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Teacher Efficacy In the Context of Teaching Low Achieving Students

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Abstract This paper focused on the efficacy of Singapore teachers who teach low achieving adolescent students. Three dimensions of self-reported teacher efficacy—instructional strategies, classroom management, and student engagement—were examined in relation to teacher attributes and the teacher–student relationship. Data were obtained from the Teacher Self-Efficacy Scale Tschannen-Moran and Woolfolk Hoy (Teaching and Teacher Education 17:783–805, 2001) and the Teacher–Student Relationship Scale Ang (The Journal of Experimental Education 74:55–73, 2005). Significant differences between novice teachers and experienced teachers emerged in teacher efficacy beliefs in relation to instructional strategies, classroom management, and student engagement. Conflict in teacher–student relationship was found to predict teacher efficacy for teachers of low achieving students. Implications for teachers' professional development were discussed.

Keywords Teacher efficacy · Teacher–student relationship · Low achieving students

Teacher efficacy is an important attribute of effective teachers that has been widely researched in the last thirty years. Much has been written about the different facets of teacher efficacy and its impact not only on student outcomes but also on teachers' professional development. A strong sense of teacher efficacy is hypothesized to provide teachers with the continuing motivation and dynamism that are crucial to a

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long-term commitment to teaching. Indeed, research has shown that teachers who have a higher sense of efficacy have greater commitment to teaching (Coladarci 1992) and stay longer in the profession (Glickman and Tamashiro 1982).

The concept of teacher efficacy has been defined in a myriad of different ways. The RAND Corporation researchers (Armor et al. 1976; Berman et al. 1977) contributed to the earliest efforts at defining teacher efficacy. In their seminal study to evaluate innovative educational programmes funded by Title III of the Elementary and Secondary Education Act in the US, they sought to establish a relation between teacher characteristics and students' learning outcomes. The RAND Corporation researchers based their conceptualization of teacher efficacy on Rotter's (1966) social learning theory, particularly, internal versus external control of reinforcement. Teacher efficacy was conceived as teachers' beliefs that factors under their control (internal locus of control) have greater impact on the outcomes of teaching rather than factors in the environment or the student (external locus of control).

In another strand of influential research, Bandura (1977) provided a theoretical framework grounded in social cognitive theory for studying self-efficacy. Bandura (1977) made a distinction between two factors that influence human behavior: outcome expectation and efficacy expectation. Outcome expectation refers to a person's estimate that a given behavior will lead to certain outcomes; efficacy expectation refers to a person's conviction that s/he can successfully orchestrate necessary actions to perform a task.

When Bandura's definitions of self-efficacy were applied to teaching, researchers provided new labels in their attempts to better measure this construct. Outcome expectation was labelled as teaching efficacy (Gibson and Dembo 1984) or general teaching efficacy (Hoy and Woolfolk 1990; Tschannen-Moran and Woolfolk Hoy 2001). Efficacy expectation was labelled personal teaching efficacy (Gibson and Dembo 1984; Hoy and Woolfolk 1990; Tschannen-Moran and Woolfolk Hoy 2001). Whereas general teaching efficacy is a collective construct that reflects the efficacy beliefs of teachers as a professional group (Gibson and Dembo 1984), personal teaching efficacy is an individual construct that reflects "personal agency with respect to the task of pedagogy" (Coladarci 1992, p. 324). In this present study, the focus is on the individual teachers' beliefs in their own capacities to bring about student learning.

It is important to note that teacher efficacy is context specific (Bandura 1977; Tschannen-Moran and Woolfolk Hoy 2001) and that a teacher's competence has meaning only within the context of real world teaching duties and demands. For the purpose of this research study which aimed at examining the efficacy of teachers who work with low achieving students, the authors have chosen to use Tschannen-Moran et al. (1998) model of teacher efficacy, which defines teacher efficacy with respect to teachers' self-perceived competence in three key tasks: instructional strategies, classroom management, and student engagement. The value of this model rests on its assessment of a range of teaching tasks that teachers consider important to effective teaching. The three dimensions of efficacy for instructional strategies, classroom management, and student engagement "represent the richness of teachers' work lives and the requirements of good teaching" (Tschannen-Moran and Woolfolk Hoy 2001, p. 801) and are essential in meeting the learning needs of low achieving students.

Understanding how teacher efficacy can develop and evolve is important to teacher educators as they seek to prepare, equip, and support teachers in ways that

will help them stay in the profession. Woolfolk Hoy and Spero (2005) observed that the first year of teaching is an important context for the development of teacher efficacy, as the novice teacher confronts the reality of role demands and expectations. The novice teachers' sense of their own competence, however, is prone to change with increasing teaching experience. How they evaluate their personal efficacy may influence their future career development. In his theory of self-efficacy, Bandura (1977, 1997) suggests that efficacy beliefs are shaped early and may be most malleable early in learning. Given the fluid and pliable nature of teacher efficacy early in teaching and the presumption that efficacy beliefs are stable once established, Woolfolk Hoy and Spero (2005) rightly pointed out that the first years of teaching could be critical to the long-term development of teaching efficacy.

How does a sense of efficacy develop over time in the teaching service? There are a few interesting research studies that compared the efficacy beliefs of novice versus experienced teachers. Campbell (1996) compared the teacher efficacy of pre-service and in-service teachers in Scotland and America and found that the in-service teachers obtained significantly higher scores on teacher efficacy than their pre-service counterparts in both countries. In particular, experienced teachers (more than ten years' experience) outperformed novice teachers (zero to three years' experience), and so did the older teachers (over age forty) when compared to the younger teachers (below age twenty-five).

In a study conducted in Singapore, Wilson and Tan (2004) examined the efficacy of elementary school teachers who teach social studies. They found that teachers with more than twenty years' teaching experience had a greater sense of self-efficacy than those with less than twenty years' teaching experience. In a more recent study conducted in Spain, de la Torre Cruz and Arias (2007) examined the teacher efficacy beliefs of prospective teachers who are in the final stages of teacher preparation and in-service teachers who have on average fifteen years' professional experience. The findings revealed that the experienced teachers had a higher teacher efficacy than prospective teachers in terms of their ability to maintain interest in classroom tasks and to manage disruptive behaviors. An even more recent study conducted in Hong Kong (Cheung 2008), indicated that years of teaching experience is significantly but weakly correlated with general teacher efficacy. Although the above studies were conducted in different parts of the world, the key findings concur that years of professional experience may well be a factor that contributes to higher levels of teacher efficacy.

Apart from the important impact teacher efficacy has on teachers' motivation to remain in the teaching profession, teachers' sense of efficacy is also one of the few teacher characteristics consistently related to student achievement (Ashton and Webb 1986; Gibson and Dembo 1984). Bandura (1993) explained that "teachers' beliefs in their personal efficacy to motivate and promote learning affect the types of learning environments they create and the level of academic progress their students achieve" (p. 117). A brief discussion of the impact of teachers' efficacy on classroom management, instructional strategies, and student engagement follows, with reference to their impact on low achieving students when relevant research is available.

First, in the area of classroom management, teachers with a strong sense of efficacy provide conducive learning environments that are planned and organized but yet flexible in meeting learning needs (Allinder 1994). They employ management techniques to enhance student autonomy and reduce student control (Ross 1998).

Teachers who are confident in their ability to motivate students spend more time on instruction and less time on discipline (Onafowora 2004). That is, they provide a greater academic focus and engage in activities that develop students' competencies. Self-efficacious teachers invest more time teaching than controlling students who struggle with learning and/or behavior difficulties.

Second, efficacious teachers devise and modify instructional strategies to meet students' needs. They spend more time monitoring and facilitating seatwork, and providing whole group instruction (Gibson and Dembo 1984). They are more willing to learn and try out new approaches and strategies to meet students' needs (Guskey 1988; Ross 1998). They continually look for ways to help students overcome learning problems (Brophy and Evertson 1976). Teachers who succeed in reaching low achieving students combine a strong sense of efficacy with high and realistic expectations for student achievement (Alderman 1990). They help students to set attainable goals (Ross 1998). They not only communicate expectations that their students will achieve but ensure that students are taught the necessary skills and learning strategies (Alderman 1990).

Third, high efficacy teachers maintain high levels of student engagement (Good and Brophy 2003). They demonstrate more involvement when working with small groups of students. Guskey (1988) contends that teachers with high self-efficacy are firm in their belief that they can teach all children, including the difficult and unmotivated. They do not give up on low achieving students. Teachers who have a high sense of efficacy persevere in their efforts to teach at-risk students; for example, they work longer with students who are struggling (Gibson and Dembo 1984). They view low achieving students as teachable and worthy of attention and effort; they are also less critical of students when they make errors (Ashton and Webb 1986). They are more likely to retain difficult students in general education (Soodak and Podell 1994).

What is the rationale for undertaking such a study in Singapore? First, teacher efficacy is an area that has not been widely researched in Asia although it has been studied in developed countries around the world. In Singapore, the research on teacher efficacy is extremely sparse and very little is known about how our teachers perceive their ability to teach. Second, to the best of our knowledge, hitherto, the Tschannen-Moran et al.'s (1998) model of teacher efficacy has not been examined in South East Asia, and it is interesting to ascertain its applicability to a population of Asian teachers. Third, though much has been written about teacher efficacy, the literature is comparatively reticent on how teacher efficacy is understood in the context of teaching low achievers and at-risk students. Hence, the present study seeks to understand the self efficacy of teachers in Singapore along the three dimensions in the Tschannen-Moran et al.'s. (1998) model and to explore the major factors that influence teacher efficacy where it relates to students who are academically low achieving.

The low achieving students in this study are defined as students who are at risk of academic failure, dropping out of school, and leaving secondary school without a certificate. Research has indicated that apart from discipline problems, low grades and course failure are the most compelling determinants of premature school-leaving (Ekstrom et al. 1986). Low achieving students also face the prospect of being under-educated, under-employed or unemployed, and ill prepared to participate successfully in modern day living (Murray et al. 1997, as cited in Hock et al. 2001).

The present study attempted to explore the following research questions:

1. In what ways are Singapore teachers' efficacy beliefs related to their demographic profile (age, years of experience, gender, and number of levels taught)?
2. In what way is the Singapore teachers' relationship with their academically low achieving pupils related to their demographic variables?
3. To what extent do teacher variables and teacher–student relationship predict teacher efficacy beliefs?

Method

Participants

The present study is part of a larger research investigation that examines classroom management issues in the low ability classroom. Participants in this study were fifty-five teachers from six secondary schools in Singapore. The teachers' ages ranged from twenty-three to fifty-nine years (M=34, SD=7.95). Teachers' self-reported ethnic identification was as follows: 67.3 percent of the teachers were Chinese, 18.2 percent were Indians, and 14.5 percent were Malays. Forty (72.7 percent) teachers were females and fifteen (27.3 percent) teachers were males. The majority (n=28, 50.9 percent) had less than five years' experience in teaching; the teachers' professional experience ranged from half a year to thirty-nine years. Most of the teachers (n=26, 47.3 percent) taught at least three grade levels; the number of levels taught ranged from one to five.

As various studies have indicated (Ghaith and Yaghi 1997; Pigge and Marso 1993), teachers with varying years of professional experience can be classified into three groups: novice teachers, experienced teachers, and highly experienced teachers. These three groups have less than five years, five to fifteen years, and more than fifteen years of professional teaching experience, respectively. Based on this criterion, 50.9 percent of the sample (n=28) were novice teachers with half a year to four years' experience; 27.3 percent (n=15) were experienced teachers with between five to fifteen years' experience; and 14.5 percent (n=8) were highly experienced teachers with between sixteen to thirty-nine years' experience. Four teachers (7.3 percent) did not report duration of teaching experience. All teachers were teaching secondary two (eighth grade) and secondary three (ninth grade) students in the low ability stream.

In Singapore, students are placed into four ability streams based on examination scores they obtained at the national examination taken at the end of six years of primary (elementary) school. All the teachers in this sample taught students in the low achieving classes who constituted the bottom ten to fifteen percent of their cohort in the primary six (sixth grade) national examinations. Whereas students of high or average ability pursue an academically demanding course of study that prepares them for tertiary education, students in the low ability stream are enrolled in skill-based educational programs (comprising courses such as Design and Technology, Office Administration, and Computer Applications) that prepare them for further vocational training. Aside from poor academic motivation, many of these

students demonstrate poor study skills and a range of behavioral and disciplinary problems in school.

Measures

Teachers' Sense of Efficacy Scale (TSES) The twenty-four item TSES (Tschannen-Moran and Woolfolk Hoy 2001) is a measure of teacher efficacy developed to assess both teacher competence and task demands in particular teaching contexts. The TSES yields scores on three dimensions of teacher efficacy, namely, Instructional Strategies, Classroom Management, and Student Engagement. Items are rated on a Likert scale ranging from one (nothing) to nine (a great deal). Examples of items include: "How much can you do to craft good questions for students?" (Instructional Strategies); "How much can you do to control disruptive behavior in the classroom?" (Classroom Management); "How much can you do to motivate students who show low interest in school work?" (Student Engagement). Higher scores on each subscale indicate a greater sense of teacher efficacy in the dimension measured. The TSES is reported to have good internal consistency, with Cronbach's alphas ranging from 0.81 to 0.86 (Tschannen-Moran and Woolfolk Hoy 2001). Cronbach's alphas obtained for this study were 0.90 (Instructional Strategies), 0.90 (Classroom Management), and 0.88 (Student Engagement).

Teacher–Student Relationship Inventory (TSRI) The fourteen-item TSRI (Ang 2005) assesses teacher perceptions of the quality of their relationship with students from upper primary through secondary school. The TSRI yields scores on three distinct dimensions of the teacher–student relationship, namely, Instrumental Help (five items), Satisfaction (five items), and Conflict (four items). For each item, teachers rate their relationship with their students individually on a Likert scale of one (almost never true) to five (almost always true). Examples of items include: "If the student has a problem at home, he/she is likely to ask for my help" (Instrumental Help); "I enjoy having this student in my class" (Satisfaction); "This student frustrates me more than most other students in my class" (Conflict). Higher ratings on Instrumental Help and Satisfaction are positive indicators that teachers perceived themselves as being a source of help to their students and derived satisfaction from their relationship with them, respectively. Conversely, higher ratings on Conflict suggest that teachers view their relationship with their students in a negative light. Good Cronbach's alpha reliability estimates were obtained for scores on Instrumental Help (α=0.90), Satisfaction (α=0.85), and Conflict (α=0.86).

Consent and Procedure

Approval for data collection was obtained from the Ministry of Education prior to conducting the research. Data collection from schools in Singapore also requires the consent of the school Principal. The purpose of the study was explained to the teachers involved and consent to participate in the study was obtained. Participation was strictly voluntary and responses were kept confidential. Participants were also informed that they could refuse or discontinue participation at any time without penalty. All questionnaires were administered in English. No translation is needed as

English is the language of instruction for all schools in Singapore. The teachers completed the questionnaires in their own time and the researchers collected the questionnaires from their respective schools. They also provided demographic information such as gender, age, years of professional experience, and number of levels taught.

Results

To explore the first research question on the relation between each of the three dimensions of teacher efficacy beliefs and teachers' demographic profile, a one-way ANOVA was conducted with each of the three dimensions of teacher efficacy (Instructional Strategies, Classroom Management, and Student Engagement) in turn as the dependent variable and gender, age, years of professional experience, and number of levels taught as the independent variables. No significant differences at $p<0.05$ were found for all three dimensions of teacher efficacy against the independent variables of gender and number of levels taught. However, analysis indicated significant differences in teacher efficacy in relation to years of professional experience for instructional strategies, F (2, 48)=3.66, $p<0.03$, partial $\eta^2=0.13$; classroom management, F (2, 48)=5.07, $p<0.01$, partial $\eta^2=0.17$; and student engagement, F (2, 48)=50.81, $p<0.04$, partial $\eta^2=0.12$. Significant differences in teacher efficacy were found in only the dimension of classroom management in relation to teachers' age, F (2, 52)=3.71, $p<0.03$, partial $\eta^2=0.13$.

Post-hoc Bonferroni test indicated that teachers with more than fifteen years of professional experience had a greater sense of teacher efficacy in the area of instructional strategies (M=23.38, SD=3.46) than teachers with less than five years of professional experience (M=20.27, SD=2.78). Similarly, the highly experienced teachers had a stronger sense of teacher efficacy in the area of student engagement (M=22.78, SD=3.01) than their colleagues with less than five years of professional experience (M=19.00, SD=3.42). Additionally, teachers who have between five to fifteen years of experience (M=23.02, SD=3.19) or more than fifteen years of experience (M=23.50, SD=3.24) reported a higher sense of efficacy in classroom management compared to teachers with less than five years of professional experience (M=20.00, SD=3.83). It appears that years of teaching experience significantly influenced all three dimensions of teacher efficacy. Additionally, teachers who are more than forty years old (M=23.58, SD=3.82) reported a greater sense of teacher efficacy in classroom management compared to teachers between the ages of twenty-one to thirty (M=19.86, SD=3.93). The correlation between teachers' age and teaching experience for this study was 0.91.

To explore the second research question on the relation between teacher–student relationship and the teachers' demographic variables, a one-way ANOVA was conducted with each of the three dimensions of teacher–student relationship (Satisfaction, Instrumental Help, Conflict) in turn as the dependent variable and the demographic variables (gender, age, years of professional experience and number of levels taught) as the independent variables. No significant differences at $p<0.05$ were found for Satisfaction and Conflict on all the demographic variables. However, with respect to the dimension of Instrumental Help, significant differences

emerged at the $p<0.05$ level for years of professional experience, F (2, 46)=6.73, $p<0.003$, partial $\eta^2=0.23$; and for teachers' age only, F (2, 50)=6.84, $p<0.002$, partial $\eta^2=0.22$.

Interestingly, post-hoc Bonferroni test indicated that the most experienced teachers seemed to perceive a weaker teacher–student relationship in the area of providing Instrumental Help (M=7.95, SD=2.87) compared to teachers who have five to fifteen years of professional experience (M=11.43, SD=2.25) or those who have less than five years of professional experience (M=11.53, SD=2.30). (Please refer to Table 1.) As a corollary of years of teaching experience, age too appears to determine the teachers' perception of their relationship with their pupils in the area of being a source of Instrumental Help. Teachers who are between ages forty-one to sixty (M=8.38, SD=2.75) reported lower teacher–student relationship in Instrumental Help compared to teachers who are between ages thirty-one to forty (M=11.20, SD=2.15) and teachers between the ages of twenty-one to thirty (M=11.66, SD=2.26). In sum, ironically, with the advance of age and professional experience, teachers who work with academically low achieving students seem to have a progressively diminished view of themselves as a source of instrumental help to their students.

To explore the third research question on the factors that influence teacher efficacy, simultaneous regression analyses were conducted with teaching experience, age, and the three aspects of teacher–student relationship (Satisfaction, Instrumental Help, and Conflict) as independent variables and each dimension of teacher efficacy (instructional strategies, classroom management, and student engagement) in turn as the dependent variable (Table 2).

In predicting teacher efficacy (instructional strategies), the result was significant, $F(5, 43)=3.07$, $p<0.02$, explaining 26 percent of the variance ($R^2=0.26$). The Conflict subscale of the TSRI emerged as the only significant predictor of teacher efficacy in instructional strategies, $\beta=-0.37$. In predicting teacher efficacy (classroom management), the result was significant, $F(5, 43)=3.32$, $p<0.01$, explaining 28 percent

Table 1 Means and standard deviations for TSES_InsS, TSES_CM, TSES_SE, TSRI_Sat, TSRI_InsH, and TSRI-con on teachers' years of professional experience

Scale	Years of professional experience					
	0.5 to 4		5 to 15		16 to 39	
	M	*SD*	*M*	*SD*	*M*	*SD*
TSES_InsS	20.27	2.78	22.20	3.86	23.38	3.46
TSES_CM	20.00	3.83	23.02	3.19	23.50	3.24
TSES_SE	19.00	3.42	20.93	4.95	22.78	3.01
TSRI_Sat	16.67	2.46	15.80	1.90	15.18	2.14
TSRI_InsH	11.53	2.30	11.43	2.25	7.95	2.87
TSRI_Con	5.10	1.80	5.03	1.83	5.65	1.98

Note:
TSES_InsS=Teacher Self-Efficacy (Instructional Strategies); *TSRI_CM*=Teacher Self-Efficacy (Classroom Management); *TSRI_SE*=Teacher Self-Efficacy (Student Engagement); *TSRI_Sat*=Teacher–Student Relationship (Satisfaction); *TSRI_InsH*=Teacher–Student Relationship (Instrumental Help); *TSRI_Con*=Teacher–Student Relationship (Conflict)

Table 2 Impact of teaching experience, age, satisfaction, instrumental help, and conflict on teacher efficacy in instructional strategies, classroom management, and student engagement

Predictor	Criterion			
	B	*SE B*	*β*	*t*
	Teacher Efficacy (Instructional Strategies)			
Experience	0.18	0.13	0.45	1.39
Age	−0.3	0.13	−0.08	−0.24
TSRI_Sat	−0.23	0.27	−0.15	−0.83
TSRI_InsH	0.02	0.20	0.01	0.08
TSRI_Con	−0.69	0.33	−0.37	−2.12*
	Teacher Efficacy (Classroom Management)			
Experience	0.11	0.15	0.24	0.76
Age	0.08	0.15	0.17	0.53
TSRI_Sat	−0.31	0.31	−0.19	−1.0
TSRI_InsH	0.02	0.23	0.01	0.09
TSRI_Con	−0.77	0.37	−0.36	−2.10*
	Teacher Efficacy (Student Engagement)			
Experience	0.18	0.16	0.37	1.12
Age	0.02	0.17	0.04	0.13
TSRI_Sat	−0.56	0.34	−0.31	−1.64
TSRI_InsH	0.37	0.25	0.24	1.49
TSRI_Con	−0.58	0.40	−0.26	−1.44

Note:
TSRI_Sat=Teacher–Student Relationship (Satisfaction); *TSRI_InsH*=Teacher–Student Relationship (Instrumental Help); *TSRI_Con*=Teacher–Student Relationship (Conflict)
*$p<0.05$

of the variance ($R^2=0.28$). The Conflict subscale of the TSRI again emerged as the only significant predictor of teacher efficacy in classroom management, $\beta=-0.37$. No significant predictors were found for teacher efficacy in student engagement. The findings suggest an inverse predictive relationship between teacher–student conflict and teacher competence in managing the classroom and providing appropriate instructional strategies for low achieving students.

Discussion

The present study sets out to examine the efficacy of teachers who teach low achieving students along the dimensions of instruction, classroom management, and student engagement. In answer to the first research question, "In what ways are Singapore teachers' efficacy beliefs related to their demographic profile, that is, age, years of experience, gender, and number of levels taught?", we found that like their counterparts in Spain (de la Torre Cruz and Arias 2007), America and Scotland (Campbell 1996), Singapore teachers reported higher efficacy as they matured in their years of professional experience. Highly experienced teachers who had more than fifteen years' teaching experience had a stronger sense of efficacy in providing instructional strategies and engaging students compared to novice teachers who had less than five years' teaching experience. These findings echo those from an earlier study conducted in Singapore (Wilson and Tan 2004) that surveyed social science

teachers' efficacy beliefs. In addition, experienced Singapore teachers with five or more years' professional experience reported stronger efficacy judgments relating to classroom management and discipline compared to beginning teachers. The findings are consistent with other research studies that point overwhelmingly to classroom management as a major challenge faced by novice teachers (de la Torre Cruz and Arias 2007; Onafowora 2004). A general conclusion that can be drawn is that experience does count toward teachers' perceived efficacy for this sample of Singapore teachers in the key tasks of instruction, classroom management, and student engagement. These findings are not surprising, as the mastery of teaching and instructional effectiveness usually occurs several years into the teaching practice.

Teachers' age, a factor closely linked to years' of professional experience, however, seems to be related only to efficacy judgments pertaining to classroom management but not to instructional strategies and student engagement. Perhaps, in the context of an Asian culture where youths had been socialised to respect their elders, age and seniority afford older teachers a higher level of confidence in enforcing classroom discipline

The second research question explores the relation between three dimensions of the teacher–student relationship (Satisfaction, Instrumental Help, and Conflict) and specific teacher variables. The findings indicated a steady decline in perceived teacher–student relationship in the area of instrumental help with the advancement of age and increase in years of teaching experience. Compared to younger and less experienced colleagues, the older and more experienced teachers reported weaker perceptions of themselves as being a source of instrumental help to their students. It is somewhat disconcerting that for more senior teachers, their sense of teacher efficacy does not necessarily translate into perceptions of better teacher–student relationship in the area of help-giving.

Why do experienced teachers who have higher self-efficacy report a lower perception of themselves as being a source of help to their students? Perhaps, these findings could be understood in light of the teachers' daily challenge of making learning accessible and meaningful to low achieving and potentially academically at-risk students. The teacher's energy and effort are presumably directed primarily at creating and maintaining an orderly and conflict-free environment to facilitate delivery of content, and to devise and adjust strategies to engage students in learning. It is a challenge for the teacher simply to enlist the cooperation of less than optimally motivated students to attend, behave, and learn. However, to perceive one's role as being a source of instrumental help requires a teacher to go the extra mile of forging connections with students and providing the sense of caring that most at-risk youths find lacking in their school. The teachers with years of experience may have perceived themselves as being able to engage the students cognitively, but not to engage them affectively, over the long haul. Wehlage (2001) contends that a positive teacher culture is needed to help at-risk students—a culture in which educators respond to the "whole child" (p. 27). Unless teachers communicate a sense of caring that extends to the students' psychological and social needs, they are unlikely to be perceived as sources of instrumental help. Playing the "extended role" (Wehlage 2001, p. 27), however, is hard work that is difficult to sustain beyond the initial years of teaching when optimism and youthful energy help to keep burnout at bay.

The third research question explored factors that predict teacher efficacy for teachers of low achieving students. We found that conflict in the teacher–student relationship inversely predicts teacher efficacy in classroom management and instructional strategies. Having a relationship with students that is low on conflict is expected to enhance a teacher's efficacy in teaching low achieving students and managing the classroom. In a narrow but very specific way, this underlines the importance of the teacher's relationship with students, which is the keystone of teaching (Collier 2005).

The findings of this study emphasise the imperative need to provide ongoing support for both novice and experienced teachers so that they can develop and maintain a strong sense of teaching efficacy. Novice teachers in most countries would benefit from mentoring programs where mentors provide guidance through observations of classroom lessons, team teaching, coaching, and reflective practice.

Another implication relates to the need to support the renewal of mind and heart for teaching amongst experienced teachers who have fought long and hard, as it were, in the trenches of working with students with varying levels of ability and motivation. Professional development programs should target not just the upgrading of pedagogical skills but also the strengthening of affective skills. Teacher renewal programs could be developed as a feature of ongoing professional development; they can help teachers to remember why they teach as well as to hone their communication and relating skills so that they could continue to provide a lifeline to students who need help. Noblit et al. (1995) as cited in Collier (2005) highlighted (from students' perspectives) the qualities of effective teachers as educators who "provided respectful support to students in need of help" and who "established reciprocal dialogue which taught the teacher how to provide the most effective assistance to students" (Collier 2005, p.355). These affective skills contribute to the development of a strong relational base that supports students' commitment to learning. So much of teaching involves heart ware that efforts at professional renewal are vital to maintaining a high sense of teacher efficacy that will fuel commitment to the profession.

There are a few limitations to this study. The conclusions of this study may not be applicable to teachers of low achieving children in other countries as findings are based on a small sample of teachers in Singapore with its unique education system. The small sample size would likely have affected the power of the study; there is insufficient power to detect, in particular, small to moderate effects. It would be helpful to examine these issues with a much larger sample of teachers in future. Additionally, we did not obtain demographic information on the teachers' professional qualifications, and were unable to investigate the role further specialist training plays in teacher efficacy beliefs. Third, data was obtained only through questionnaires. No classroom observations were made but they should be considered in future research for a more in-depth understanding of how teachers demonstrate efficacy in instruction, classroom management, and student engagement.

The present study contributes to the limited literature in Singapore and South East Asia on the global construct of teacher efficacy, particularly as it relates to educators who work with low achieving students. It also adds ecological validity evidence to the Tschannen-Moran et al.'s (1998) model of teacher efficacy as it is applied in the context of Singapore schools.

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