, schools must commit to the transformation of learning environments to make the implementation of inclusive practices smooth and effective (Savolainen, Engelbrecht, Nel, & Malinen, 2012). This chapter will focus on general issues associated with inclusive education, with a particular focus on early career teachers and their (in)ability to effectively manage classrooms, including student behaviour. The importance of teacher self-efficacy will be highlighted alongside previously unpublished data on

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teacher self-efficacy in relation to classroom management. Implications for practice will conclude this chapter.

While there are many stakeholders involved in inclusive education, a key person is the classroom teacher. A teacher's beliefs about inclusion and their confidence in meeting the needs of the students in his or her class is a critical component to fully realising the promise of inclusion. In educational research, teacher confidence is often referred to as teacher self-efficacy, defined as a teacher's belief in his or her own capability to organise and execute specific teaching tasks in a particular context (Tschannen-Moran, Woolfolk Hoy, & Hoy 1998). However, as self-efficacy is contextual, it differs from self-confidence or self-esteem which are usually regarded as personal traits or general beliefs one has about him or herself. In comparison, self-efficacy involves the perception of one's capabilities rather than actual level of ability (Tschannen-Moran, Hoy, & Hoy, 1998). For example, if a teacher is faced with a classroom management issue and they believe they are able to manage this, they are more likely to respond in a consistent way; students will then see these teachers as comfortable and confident. Conversely, teachers who do not believe they can manage disruptive classrooms, may be less consistent in the way they discipline students, more likely to feel inadequate and more likely to believe that children are misbehaving intentionally (Rimm-Kaufman & Sawyer, 2004). The premise that a teacher's self-efficacy is a determinant of teaching behaviour is critical information for initial and in-service teacher education programs.

Teacher self-efficacy is a dynamic concept and does not remain stagnant throughout an individual's career. Instead, teacher self-efficacy varies across different contexts, environments and subjects, often as a function of class composition (Goddard, Hoy, & Woolfolk Hoy, 2000; Guo, Justice, Sawyer, & Tompkins, 2011). A teacher's level of self-efficacy impacts on his or her ability to be an effective educator and contributes to motivation (Tuchman & Isaacs, 2011). Teachers with higher levels of teacher self-efficacy have been found to be more resilient and will try harder to help all students reach their potential, than teachers with lower levels of teacher self-efficacy (Pendergast, Garvis, & Keogh, 2011). Hastings (2012) found that Australian teachers who experienced feelings of high teacher self-efficacy were more likely to attribute student success to their own possession of the required teaching skills, rather than to the natural abilities of students, the impact of resources, or luck. This finding is important because it emphasizes the active role that teachers need to assume when working with students with diverse needs (such as students with specific learning disabilities) (Woodcock & Vialle, 2011).

Teacher self-efficacy has been associated with other key variables, for example, the readiness of teachers to acquire new and important teaching skills. Seminal research by Fritz and colleagues (1995) found that professional development courses impact more positively on teachers with a high level of teacher self-efficacy than those with a low level of teacher self-efficacy. Fritz et al. (1995) explain these results by suggesting that those with a high level of teacher self-efficacy, compared

to teachers with low levels of teacher self-efficacy, are more likely to risk new procedures and attempt implementation of the new training techniques in their classroom. Conversely, some studies have found that teachers with a low sense of teacher self-efficacy resist the idea of including students with diverse needs in mainstream classes and were anxious about having to do so. These teachers were less confident in their capability to cater to the specific needs of children and therefore often resisted new programs or the implementation of intervention programs to cater for their educational needs (Chacon, 2005; Korevaar, 1990).

The more competent teachers feel in educational settings, the higher their sense of personal teaching efficacy (Darling-Hammond, Chung, & Frelow, 2002). Teachers who are confident in their classroom abilities and are knowledgeable in the field of inclusive education have been found to be more understanding of individual student differences and are unlikely to make generalisations or inaccurate judgements of students based on preconceptions or misjudged first impressions (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007). Recent Australian research found that pre-service teachers with a higher sense of teacher self-efficacy gave more positive feedback to students, felt less frustrated towards them, and held higher expectations of student achievement than their counterparts with a lower sense of teacher self-efficacy (Woodcock & Emms, 2015). Teachers who assume external factors are more influential than their own teaching skills, believe that they cannot effect much change in a classroom, especially with low-achieving students. Such beliefs may reinforce low expectations and perpetuate low student outcomes, and are associated with high levels of teacher stress, burnout and early exiting from the profession (Durgunoglu & Hughes, 2010). On the other hand, teachers with a high level of teacher self-efficacy are likely to have higher end-of-year goals of their students (Allinder, 1995), be motivated and persevere through the everyday trials and challenges of teaching (Stripling, Ricketts, Roberts, & Harlin, 2008). Thus, it is perhaps unsurprising that teacher self-efficacy has been found to be consistently related to student achievement (Cakiroglu, Cakiroglu, & Boone, 2005; Woodcock & Emms, 2015).

Given the importance of inclusive education in Australia, it is vital for teachers to feel competent and confident in catering for the needs of students with diverse needs (Woodcock & Emms, 2015). A key skill in the delivery of an inclusive education is the ability to effectively manage the classroom, including student behaviour. Classroom management is a term sometimes used interchangeably with discipline or behaviour management. Effective management of the classroom entails "actions teachers take to create an environment that supports and facilitates both academic and social-emotional learning" (Evertson & Weinstein, 2006, p. 4). The purpose of such management practices is to "establish and sustain an orderly environment so students can engage in meaningful academic learning" and "enhance students' social and moral growth" (Evertson & Weinstein, 2006, p. 4).

As classrooms in Australia have become more diverse and inclusive, classroom management issues for teachers have also increased (Vaughan, 1995). Classroom management and associated discipline issues are one of the primary reasons for

teacher stress and teacher attrition (Bromfield, 2006). In North America, the National Commission on Teaching and America's Future (NCTAF, 2003) found one-third of new teachers leave the profession within three years, while Jalongo and Jeider (2006) found that as many as half of all teachers leave by the end of their fifth year. One of the main determinants of job satisfaction for teachers is teacher self-efficacy, perhaps due to its importance as a buffer for stress (Ware & Kitsantas, 2007). A teacher's feeling of self-efficacy for teaching inclusively diverse classes may in turn influence students' feelings of self-efficacy and their development in that area (Corkett, Hatt, & Benevides, 2011). High teacher self-efficacy is particularly important as educators may feel over-whelmed and under resourced when catering for students with diverse needs. In sum, teacher efficacy is a key determinant influencing teacher retention and the success of inclusive education, including student outcomes.

CHALLENGES TEACHERS FACE IN INCLUSIVE CLASSROOMS

Despite the benefits of inclusive education in Australia, there are many challenges and barriers for teachers in addressing the needs of students in an inclusive setting. At a systems level, Forlin and Chambers (2011) suggest that the use of national teaching standards, which results in a greater emphasis on examination results and increased bureaucratic demands, may make a commitment to inclusive education difficult. The lack of a long term commitment to inclusive education, ineffectual leadership and inadequate attempts to collaborate with parents are other barriers for working inclusively (Reupert, Deppeler, & Sharma, 2015). Thus, despite a relatively broad and international evidence base for best practices in inclusive education, Grima-Farrell, Bain and McDonagh (2011) insist that there is still a pervasive disconnect between the research and the reality of classrooms.

Teachers have suggested that a lack of time, inadequate training and resources and a lack of school support to be some of the main challenges when working within an inclusive framework (Scruggs & Mastropieri, 1996; Woodcock & Hardy, in press). Others have indicated that some teachers find it difficult to develop individualised learning plans for students within the overall class group (Konza, 2008). Similarly, some teachers believe that adjusting for students with special educational needs compromises the learning of others, draws negative attention to student differences and/or fails to prepare students for the 'real world' (Avramidis & Norwich, 2002). Many teachers, while philosophically accepting of inclusion, are resistant to the inclusion of students with significant difficulties including emotional or behavioural disorders (Konza, 2008). A general lack of a teacher's belief in their capability in this area leads to a reluctance to work with students with a variety of learning needs; as Konza (2008, p. 43) summarises, many teachers "do not see themselves as having the skills to teach students with widely varied abilities, nor do they have the desire to do so".

Challenges Faced by Early Career Teachers

The Australian Institute of Teaching and School Leadership (2013, p. 1) state that "Quality teaching is essential to student learning and quality initial teacher education is critical to creating a high-quality teaching workforce". Notwithstanding these arguments, one area that appears to be wanting is the preparation of teachers in working with diverse students including their skills to effectively manage the classroom and student behaviour. Both pre- and in-service teachers consider that their training in this area is inadequate (Bartak & Fry, 2004) with significant gaps found between teaching practices and educational policy (Eraclides, 2001). While a one semester pre-service course may successfully raise awareness and introduce new teaching strategies, they are rarely able to promote teacher confidence and expertise (Woodcock, Hemmings, & Kay, 2012). These inadequacies are especially pertinent when teaching students with challenging behaviours and is a key factor in the failure of inclusive training programs (Konza, 2008).

Several studies have found that pre-service and beginning teachers report being underprepared in classroom management (Atici, 2007; Hemmings & Woodcock, 2011; Stoughton, 2007). This feeling of inadequacy is confirmed by the views of parents, principals and mentor teachers who describe early career teachers as not having the appropriate skills to manage their classrooms (Department of Education Science and Training, 2002). Other studies in this area examine the classroom management strategies employed by pre-service teachers, and arguably just as important, the skills they do not employ. Repeated studies in Australia, Canada, the UK and Malaysia demonstrate that pre-service teachers lack the skills to prevent student misbehaviour, and instead rely on strategies that are reactive and aim to deal with challenging or disruptive student behaviour (Reupert & Woodcock, 2010, 2011; Zakaria, Reupert, & Sharma, 2013). Moreover, there is some evidence to suggest that the way that pre-service teachers deal with student misbehaviour is not effective; for example, one study based in Malaysia found that primary pre-service teachers would counsel a student who was exhibiting challenging behaviour one to one (Zakaria, Reupert, & Sharma, 2013). While such one to one interactions might be considered an act of caring (Kemp & Reupert, 2012), in the long term these actions are essentially ineffective, as they are time consuming, and may instead reinforce inappropriate behaviour (Everston & Weinstein, 2006).

It is important for teachers to acquire evidence based and effective classroom management approaches and strategies for their own wellbeing and teacher retention. Student misbehaviour can impact negatively on the professional resilience of beginning teachers (Department of Education Science and Training, 2002) and is rated by teachers, particularly early career teachers, as the greatest concern in their teaching, often leading to burnout, job dissatisfaction and early exit from the profession (Australian Education Union, 2008; Ingersoll, 2001).

Teacher Self-Efficacy and Classroom Management

As the push for inclusively diverse schools and classrooms continues in Australia, the importance of effective classroom management is needed not only to establish order and reduce teacher stress (Hastings & Bham, 2003) but because such approaches have a direct impact on student outcomes; teachers who maximise student engagement in academic activities, minimize time in transition or dealing with problem behaviours, resulting in greater student achievement (Rimm-Kaufman & Sawyer, 2004). Previous research has found that pre- and in-service teachers who believe that they have the capability to make a difference in student achievement tend to favour more humanistic and less controlling ways of managing students' behaviour, as opposed to those with less confidence in their capability to make a difference to a student's academic outcomes (Leroy, Bressoux, Sarrazin, & Trouilloud, 2007). Thus the relationship between teacher self-efficacy and how they manage classrooms and student behaviour is worthy of further exploration.

Below we present previously unpublished data that investigates the relationship between (i) beginning teachers' self-efficacy regarding their capacity to teach inclusively in diverse classrooms and (ii) how often they employ specific classroom management skills.

THE CONTEXT OF THE CURRENT STUDY

In the current study, associations between newly graduated teachers' sense of teacher self-efficacy and how often they used various classroom management strategies were examined. The newly graduated teachers that participated in this study all taught within New South Wales, Australia and had recently completed a four year teacher training degree. All participants were primary school teachers (teaching students from 5–12 years of age). Similar to teachers across Australia, majority of the participants were female. In total, 154 primary teachers completed a survey questionnaire that included two instruments, namely, the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) and the Survey of Behaviour Management Practices (SOBMP; Reupert & Woodcock, 2010).

The Teacher Sense of Efficacy Scale (TSES) was developed by Tschannen-Moran and Woolfolk Hoy (2001) and examined three specific dimensions of teacher self-efficacy (instructional strategies; student engagement; and, classroom management) which according to Tschannen-Moran and Woolfolk Hoy (2001, p. 801) "represent the richness of teachers' work lives and the requirements of good teaching". Teacher self-efficacy for instructional strategies focuses on teachers' beliefs in their capabilities to provide effective instructional strategies based around examples such as implementing various strategies in the classroom, crafting good questions to students, responding to student questions, and, being able to gauge student comprehension of what they have learnt. Teacher self-

efficacy for student engagement centres on teachers' beliefs in their capabilities to engage students in the learning such as helping students value learning, motivating students who show low interest in schoolwork, help students think critically, help foster student creativity, and, get through to the most difficult students. Finally, teacher self-efficacy for classroom management involves teachers' beliefs in their capabilities to manage classrooms effectively such as controlling for disruptive behaviour, getting students to follow classroom rules, establishing a classroom management system, responding to defiant students, and, making expectations about student behaviour clear. The only adaptation to this part of the instrument from Tschannen-Moran and Woolfolk Hoy's (2001) original questionnaire was the wording at the beginning in that the overarching question was based on an inclusive classroom. The participants responded to a number of statements within each specific dimension. Responses were in the form of a 9 point Likert-scale ranging from 0 (not at all) through to 8 (a great deal). The higher a respondent's score, the more efficacious they were towards that statement. A factor analysis (Cronbach's alpha) was carried out resulting in the same three dimensions all resulting in acceptable reliability scores (>.80).

The SOBMP was developed by Reupert and Woodcock (2010) and analysed five specific classroom management skills (prevention, rewards, differentiation, initial correction and later correction strategies). The SOBMP scale was developed to reflect "a wide variety of behaviour management strategies, ranging from rewards and prevention through to corrective strategies, based on an extensive review of behaviour management textbooks and research" (Woodcock & Reupert, 2013, p. 88). Preventative strategies consisted of strategies commonly considered to prevent behavioural issues from arising, such as establishing routines, seating arrangements, and class rules. Reward strategies included the provision of stickers, extra time on the computer, school based merit system and so on. The initial corrective classroom management strategies included items involving mild or low intrusive corrective strategies such as proximity control, signalling, and re-directive statements. In comparison, later corrective strategies focused on relatively more intrusive strategies such as time out and behavioural contracts. The items pertaining to differentiation included strategies that involved modifying the curriculum to suit the learning needs and/or interests of students. The participants responded to a number of statements within each specific classroom management skill. Responses were in the form of a 5 point Likert-scale ranging from 0 (not at all) through to 4 (extremely). The higher a respondent's score, the more frequently they employed that particular strategy. A factor analysis (Cronbach's alpha) was carried out resulting in the same five specific classroom management skills all resulting in acceptable reliability scores (>.80).

In order to compare the frequency of use of the behaviour management strategies between the newly qualified teachers in relation to their level of teacher self-efficacy towards instructional strategies, student engagement, and classroom management, the participants had to be separated into two groups of primary teachers for each

dimension of teacher self-efficacy. One group of participants consisted of those with a higher level of teacher self-efficacy and the other group consisted of those with a lower level of teacher self-efficacy. Participants were separated into a higher and lower group where a natural break occurred between their self-efficacy mean scores. Multivariate analyses of variance (MANOVA) were performed to examine the comparisons between the newly qualified teachers' level of teacher self-efficacy and how often they used particular management strategies.

EARLY CAREER TEACHER SELF-EFFICACY AND CLASSROOM MANAGEMENT

Overall, there were significant differences between newly qualified teachers with regards to their level of teacher self-efficacy and how often they used certain management strategies. More specifically, as can be seen in Table 9, significant differences between those teachers with a higher and lower sense of teacher self-efficacy in both student engagement and instructional strategies can be seen, in terms of how often they used preventative strategies. Those teachers with a higher level of teacher self-efficacy applied these more frequently within their classroom, including strategies such as verbally acknowledging positive behaviour, negotiating class rules along with students and teaching appropriate behaviours as part of a lesson.

Additionally, newly qualified teachers with a higher sense of teacher self-efficacy towards student engagement and instructional strategies used rewards more frequently than those with a lower sense of teacher self-efficacy in these areas. There were also significant differences in the frequency of differentiated strategies between the two groups of newly qualified teachers; those teachers who held a higher level of teacher self-efficacy for student engagement and instructional strategies changed (adapted and differentiated) the curriculum more frequently than those teachers who held a lower sense of teacher self-efficacy.

There were no significant differences between the two groups of newly qualified teachers in regards to the frequency of the initial or the latter correctional strategies employed. With regards to the third dimension of teacher self-efficacy for classroom management, there were no significant differences found between levels of self-efficacy and how often they employed any of the five behaviour management areas.

In sum, results indicate that high self-efficacy in engaging students and delivering effective instructions is associated with how often teachers employed preventative and differentiation strategies and rewards. Those with high self-efficacy in student engagement and instructional strategies used prevention based strategies (such as dealing with transition times, managing seating arrangements), differentiating the curriculum to suit the learning needs of students as well as rewards (e.g. stickers and more computer time for positive behaviour) significantly more than those teachers with low self-efficacy in those areas.

It is critical that teachers spend their time and energy on encouraging positive, productive behaviour rather than remediating inappropriate student behaviours.

Table 9. Teacher self-efficacy in relation to frequency use of behaviour management strategies

		Variable	*Prevention*	*Rewards*	*Differentiation*	*Initial correction*	*Later correction*
Student engagement	*Low*	M	2.32*	2.62*	2.42*	2.69	0.87
		SD	1.07	1.41	1.23	1.31	0.98
	High	M	2.83*	3.08*	3.00*	2.86	1.14
		SD	0.71	0.96	0.97	0.89	1.02
Instructional strategies	*Low*	M	2.32*	2.70*	2.48*	2.76	0.93
		SD	0.9	1.24	1.14	1.15	0.94
	High	M	2.94*	3.13*	3.03*	2.9	1.17
		SD	0.74	1.04	0.98	0.92	1.04
Classroom management	*Low*	M	2.48	2.7	2.65	2.78	1
		SD	1.02	1.29	1.1	1.15	0.99
	High	M	2.71	2.99	2.95	2.95	1.18
		SD	0.69	0.97	0.99	0.88	1.03

* = *Significant*

The use of prevention and differentiation strategies as well as rewards will do much to prevent behavioural issues from occurring in the classroom (Bambara & Kern, 2005; Simonsen, Fairbanks, Briesch, & Sugai, 2008). The data collected in this study found that teachers who believed in their capability in engaging students and providing effective instruction were more likely to use strategies that aim to prevent student misbehaviour and differentiate the curriculum for students, which are both essential skills when teaching inclusively. This is perhaps unsurprising, given the close association between effective pedagogy and classroom management. It is important to promote the mastery of new career teachers in student engagement and delivering effective instruction given the close association of these skills to the use of positive classroom management.

The close association between effective teaching and effective classroom management is further explored by Christine Richmond (2007) in her influential book, *Teach more, manage less*. She argues that teachers have two main conversations with students; (i) those that focus on learning and promoting students to engage with the curriculum or (ii) conversations that focus on managing students, such as those discussions that ask students to pay attention or be quiet. These two conversation modes are depicted in the following figures.

As Richmond (2007) summarises, it is essential for teachers to know how to engage students with the curriculum and to minimise managing conversations or in other words, to teach more and manage less (Figure 1). These arguments complement

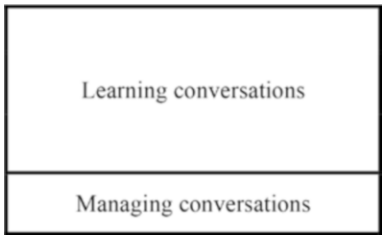

Figure 1. Dominant learning conversation

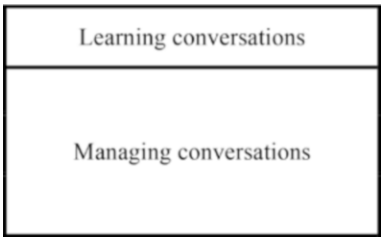

Figure 2. Dominant managing conversation

one of the key findings from our study, which suggest that the higher the level of teacher self-efficacy in engaging students and in giving effective instructions within an inclusive classroom (both very much part of a teacher's learning conversation) is associated with the use of positive classroom management and is more likely to prevent misbehaviour from occurring. However, Richmond (2007) cautions that there will always be situations where teachers need to develop skills in managing classrooms, including managing the sometimes challenging behaviour of students, especially given the complexities of classrooms where there is a wide range of students with different learning needs and social-emotional competencies. Thus, while teachers need to be confident in using these learning conversations they also need to have access to skills to manage low level disruptive behaviour, such as talking out of turn and dealing with student noncompliance.

Another finding from this study was that teachers who have a higher sense of teacher self-efficacy (in instructional strategy and student engagement) do not use any of the correction strategies (initial or later) more frequently than those with a lower sense of teacher self-efficacy. This may be due to those teachers with a higher level of teacher self-efficacy towards engaging students and delivering effective instruction spend more time on preventative strategies, resulting in inclusive classrooms becoming positive and preventative than corrective.

It is somewhat surprising that teacher self-efficacy for classroom management did not appear to be related to the frequency of any of the classroom management strategies included in the SOBMP. The results can perhaps best be explained by closely examining the survey items. The items listed within the TSES – classroom management scale included a broad range of areas of classroom management in comparison to the more specific strategies covered in the SOBMP scale. For example, in the TSES – classroom management scale, some of the broad strategies included 'control disruptive behaviour in the classroom'; 'calm a student who is disruptive or noisy'; 'follow classroom rules'; and, 'establish a classroom management system' (Tschannen-Moran & Woolfolk Hoy, 2001). However, many of the items from the SOBMP, included specific strategies and covered a wider range of both prevention and corrective strategies. For example, in the SOBMP,

some of the specific prevention strategies included 'verbally acknowledge positive behaviour', 'negotiate class rules along with students' and, 'establish a regular routine'. Furthermore, some of the specific corrective strategies included 'ask the student to come to you', move yourself closer to the student' and 'use non-verbal body language' (Reupert & Woodcock, 2010).

A number of limitations apply in interpreting the findings of the above study. Causality remains unclear; for instance, it could be that teachers who feel more efficacious may implement more prevention based classroom management practices, or conversely, that teachers who implement more prevention based classroom management practices feel more efficacious. The self-reported nature of the data drawn the SOBMP may not be indicative of what these teachers actually do when in the classroom and future studies might include observational data. A further limitation is a focus on primary, Australian teachers and other studies need to examine different types of teachers from other countries.

IMPLICATIONS

Notwithstanding the shortcomings of this particular study, a number of implications might be drawn both from the data collected here and other studies. Professional development programs are needed for teachers to develop research informed, prevention focused classroom management approaches if the move towards inclusion is to be successful. At the same time however, knowing about teaching and being able to demonstrate effective teaching is insufficient. Unless early career teachers believe in their own capabilities to cater for diverse inclusive classrooms, they may, as some researchers have found, leave teaching altogether (NCTAF, 2003). We know that teacher self-efficacy is a powerful predictor of how and whether a teacher will act (Gibbs, 2003). As Gibbs (2003, p. 3) points out, "Effective teachers believe that they can make a difference in children's lives, and they teach in ways that demonstrate this belief". He continues by arguing that what teachers know and do, is largely mediated by what they think and believe. Thus, professional development, both at the pre- and in-service level needs to not only focus on teaching effectively, but also on developing teachers' awareness of their self-efficacy and how to enhance it.

Elliott, Isaacs and Chugani (2010) provide some guidance for supporting early career teachers with particular advice directed to principals as front line managers:

- Ensuring that the first year of teaching is not a game of "education survivor" (p. 141) and that teachers at this stage of their career need support and supervision so that they feel improvement in their confidence levels;
- Assess early career teacher self-efficacy and learning needs, especially in core competence areas such as classroom management;
- Limit the time teachers experience low levels of confidence. When or if issues arise, teachers need to be comfortable to ask for help and support needs to be

forthcoming; this sends the message that such issues are normal for early career teachers and ensures the problem is broken into smaller, more manageable pieces which in turn can increase self-efficacy;
- Conduct targeted observation, provide timely feedback and schedule additional observation to ensure progress; and,
- Build mentoring programs for new teachers and matching a mentor's strengths with a new teacher's needs.

Understanding and promoting the development of teacher self-efficacy is important for teacher morale and retention. An important factor in developing self-efficacy is, perhaps not surprisingly, experience or what Bandura (1977) called performance accomplishments. Hoy (2000, as cited by Protheroe, 2008, p. 43) picks up this argument by suggesting that "some of the most important influences on the development of teacher efficacy are mastery experiences during student teaching and the induction year" and so "the first years of teaching could be critical to the long-term development of teacher efficacy". Successful and authentic mastery experiences help promote the beliefs an individual has about his or her performance. Thus, it is critically important that new career teachers are provided with opportunities for the successful use of prevention focused classroom management strategies including the ability to differentiate the curriculum according to students' learning needs and interests.

Vicarious experiences are another source of self-efficacy and provide opportunities for an individual to observe another, who has the necessary skills to perform any given task. This is particularly powerful when the observer believes he or she has the attributes similar to the role model (Cagle & Hopkins, 2009) Protheroe (2008) suggests that a new career teacher might observe another teacher using a particularly effective strategy, and so feel more confident in its use. Thus it is important to identify mentors who have particular strengths in classroom management, especially those who are prevention focused, rather than selecting mentors merely based on availability and/or willingness. Pathways and incentives to mentor early career teachers is also required. Given that many teachers with low self-efficacy leave the professional in the first five years (Tschannen-Moran & Hoy, 2007) it is important that more is done to promote these mastery and vicarious experiences for new teachers in the area of prevention focused, research informed classroom management.

CONCLUSION

For inclusion to be more successful, teacher self-efficacy regarding inclusion (specifically focusing on the ability to engage students and employ effective instructional strategies) needs to be considered, monitored, and supported for new teachers as they transition through their first few years of teaching. Furthermore, given that teachers who believe that they are capable of teaching all students in inclusive, supportive ways, are more likely to exhibit teaching behaviours that

support this goal, it is essential that there are support mechanisms established to promote and develop teacher self-efficacy within a differentiated inclusive framework. Such efforts will not only promote teacher wellbeing and retention but also potentially positively impact on student achievement. Further research needs to be undertaken regarding how teachers might improve inclusive practice, and the forms of professional learning which actively promote a positive and productive disposition towards the learning of all students.

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7. TEACHER SELF-EFFICACY AND JUNIOR SECONDARY

Exploring a Moment of Reform in Queensland Schools

ABSTRACT

In 2015 all Queensland schools engaged in the biggest education reform in the last 50 years with Year 7 students moving from primary into high school settings. Aligned to this change, all government schools implemented Junior Secondary for Years 7–9. This required the active adoption of six guiding principles which impacted directly on expectations of teacher practice. To prepare for this reform, in 2014 the Department of Education, Training, and Employment (DETE) commissioned the Junior Secondary Leading Change Program (hereafter the Program) for delivery to the Principal and two school leaders of each of the 259 state high school leadership teams across the state. The Program was developed to build capacity in participants to lead effective change processes in schools, including serving as pedagogic leaders for classroom teachers.

This chapter outlines the development of the Program which incorporated a number of reflection and evaluation components for the leadership team participants. One component was to consider leaders' perceptions of teacher self-efficacy with regard to implementation of the junior secondary guiding principles. This was investigated through the administration of a survey at two points during the Program – the first at the beginning of the Program. The purpose of this survey was to provide a stand-alone base point for each school which was compared to a second iteration of the survey administered at the end of the Program. The importance of understanding teacher self-efficacy was regarded to be a direct reflection of the likely success of the reform over time, as the focus of change had a strong component of classroom practice.

REFORM IN THE JUNIOR SECONDARY YEARS IN QUEENSLAND

Australia's education systems are undergoing reform in policy and practice. Each of the eight states and territories are responsible for funding and regulating education within their jurisdiction, alongside some overarching national commitments. One of these is *The Melbourne Declaration on Educational Goals for Young Australians* (Ministerial Council on Education, Employment, Training and Youth

S. Garvis & D. Pendergast (Eds.), Asia-Pacific Perspectives on Teacher Self-Efficacy, 103–113.

Affairs [MCEETYA], 2008), which identified enhancing middle years teaching and learning practices as a priority to ensure young adolescents have the best education opportunities. It is argued that early adolescence and the transition to secondary school is "a time when students are at the greatest risk of disengagement from learning. Student motivation and engagement in these years is critical, and can be influenced by tailoring approaches to teaching" (MCEETYA, 2008, p. 10). Hence, ensuring that schools and, specifically classroom teachers, know how to plan a developmentally appropriate educational experience for young adolescents where classroom practice moves beyond the taken-for-granted notions of adolescents and adolescence is essential (Vagle, 2012).

According to the publication, *Junior Secondary—Theory and Practice* (Australian Council for Educational Research, 2012) the key challenges in the junior secondary years are closely linked to the nature of the changes that occur during early adolescence, along with the challenges associated with transition between primary and secondary school.

These following key challenges have been identified as impacting on the school experiences of students:

- the need to manage a heterogeneous student population without sacrificing inclusiveness;
- a decline in student academic performance;
- high incidence of disengagement, disruptive behaviour, boredom and disconnection from schooling;
- a 'knowledge gap' between what is taught and the kind of content that would engage early adolescents and match their cognitive skills;
- transition often entails major change, such as larger school size, more emphasis on teacher control and discipline, disrupted peer relations, more impersonal relationships between student and teachers, and different expectations of students' performance. The transition experience can be different for different students, depending on individual factors and contextual factors.

Until 2015, Queensland, Australia, where this Program was implemented, had Year 7 students located in primary schools in all state (public) and non-state (independent) schools. This positioning of Year 7 in primary schools was inconsistent with most other states and territories, and concerns were repeatedly raised about Queensland students' literacy and numeracy scores against national and international benchmarks (Daraganova, Edwards, & Sipthorp, 2013; Luke et al., 2003; Goos et al., 2008; Lingard & Sellar, 2013). In addition, the introduction of a Prep year in 2007 followed by a lift to the entry age of schooling in 2008 by six months with the cut-off moving from the end of the calendar year to the middle of the year, brought Queensland into line with other states. The overall effect of the lifting of the school commencing age was that students are on average six months older in each year level, so that, for example, more than half of those students in Year 7 will turn 13 during that year. In addition, many students have also completed a Prep year

which has provided an additional year of formal schooling making them older and better prepared for a secondary school setting.

These combined factors provided the impetus to shift all Year 7 students to secondary schools and, in addition, in public schools, to use this as an opportunity to introduce Junior Secondary for Years 7–9. Junior Secondary is a philosophical and practical shift in the way these year levels have traditionally operated in schools and to make them more suited to young adolescent learners, with a clear focus on quality teaching. The approach is guided by The Junior Secondary Guiding Principles outlined in *A Flying Start for Queensland Children* (Department of Education and Training [DET], 2010), and is one of the most significant reforms undertaken in the history of Queensland education. The six Junior Secondary Guiding Principles are:

1. Distinct identity: Junior Secondary students will be encouraged and supported to develop their own group identity within the wider high school. This can involve dedicated school areas and events.
2. Quality teaching: Teachers working with students in the Junior Secondary years will be given the skills they need through additional professional development, so they can support young teens through these crucial early high school years.
3. Student wellbeing: We will meet the social and emotional needs of Junior Secondary students with a strong focus on pastoral care. For example, schools could provide a home room to support students as they adjust to new routines and greater academic demands.
4. Parent and community involvement: We want parents to stay connected with their students' learning when they enter high school. Parent involvement in assemblies, special events, award ceremonies and leadership presentations will be welcomed.
5. Leadership: Schools will be encouraged to create leadership roles for students in Years 7, 8 and 9. Dedicated teachers experienced with teaching young adolescents will lead Junior Secondary supported by the principal and administration team.
6. Local decision-making: The needs of each school community will influence how Junior Secondary is implemented in each school.

The introduction of Junior Secondary is a pedagogical reform as it is about "an intentional approach to teaching and learning that is responsive and appropriate to the full range of needs, interests and achievements of middle years students in formal and informal schooling contexts" (Middle Years of Schooling Association, 2008, p. 1). With research evidence showing that teacher quality is the most important factor in improving outcomes for students (Dinham & Rowe, 2007; Hargreaves, 1994), Quality Teaching is critical to the effectiveness of Junior Secondary. As such, a key consideration for all Junior Secondary schools is Quality Teaching for young adolescents. According to the Grattan Institute (Jensen, Hunter, Sonnemann, & Cooper, 2014):

- improving teaching effectiveness outweighs the impact of any other school education program or policy in improving student performance;

- a student exposed to great teaching can achieve in half year what a student exposed to poor teaching can achieve in a full year; and
- because the impact of highly effective teaching is cumulative, relatively modest increases in effectiveness can make a big difference in student learning.

The guiding principle related to quality teaching specifically points to the need for reforms in the way teaching and learning would occur in Junior Secondary classrooms. Hence, teacher self-efficacy became an important aspect of the Program design consideration, which is now outlined.

Junior Secondary Leading Change Program

The key objective of the Program was to provide state high school leadership teams with a Program that built their capability to lead effective change processes in schools, specifically in preparation for the transition of Year 7 to Junior Secondary by the start of 2015. The Program was designed (Pendergast et al., 2015) around the core features of professional development (PD) (Desimone, 2009) and aimed to:

- build school leadership team capability to lead change in transitioning Year 7 to high school;
- build school leadership team capability to lead the introduction of Junior Secondary in all state high schools;
- provide support to school leadership teams with the school's development and implementation of action plans for transitioning Year 7 to high school and introducing Junior Secondary in all state high schools;
- ensure all state high schools were ready for inclusion and integration of Year 7 students into high school from January 2015 (Pendergast et al., 2014).

The Program was delivered in three stages to three school leaders (including the principal) from each of the 259 state high schools in Queensland with Years 7–9. It was designed for schools commencing the journey as well as for other purpose-designed schools, including 20 that had been pilot schools that had begun their journey of reform in 2012. In this way the Program aimed to work with all schools to further progress the development of their Junior Secondary program. The model of delivery was implemented for each of the seven regions of the state, hence seven two-day conferences and seven one-day conferences marked the beginning and then end of the Program, with coaching between these key events, as outlined in Table 10. The Program was conceptually built around a distinct theoretical model known as the Educational Change Model (ECM) (Pendergast, 2006) and aligned with the core features of effective professional development (Desimone, 2009).

Evaluation of the effectiveness of the Program as a professional development program and its effect on teacher and leader efficacy was argued to be vital to ensure that school leaders have the skills and resources necessary to implement and sustain the successful introduction of Junior Secondary.

Table 10. Leading change development program project stages

Stage	*Activity*	*Timeline (2014)*
1	*Two-day professional learning conference for school leaders* Delivered seven times to each of the regions in the state. The focus was for 3 school leaders from each school to determine their school's current phase of reform by being guided through a range of sessions that utilised a comprehensive suite of resources available to all schools via provision of a loaded USB device as well as access to a purpose-built interactive website. Resources provided theoretical information and evidence-based research related to adolescent learners, the six Guiding Principles, the Education Change Model and quality teaching strategies. Information, PowerPoint presentations, and activities were developed for twenty-eight topics ranging from effective practices for adolescent learners to building teams within schools.	April–June
2	*Implementation with coaching support, including development and/or further refinement of an Action Plan and webinars* All 259 schools were placed into one of 22 clusters that were negotiated with advice from regional representatives. Each cluster included approximately 10 schools and was allocated two professional coaches. For 3–4 months the coaches were available for direct support to assist schools with their Junior Secondary 'Action Plans' as well as providing feedback and advice on three structured milestones. In addition to the coaching process, four webinars were presented on topics that were most frequently requested by school leaders during the two-day conferences and the coaching dialogues.	May–September
3	*One-day workshop for school leaders* These were co-delivered in the seven regions and constituted the final phase of the Program. It provided an opportunity for the school leadership teams to reflect on and share their Action Plan achievements and their readiness for the change in 2015. These workshops were structured around the concept of educational Best Practice, with a focus on three key themes: Transition; Quality Teaching; and Evidence-based Practice. Schools were given opportunities to network and to share their successes in their program implementation efforts, with schools invited to present a snapshot of Best Practice in one of the three targeted areas.	September–October

Teacher Efficacy

If the Program of reform had any chance of success, understanding teacher self-efficacy regarding their confidence and competence to implement the six guiding principles, and importantly the principle related to Quality Teaching is important to investigate. Tschannen-Moran and Hoy (2001) explained that a teacher's sense of efficacy is their belief or "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783). Teacher efficacy can be categorised into two types: general teacher efficacy – "teachers' beliefs in the ability of teachers in general to influence student outcomes" and personal teacher efficacy – "teachers beliefs about their own ability to affect student outcomes" (Wheatley, 2002, p. 6).

Mourshed, Chijioke, and Barber (2010) investigated the factors that enable systems to improve, identifying teacher self-efficacy through the building of the instructional skills of teachers and management skills of principals as one of six 'must haves' for effective reform. For school-wide change, there must be a strong multi-partner professional development focus on middle years curriculum and pedagogy (quality teaching) as well as a strong and focused leadership for effective and sustained change. The connection between professional learning and improved student learning is central to the Australian Institute for Teaching and School Leadership (AITSL) Charter (2012) and features the concept of teacher self-efficacy or effectiveness to enact new learning. The Charter notes that "[I]mproving student outcomes is the ultimate goal of teachers and school leaders, and of the professional learning they undertake" (p. 4). With teachers and school leaders noted as both the subjects and agents of change (Main, 2013), Desimone and Garet (2015) noted that where strategies and ideas delivered through PD are aligned with leadership priorities there is an increased "ability, willingness, and motivation" by teachers to modify their practices.

Teacher efficacy is a multi-faceted construct that has significant implications for teacher practices and student outcomes. Ingvarson, Meiers, and Beavis (2005) found a correlational link between teachers' sense of efficacy and teachers' improved practices and a causal link between teachers' improved practices and improved student outcomes. Where a school has the structures, programs and leadership in place, teachers are also able to access other sources that further enhance their sense of self-efficacy.

With a major focus for the Junior Secondary reform agenda around Quality Teaching, leadership teams were asked to consider the efficacy of their teacher cohort. Each leadership team was provided with the instrument and asked to discuss and then, as a team, agree on the rating for each of the questions.

METHOD

There are a range of instruments that have been developed to collect data about teacher self-efficacy. The Norwegian Teacher Self-Efficacy Scale (Skaalvik &

Skaalvik, 2007, 2010) was selected for this purpose as it was deemed to be suitable for administration in the context of the study and most relevant to the focus of the Program. Leadership teams were invited to complete the survey to provide a snapshot of their perceptions of the preparedness (sense of efficacy) of their teachers to teach in Junior Secondary at that point in time.

The Norwegian Teacher Self-Efficacy Scale (Skaalvik & Skaalvik, 2007) is a 24 item Likert type scale consisting of six dimensions with 4 items in each dimension. The dimensions are:

- instruction;
- adapting education to individual students' needs;
- motivating students;
- keeping discipline;
- cooperating with colleagues and parents; and
- coping with changes and challenges.

Responses were given on a 7-point scale from *Not certain at all* (1) to *Absolutely certain* (7). These ratings were converted to a scale from zero to six for the purposes of calculation. The six sub-scales are extensively described and validated elsewhere (Skaalvik & Skaalvik, 2007). An example of an item on the Norwegian Teacher Self-Efficacy Scale is *How certain are you that you can provide realistic challenge for all students even in mixed ability classes?*

The survey also includes two further series of questions relating to:

- working in teams, and
- beliefs

with seven and five questions respectively. Responses were given on a 6-point scale from *false* (1) to *true* (6). These ratings were converted to a scale from zero to five for the purposes of calculation.

The purpose of this survey was to provide a stand-alone base point for each school so that school leaders could shape the professional learning opportunities provided to their staff.

The identical evaluation survey was administered at two Stages in the Program. The first data collection point was during the two-day learning conference; the second at the end of the one-day workshop. After the second administration, the leadership team were provided their first survey responses and they were invited to compare the two sets of responses.

FINDINGS

A total of 245 (92% response rate) and 145 (56% response rate) completed surveys were collected at the seven two-day conference and seven one-day workshops respectively. These responses were collaboratively provided from each leadership team. Table 11 shows overall means, and by region, of the six subscales of the

Table 11. Average scores for the six subscales of the Norwegian Teacher Self-Efficacy Scale (two day conference and the one day workshop)

Event	*Region*[a]	*Dimension*[b]							
		IN	*AD*	*MD*	*DI*	*CO*	*CH*	*WT*	*BE*
Two day conference	1	3.9	3.4	3.5	4.5	4.5	4.1	3.7	1.5
	2	3.8	3.3	3.3	3.9	4.2	3.9	3.5	1.4
	3	4.0	3.7	3.6	4.1	4.6	4.0	4.0	1.7
	4	3.8	3.3	3.3	3.8	4.3	3.8	3.6	1.4
	5	3.6	3.2	3.0	3.6	4.1	3.7	3.5	1.6
	6	4.1	3.8	3.6	3.9	4.5	3.9	3.7	1.6
	7	4.1	3.6	3.6	4.2	4.4	4.0	3.8	1.4
	TOTAL	3.9	3.5	3.4	4.0	4.4	3.9	3.7	1.5
One day workshop	1	4.4	3.8	3.9	4.4	4.6	4.2	3.8	1.2
	2	4.0	3.6	3.6	3.9	4.4	3.9	3.6	1.5
	3	4.2	3.8	3.8	4.2	4.8	4.0	3.8	1.6
	4	4.1	3.4	3.4	3.9	4.3	4.1	3.6	1.6
	5	4.0	3.5	3.4	3.7	4.4	3.7	3.6	1.7
	6	4.6	3.9	3.7	4.0	4.6	4.1	3.6	1.4
	7	4.4	3.8	3.6	5.0	4.3	3.9	3.8	1.3
	TOTAL	4.2	3.7	3.7	4.2	4.5	4.0	3.7	1.4

[a] *Regions randomly allocated a number to ensure anonymity*

[b] *IN – Instruction. AD – Adapting instruction to individual needs. MO – Motivating students. MD – Maintaining discipline. CO – cooperate with colleagues and parents. CH – Coping with change. WT – Working in teams. BE – Beliefs*

Note: Means range from a possible minimum of 0 to a maximum of 6 for IN, AD, MO, MD, CO and CH, and a minimum of 0 to a maximum of 5 for WT and BE

Norwegian Teacher Self-Efficacy Scale and the two other areas investigated. The scores range from a minimum score of 0 to a maximum score of 6. A higher score indicates the belief in the leadership team that their staff are more capable (greater sense of efficacy) in each subscale. At the beginning of the program (i.e., at the two-day conference) overall, leadership teams across the state rated their teachers lowest (M = 3.4, SD = 0.9) on their ability to motivate students, and highest (M = 4.4, SD = 0.83) in their ability to cooperate with colleagues and parents. At the end of the Program (i.e., at the one-day workshop) the lowest overall mean had risen to 3.7 and was observed in the dimensions of motivating students, adapting education to individual students' needs. No statistically significant difference was detected in any of the six scales between regions. It is important to note that the proper interpretation

Table 12. Significance test for leaders' perceptions of teacher efficacy

Dimension	*2 Day conference*		*1 Day workshop*		*Sig.*
	M	*SD*	*M*	*SD*	
Instruction	4.0	0.8	4.3	0.8	*
Adapting instruction to individual needs	3.5	1.0	3.7	1.0	*
Motivating students	3.5	0.9	3.7	0.9	*
Maintain discipline	4.0	0.9	4.2	1.4	
Cooperate with colleagues and parents	4.4	0.8	4.5	0.8	
Cope with change	4.0	0.8	4.0	0.9	
Working in teams	3.7	0.7	3.7	0.6	
Beliefs	1.5	0.7	1.4	0.7	

Note: Sig = significant

for the Beliefs scale should be reversed, i.e., leadership teams believed the locus of control in for example, developing students' abilities, motivating students etc., was well within their control (M = 1.50, SD = 0.73).

Using identifiers from the survey responses, data from 130 of the schools could be matched for both survey 1 and survey 2. This data was then compiled and a pairs-wise t-test was conducted on the 130 schools that responded to the Norwegian Teacher Self-Efficacy Scale at both the two day conference and one day workshop (see Table 12). A statistically significant difference (at the p = 0.05 level) was observed in three of the dimensions: instruction, adapting instruction to individual needs; and motivating students. This is in keeping with school leaders identifying the need to focus on quality teaching at the beginning of the program (i.e., at the two-day conference) once they got back to school and indicates that this had indeed been the case.

DISCUSSION AND CONCLUSION

The shift of Year 7 and introduction of Junior Secondary has a clear agenda to focus on quality teaching. This is reflected in the six Guiding Principles. The Program designed and implemented to support the major reform included an extensive series of opportunities and support for school leaders to develop capabilities to enhance their teacher capabilities with respect to teaching in the junior secondary setting. Data produced at two points in time – at the commencement of the Program and at the end of the Program – related to teacher self-efficacy, provided important insights into the perceptions by leaders of the efficacy of their staff to implement the Junior Secondary agenda, particularly with respect to the Quality teaching Guiding Principle.

Where direct comparisons could be made, the areas reported by leaders to be least effective at the outset of the Program were: adapting instruction to individual needs; and motivating students. Both of these dimensions were reported to have improved by the end of the Program, with statistically significant shifts to the averages reported. The dimension of instruction was also identified as having tested for statistical significance. Importantly, all of the remaining dimensions were also reported by leaders to have improved. These results support findings by Desimone and Garet (2015) around the positive influence that leadership in schools have on teachers' implementation of ideas and strategies when they are aligned with leadership priorities. This bodes well for the implementation of the reform agenda and is an affirming insight into the value and contribution of the Program.

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8. TEACHER EFFICACY RESEARCH IN MAINLAND CHINA

ABSTRACT

The top performance of Shanghai students in the OECD PISA study brought more international attention toward mainland Chinese teachers. At the same, the availability of non-Chinese research concerning Chinese teachers is limited. This chapter will provide a review of the mostly Chinese language research on teacher efficacy in mainland China. The review shows that the similar problems such as the use of invalid measurement scales, which have troubled teacher efficacy research internationally, exist also in China. At the end of the chapter, suggestions how to improve the situation are provided.

INTRODUCTION

In recent years there has been a growing international interest towards mainland Chinese education system in general, and Chinese teachers in particular due to the top performance of Shanghai students in the OECD's latest PISA surveys. One widely stated explanation behind the Shanghai students PISA success has been the assumedly high quality of the teaching force (Tucker, 2014). This has led other countries and international organizations to turn their eyes to mainland Chinese teachers when seeking solutions for improving students learning outcomes (OECD, 2015). One concrete example of this type of approach is the Shanghai-England teacher exchange program initiated and financed by the Department of Education of England (Department for Education, 2014). At the same time one must keep in mind that Shanghai teachers represent only a small fraction of the 12 million pre-school, primary school or secondary school teachers in China (Ministry of Education of the People's Republic of China [MOE], 2015).

Considering the rising international attention to mainland Chinese teachers, it is unfortunate that the availability of non-Chinese language research literature concerning teachers in mainland China is still quite limited. In this respect teacher self-efficacy is no exception since the vast majority of Chinese teacher efficacy research has been published only in local academic journals. This chapter aims to offer at least partial solution to this demand. The topic will be discussed under four different themes. First, in order to help to position the Chinese research I will give a short introduction to the international teacher efficacy research. Second I will review

S. Garvis & D. Pendergast (Eds.), Asia-Pacific Perspectives on Teacher Self-Efficacy, 115–126.

shortly the features of conceptual teacher efficacy articles that have been published in Chinese academic journals. Third, we will focus on empirical teacher efficacy studies and view them from the perspective of measurement instruments, research questions, and research findings. Fourth, I will conclude the chapter by outlining future directions for improving the research in this area.

TEACHER SELF-EFFICACY RESEARCH INTERNATIONALLY

Internationally, teacher efficacy research has been conducted in two strands. Tschannen-Moran, Hoy and Hoy (1998) named these partly intertwined lines of research as RAND strand and the Bandura strand. The RAND strand of teacher efficacy research was born in the 1970s, when the RAND Corporation expanded their questionnaire with two items that were considered to be dealing with teacher efficacy. The first RAND item: "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment" deals with the influence of environmental factors that are largely outside teachers' control on students motivation and learning. Teacher beliefs concerning the influence of this type of external factors have been usually called *general teaching efficacy* (GTE). The second RAND item: "If I really try hard, I can get through to even the most difficult or unmotivated students" deals with teacher beliefs about the influence of their own teaching on student learning. This type of beliefs have been called *personal teaching efficacy* (PTE) in the RAND strand of teacher efficacy research.

The Bandura strand of teacher efficacy research is more tightly connected to Bandura's (1977) theory on self-efficacy. Studies that follow this strand consider teacher efficacy as one specific domain of self-efficacy. This means that teacher self-efficacy can be defined as teachers' or sometimes pre-service teachers' "individual beliefs in their capabilities to perform specific teaching tasks at a specified level of quality in a specified situation" (Dellinger, Bobbett, Olivier, & Ellett, 2008, p. 752). Researchers working along the Bandura strand of teacher efficacy research often divide teacher self-efficacy into several dimensions that represent different aspects of teachers' work in schools. These dimensions are often related to classroom management, instruction, engaging students, and collaborating with colleagues and parents (Chan, 2008a, 2008b; Klassen et al., 2009; Malinen et al., 2013; Romi & Leyser, 2006; Skaalvik & Skaalvik, 2007; 2010; Tschannen-Moran & Woolfolk Hoy, 2001, 2007).

TEACHER EFFICACY RESEARCH IN MAINLAND CHINA

This section aims to describe the existing teacher efficacy and particularly teacher self-efficacy research in mainland China. The objective is not to provide comprehensive review of all the research in this area, but rather to offer a general picture of the tendencies, research questions and research tools used during the

20 years period from mid-1990s to mid-2010s. The amount of English language literature on this topic is very limited. Therefore, the cited references have been published mainly in local Chinese language academic journals.

Selection of the Articles

In the beginning, the China Academic Journals (CAJ) Full-text Database of the China Knowledge Resource Integrated (CNKI) Database was searched for articles with "jiàoshī (teacher, literary form) or lǎoshī (teacher, colloquial form)" and "zìwǒ xiàonénggǎn (self-efficacy) or jiàoxué xiàonénggǎn (teaching efficacy)" in the title. This resulted to 523 hits that were examined with following procedure. First, the articles were sorted with "downloads" and "cites" functions of the CNKI Database to identify the most widely read and cited articles. Second, all articles with words "shùpíng, zòngshù or huígù (review)" or "zǒngjié (summary)" in their title were identified and their abstracts examined in order to find review articles that would already summarize the existing research. Third, the remaining article titles were skimmed through and selected abstracts were read to identify different types of studies that would form an adequately diverse but reasonable-sized sample of Chinese teacher efficacy research.

About 20 full-text papers from the CAJ Full-text Database were selected to a more thorough reading. The number of closely examined Chinese language articles later grew when some articles from the references of review papers were included to the reading list. In addition, three English language articles (Yin, Lee, Jin, & Zhang, 2013; Cheung, 2008; Yu, Wang, Zhai, Dai, & Yang, 2015) and my own doctoral dissertation (Malinen, 2013) that investigated teacher self-efficacy in mainland China were included to the reading list. The end result of the article selection process was in total 30 Chinese and English language full-text articles that were published in years 1995–2015. The selected teacher efficacy papers form roughly three groups: conceptual papers, empirical research papers and review papers that summarize Chinese and international (mostly North American) research.

CONCEPTUAL ARTICLES

The examined conceptual papers are non-empirical articles that usually introduce some internationally studied aspect of teacher efficacy and/or teacher self-efficacy to Chinese readers. These articles often use some of the most widely cited English language self-efficacy and teacher efficacy texts (e.g. Bandura, 1997; Gibson & Dembo, 1984; Tschannen-Moran et al., 1998) as their main references. Generally, the conceptual papers first report the main ideas of these English texts or their Chinese translations. The authors then use those ideas as a starting point for their own non-empirically based claims about teacher efficacy and its adaptation in the context of China.

Some examples of these conceptual papers are Hong and Pang's (2006b) general introduction to the concept of teacher self-efficacy, the same authors' (Hong & Pang, 2006a) article about the impact of teacher self-efficacy on child's development, and the paper by Guo and Li (2008) on the training strategies of teacher self-efficacy. The claims that the authors make in their articles sometimes go far beyond the actual research evidence provided by the referenced texts. For example Guo and Li (2008) have only three English language articles and two short Chinese language articles in their references and they have not collected any empirical data. With this limited evidence base they provide comprehensive instructions concerning strategies for improving teacher self-efficacy in Chinese educational system.

EMPIRICAL STUDIES

Measurement Instruments

The examined empirical papers mostly follow the RAND strand of teacher efficacy research or apply a mixture of RAND and Bandura strands. Studies that conceptualize teacher efficacy strictly along the Bandura's (1977) theory of self-efficacy are much more infrequent. One important reason behind the prevalence of the RAND strand seems to be the structure and content of the most popular measurement instrument. In mid-1990s Yu, Xin and Shen (1995) developed an instrument named *Teaching efficacy scale* (*Jiàoshī jiàoxué xiàonénggǎn liàng biǎo*). According to the developers of the scale it was developed on the basis of the *Teacher Efficacy Scale* by Gibson and Dembo (1984). Similar to the Gibson and Dembo (1984) scale the Chinese *Teaching efficacy scale* consists of two sub-scales that are named as Personal teaching efficacy (Gèrén jiàoxué xiàonéng) and General teaching efficacy (Yībān jiàoyù xiàonéng). Since its development Chinese *Teaching efficacy scale* has been the most popular Chinese teacher efficacy measure.

The Gibson and Dembo (1984) measure, that was a model for the Chinese scale, used to be internationally the most widely applied teacher efficacy instrument. Nevertheless, it has been criticized from the instability of its factor structure and the unclear meaning of the two factors (Tschannen-Moran & Hoy, 2001). Gibson and Dembo (1984) state that their scale is based on Bandura's conceptualization of self-efficacy so that the Personal teaching efficacy factor represents *self-efficacy* and General teaching efficacy factor represents *outcome expectations*. Bandura (1978), however, emphasized that self-efficacy and outcome expectations are separate structures, even though they can influence each other. Therefore, it is questionable if they can be included in the same scale. Additional empirical evidence that self-efficacy and outcome expectations cannot be counted as dimensions of the same structure is that they have been found to have only small correlation in China (Li, Yang, & Shen, 2007; Yin ,Lee, Jin, & Zhang, 2013) and elsewhere (Tschannen-Moran & Hoy, 2001).

Regardless of these theoretical and psychometrical weaknesses *Teaching efficacy scale* (Yu, Xin, & Shen, 1995) with its 27 items has continued to be widely used instrument in Chinese teacher efficacy research. It seems, however, that from about 2005 onwards there has been an increase in the number of studies that use scales measuring more strictly teacher *self*-efficacy. These instruments include Cheung's (2008) translation of the *Teachers' Sense of Efficacy* (TSE) *Scale* (Tschannen-Moran & Hoy, 2001) the combination of Bandura's *Teacher Self-Efficacy Scale* (Woolfolk Hoy, 2015) and TSE scale by Liu, Meng and Zhang (2004), the adaptation of the *Norwegian Teacher Self-Efficacy Scale* (Skaalvik & Skaalvik, 2007) by Zhu and Wang (2009), and the Mainland Chinese version of the *Teacher Self-Efficacy for Inclusive Practices* (TEIP) *Scale* (Malinen et al., 2013).

Research Questions of Empirical Papers

Only a few empirical studies have had research questions related to the structure of teacher efficacy in Chinese context. As already mentioned, the first Chinese studies conducted in mid-1990s (e.g. Xin, 1996; Yu, Xin, & Shen, 1995) came to the conclusion that teacher efficacy consists of two dimensions namely *personal teaching efficacy* and *general teaching efficacy*. Most of the subsequent studies have taken this two-dimensional structure more or less for granted (Wang, 2008). Only more recently there have been studies that present alternative factor structures of teacher self-efficacy (e.g. Zan, Liu, Wang, & Sharma, 2012; Zhu & Wang, 2009). Instead of factor structure of teacher efficacy most studies have been focusing more on the relationship between teacher efficacy and other variables which are assumed to affect teacher efficacy or being affected by it (Tan, 2006; Wang, 2008).

The factors, whose connection to teacher efficacy has been investigated, can be divided roughly into two groups. The first group is external factors that include for example school characteristics, teacher relations, teacher-student relationship, students study habits, teacher's educational qualifications and the length of teaching career (Wang, 2008). The second group, internal factors, includes for example teacher's values, self-concept, job satisfaction and burnout (Wang, 2008). The authors of the empirical papers often claim to be studying the effect of these factors on teacher efficacy or the effect of teacher efficacy on these factors. Yet, the studies are based exclusively on cross-sectional data, which does not strictly speaking enable such causal inferences. In addition, the authors do not often provide clear theory-based justification for the selection of the variables and the assumed direction of causality. Therefore, the investigated studies provide information mostly about correlational, not causal relationships, between teacher efficacy and other factors. Additionally, it is often not clear how the variables that are included in the models represent (if they represent) Bandura's (1977) four sources of self-efficacy. Keeping these limitations in mind we can now move to examine some of the most interesting findings of Chinese teacher efficacy studies.

RESEARCH FINDINGS OF EMPIRICAL PAPERS

Teacher Efficacy and Teacher Classroom Practices

Li and Liu (2000) applied research design that partly replicated the widely cited Gibson and Dembo (1984) study. They first collected questionnaire data from nearly 600 in-service and pre-service teachers from Hubei province. Then the primary school teachers were put in order according to their teacher efficacy scores, and three teachers with highest scores and four teachers with lowest scores were selected for classroom observation.

The classroom observations showed that there were statistically significant differences between the two groups in the use of instruction time, feedback behaviours and questioning style. During the observed lesson teachers with higher efficacy scores spent significantly more time focusing on academic activities while those with lower efficacy scores spent more time on non-academic tasks. There were statistically significant differences between the two groups also in teacher feedback behaviours. Teachers with low efficacy scores responded to student answers more often by simply repeating what the student had said or by continuing teaching without any response. Teachers with high efficacy score responded to student answers more often by giving a short approving or disapproving comment before their continued teaching. There were also statistically significant differences between the groups in the style of questions that the teachers used. Teachers with high efficacy scores asked more often questions that required higher-level cognitive reasoning from the students and did not have one simple correct answer.

Relationship of Teacher Self-Efficacy and Student Outcomes

The study by Liu, Meng and Zhang (2005) is still one of the few Chinese studies that have investigated the relationship between teacher efficacy and student outcomes. They studied the effect of classroom management self-efficacy on students' attitudes towards learning in Beijing city and Shanxi province. The study used questionnaire data from 109 primary school classes that consisted of 109 head teachers (bānzhǔrèn),[1] and 3066 students. Their analysis showed that teacher self-efficacy in classroom management predicted positively variation between primary school classes in student attitudes toward learning, when the teaching grade of the teacher was accounted for. In addition, teacher efficacy in classroom management moderated the relationship between student's academic efficacy and attitudes toward learning.

Teacher Self-Efficacy as a Mediator of Teacher Variables

Teacher efficacy has also been found to act as a mediator between different teacher variables. Yin, Lee, Yin and Zhang (2013) studied the mediating role of teacher

efficacy in a relationship between teacher empowerment and teachers' trust in their colleagues. The sample consisted of 1646 teachers from six municipalities that were located in Chongqing, Guizhou, Yunnan, Tianjin, Henan and Fujian province.

Yin and others (2013) found that personal teaching efficacy (PTE) mediated the effect of trust in colleagues into teacher empowerment. In their final, fully mediated model, the effect of PTE to the three teacher empowerment factors (professional growth, participation in decision making, and perceived impact on other colleagues) was exceptionally high (standardized regression coefficients ranged from .76 to .87). Such high connection between variables suggests that the personal teaching efficacy and teacher empowerment scales may actually measure the same latent construct. Closer look to the individual items of the teacher empowerment scale (Klecker & Loadman, 1996; Short & Rinehart, 1992; Yin, Jin, & Lee, 2009) indeed confirms that their wordings are very close to the concept of teacher self-efficacy.

Yu, Wang, Zhai, Dai and Yang (2015) studied the mediating role of self-efficacy between teacher work stress and job burnout. The sample consisted of 387 middle school teachers. The location the teachers' school(s) is not reported in the article. Yu and others (2015) measured self-efficacy with the 10-item *General Self-Efficacy Scale* that was adapted to Chinese by Zhang and Schwarzer (1995). Even though the validity of such a broad construct as general self-efficacy has been questioned by several scholars including Bandura (2012) himself, *General Self-Efficacy Scale* has been utilized in many studies across the world. Job burnout was measured by the 15-item *Maslach Burnout Inventory* (Maslach, Jackson, & Leiter, 1996) and perceived stress was measured with the 14-item *Perceived Stress Scale* (Cohen, 1986). The three scales have in total 39 items but Yu and others (2015) report that their model had only nine measured variables, without providing any explanation what happened to the remaining 30 measured variables.

The authors found that general self-efficacy partly mediated the effect of perceived stress to job burnout. They conclude that, "when they are faced with a greater level of pressure in their work, teachers tend to develop lower self-efficacy and feel tired of working." (Yu et al., 2015, p. 705). Nevertheless the reliability of the finding is shadowed by the above-mentioned ambiguities concerning the methodology of the study.

Teacher Self-Efficacy and Inclusive Education

In my own doctoral dissertation (Malinen, 2013) I studied Chinese pre-service teachers' and in-service teachers' self-efficacy related to inclusive education. The pre-service teacher sample consisted of 554 students from two normal universities that are located in Beijing and Chongqing and one special education college situated in Beijing. The in-service teacher data was collected from 451 primary and middle school teachers working in 132 different schools in Beijing. The teacher self-

efficacy was measured with the mainland Chinese translation of the *Teacher Self-Efficacy for Inclusive Practices* (TEIP) *Scale* (Malinen, Savolainen, & Xu, 2012).

The analysis showed that teacher self-efficacy for inclusive practices seemed to be multidimensional construct that can be divided into at least three factors which were named as Efficacy in inclusive instruction, Efficacy in collaboration, and Efficacy in managing behaviour. Previous experience in teaching students with disabilities explained significantly in-service teachers' self-efficacy for inclusive practices. The level of self-efficacy was also connected to the type of school connected to the type of school (special education or mainstream education school) so that special education school teachers had higher self-efficacy in collaboration whereas mainstream school educators felt themselves more capable in managing student behaviour. When the effect of different self-efficacy dimensions on teachers' attitudes towards inclusive education was tested, the only self-efficacy factor that significantly predicted attitudes was efficacy in collaboration.

Among pre-service teachers, major subject was connected with self-efficacy. The students majoring in education, early childhood education, and special education on the average had relatively low self-efficacy for inclusive practices compared to other major subject groups. This counter-intuitive finding may be explained so that educational sciences majors who are likely to receive more training about inclusive education may hold more realistic efficacy beliefs which reflect more accurately their actual level of competence. When the relationship between self-efficacy and attitudes was tested, there was a relatively strong positive connection between pre-service teachers' teacher self-efficacy and attitudes towards inclusive education.

CONCLUSIONS

In their international review of studies published in years 1998–2009 Klassen, Tze, Betts & Gordon (2011), identified that major problems hampering the teacher efficacy research were (1) the lack of attention to measuring the sources of self-efficacy, (2) the use of invalid research instruments, (3) the lack of research on the connection between teacher efficacy and student outcomes, and (4) the research's limited contribution to school practices. The reading of 30 Chinese teacher efficacy studies from years 1995–2015 suggests that these problems are relevant also in the context of mainland China.

One additional challenge concerning Chinese teacher efficacy research is its limited contribution to international literature. The studies are mostly written in Chinese for mainland Chinese readers, and conducted by all-Chinese researcher teams. There is certainly a great need for publishing in Chinese, a language that is read by over one billion people. Yet, a closer collaboration with international researchers and bringing research more accessible to non-Chinese readers would benefit both international and mainland Chinese research. International scholars could learn from the best Chinese studies and connection to the international research community would enable Chinese researchers to develop their own work further. For

example the use of what Klassen and others (2011, p. 36) call "conceptually troubled measures" still seems to be quite common in Chinese studies. At the same time in international journals, there has already been a considerable shift to measurement scales that have more solid theoretical background and psychometrical qualities.

Another suggestion for improving mainland Chinese teacher efficacy research in the future is the adoption of more sophisticated research designs and more ambitious research questions. All articles that were reviewed for this chapter were based on cross-sectional data and in most cases the data was collected only from in-service or pre-service teachers. By collecting longitudinal data the researchers would be in a better position to study causal relationships between teacher efficacy and other constructs. The research could also try to design intervention studies with the purpose of studying the effect of their intervention on teacher efficacy and related outcomes. In addition more studies like the one by Liu, Meng and Zhang (2005) that combine both teacher and student data in the same analysis are certainly needed.

This chapter offered an introduction to the existing research on teacher efficacy in mainland China. It started with a short description of teacher efficacy as an international research topic, continued with a non-comprehensive review of Chinese research papers and ended with bringing up a few suggestions how to improve mainland Chinese teacher efficacy research. I am confident that this chapter has given readers a better understanding of the status of teacher efficacy research in mainland China. I also hope that it will provide ideas how to improve research in the future.

NOTE

[1] In Chinese schools each class usually has a head teacher bānzhǔrèn. In addition to teaching her subject (most commonly Chinese language and literature or mathematics), bānzhǔrèn works as a director of a class and has the main responsibility of managing the class and communicating with families.

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