

## Exploring Collective Teacher Efficacy in an International School in Shanghai

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**Abstract.** This exploratory study attempts to determine the presence of collective teacher efficacy (CTE) and provide clarity about the construct in the context of an international school in Shanghai. A mixed-method approach was utilised in this study. The design involved two phases, survey data collection, then further exploration through semi-structured interviews. Results revealed that CTE not only exists among expatriate teachers, but it is also high in this context. Further analysis identified two dimensions are key to the CTE construct, Group Confidence and Task Analysis. Three themes emerged from the semi-structured interviews highlighting the importance of an interconnected community; collaboration; and, the effect of academic pressure. Social interdependency and proximity may positively contribute to CTE. This research addresses a gap in existing literature relating to CTE and further investigates this notion among expatriate teachers in an underexplored setting of an international school in Shanghai. The study concludes with insights about the presence of CTE and identifies themes and dimensions explaining the nature of CTE in an international context.

**Keywords:** collective teacher efficacy; international school; group competence; task analysis; teacher factors; Shanghai.

### Introduction

There has been exponential growth in the number of international schools in China. Over the last decade, the state and success of education in China has been widely discussed, debated and analysed (e.g., Tan, 2013; Tucker, 2014). Interest has been driven largely by Shanghai's remarkable performance on PISA. Due to its PISA performance, Shanghai has been cited as a successful society in various education reports (e.g., Jensen, Sonnemann, Roberts-Hull & Hunter, 2016; Liang, Kidwai & Zhang, 2016). Yet little is known about key factors, such as collective teacher efficacy (CTE), which has been touted as a precursor to effective teaching (Dohonoo, 2018).

Grounded in social cognitive theory (Bandura, 1993), CTE is an emergent school level property resulting from the dynamic interaction among educators. Specifically, the idea that combined efforts will have greater influence over student outcomes than independent efforts is supported by Goddard (2003) and Hattie (2016) who claim CTE is a significant predictor of effective teaching practices and student academic attainment. Recent research validates collective teacher efficacy as a strong predictor of student learning (Bandura, 1993; Tschannen-Moran & Barr, 2004).

A faculty who strongly believe in their collective *do what it takes* to achieve set goals establishes a highly efficacious school, which fosters conjoint capabilities to influence student learning and subsequently increase student achievement. A shared belief is operationalised as two key malleable elements – collective assessment of teachers' abilities are weighed against an analysis of the teaching task in context (Tschannen-Moran, Salloum & Goddard 2015). Therefore, collective teacher efficacy is context specific because it requires teachers to analyse the teaching task in context. Goddard et al. (2000) postulate,

*“perceptions of a group capability to successfully educate students results when teachers consider the level of difficulty of the teaching task (in relation) to their perceptions of group competence.” (p. 485)*

An analysis of a teaching task involves an assessment of the contextual climate: student behaviour, community support, emphasis on academic achievement and classroom expectations. This is then measured in relation to an assessment of teaching abilities. Teachers' analyse their colleague's competence of teaching skills, training, and expertise. The interaction of these two domains (teaching task and teaching competence) determine whether a faculty has the capacity and capability to achieve their most important objectives – appropriate growth in student learning and to successfully educate students (Goddard et al., 2000).

From a theoretical point of view, Bandura (1997) posited that teachers' beliefs in group conjoint capabilities are strongly related to their effective instructional practice. A great deal of empirical studies have shown that schools with a high level of collective efficacy have been found to be staffed by educators who (i) work collaboratively (Lee, Zhang & Yin, 2011), (ii) are highly committed to sharing the same drive and goals for instructional development (Klassen, Usher & Bong, 2010), (iii) tend towards being more persistent with struggling students (Goddard & Goddard, 2001), (iv) have a stronger ability to endure and persevere when faced with obstacles (Bandura, 1997), and (v) implement effective teaching and learning strategies promoting successful learning experiences (Hattie, Masters & Birch, 2016). When considering CTE has been explored in multiple studies, Hattie (2016) suggests that it can produce close to four years of student growth in learning in one academic year ( $d=1.57$ ).

Given the positive effects of CTE, it is clearly worth cultivating in any educational setting. However, the studies reviewed to reach this conclusion focus primarily on local schools in western countries (Eells, 2011). This restricts the generalisability of findings and may not be applicable for international

schools in non-western contexts. To date, researchers have not explored collective teacher efficacy in international schools in Shanghai. Moreover, because CTE is sensitive to the contextual environment; this study will add to existing research and explore CTE in an international school situated in a non-western country and understand how it manifests in the practice of expatriate teachers in such a setting.

### **The Research Context - International Schools in Shanghai**

In 1979 China opened its borders to foreign investors and Shanghai became inundated with the relocation of executives. The number of executives from leading businesses continued to grow into the 90s and 00s. As many expatriates brought their families to live in Shanghai, western style schools were established which employed mainly western teachers and adopted the curriculum and teaching pedagogy of their home country. To put the focus of this research in context, it is important to consider how globalisation has underpinned the dramatic growth of international schools world-wide. For example, as of 2016, there are 8,000 international schools teaching 4.85 million students. In Asia, these include significant numbers of schools in Japan (233 schools), Thailand (172), Hong Kong (171) and Malaysia (142). Of most relevance to this study is that China has 530 international schools (Sharma, 2016).

It should be acknowledged, however, that there is debate about what constitutes an 'international school' (Bunnell, Fertig & James, 2016). Hayden and Thompson (2013) categorise three types of international schools, Type A - Traditional; Type B - Ideological; Type C - Non-Traditional. Type A schools were established to meet the pragmatic needs of an increasing global market. These schools primarily cater for globally mobile expatriate families and provide an English-medium curriculum adopted from western English-speaking countries. Expatriate families account for 80 percent of the student body. Type B schools emerged from an ideological global perspective. These schools focus on 'international mindedness' which permeates teaching and learning. The International Baccalaureate (IB) Programme includes Primary Years Programme (PYP), Middle Years Programme (MYP), Diploma Programme (DP) and Career-related Programme (CP) supports this philosophy (Hill, 2014). Over the last 30 years, most Type A schools have evolved into Type C schools, with 80 percent of students now drawn from local families, and 20 percent from expatriate communities (Brummitt & Keeling, 2013). This dramatic shift in student demographics provides teachers with different teaching and learning challenges than in Type A or Type B international schools.

Despite their type, international schools tend to be staffed by multinational teachers who bring with them varying cultural norms and educational backgrounds. There are currently around 402,000 international teachers with schools generally employing teachers from the United Kingdom, Australia, Ireland, Canada, New Zealand and South Africa (Bunnell, 2017). This mix makes for a multinational, diverse staff who can share their rich experiences, teaching strategies and pedagogies. These expatriate teachers generally live in close

proximity to their schools and colleagues and often socialise together. Given the unique characteristic of expatriate teachers (Bailey, 2015; Holopainen & Björkman, 1998; Joslin, 2002; Ross, Hogaboam-Gray & Gray, 2004), it is evident that many possess a strong belief in their perceived capabilities. Furthermore, many international schools hire ‘career professionals with a family’ because educators who are both teachers and parents have a special commitment to their schools. Zilber (2005) reported that one parent educator stated,

*“After all, the school was not only the place where we work and where our careers lay, but it was – far more importantly – the place where our son grew up. It was to our advantage in every way to make X the best school it could be.” (p. 19)*

In general, teachers in international schools need to be flexible and to adjust to their cultural contexts with independence and openness and adapt the way they teach to cater for international students who may speak two or three languages. Teachers do not work in isolation in international schools and are influenced by the social structures around them. Relevant to this study, Joslin (2002) stated,

*“no matter how well prepared, technically capable or socially adept in a multicultural environment the teacher is as an individual, a school may only be as good as the combined efforts of its staff.” (p. 52)*

This would suggest that international schools have a unique and collaborative culture, however, there is a dearth of evidence relating to collective teacher efficacy in this context.

### **Collective Teacher Efficacy**

Bandura (1977) was the first to extend efficacy beliefs to the collective and demonstrate a significant relationship between collective confidence levels and success. Collective efficacy (CE) is defined as,

*“a group’s shared belief in its conjoint capabilities to organize and execute the course of action required to produce given levels of attainment.” (Bandura, 1997, p. 477)*

CE refers to the “*performance capability of a social system as a whole*” (Bandura, 1997, p. 469). At a school level, CTE refers to teachers’ group beliefs in their abilities to plan and execute behaviour promoting student learning.

Bandura (1986) stipulates four types of experiences which shape our efficacy beliefs – mastery, vicarious modelling, social persuasion, and affective states. Beliefs in the collective actions of groups powerfully influence school organisations and establish the motivational and behavioural properties of teacher performance within schools (Tschannen-Moran et al., 2015). More specifically, the current research reviewed suggests there are a number of school characteristics associated with CTE beliefs (See Table 1).

Table 1. School characteristics associated with CTE

Characteristics	Description	References
Motivate Students to Learn	Teachers who are highly confident in one another's ability to motivate students strengthen beliefs in their collective power. Enthusiastic and motivated learners are a result of teachers fostering student autonomy. Highly efficacious teachers reinforce student-centered methods.	Donohoo (2017); Leroy, Bressoux, Sarrazin & Trouilloud (2007).
Effort and Persistence	When collective teacher efficacy is high, teachers exert more effort with struggling students and work longer to help students grasp concepts. Effort, persistence, and preparation are important factors contributing to the development of groups' beliefs in their conjoint capabilities. When CTE is low, teachers feel they have done all they can and attribute failure to students' inability to learn.	Goddard, Hoy, Woolfolk Hoy (2000); Tschannen-Moran & Barr (2004); Ashton & Webb (1986); Donohoo (2017).
Community Partnership	Community and parental partnerships are strong in schools with high collective teacher efficacy. When community members engage in collective action, their combined capacity is greater than the capacity of any individual.	Ross and Gray (2006).
High Expectations	Teachers' expectations powerfully impact student learning. High expectations lead to increased performance. This is explained by the 'Pygmalion effect' whereby high expectations are followed by effective teaching strategies producing student learning that confirms initial expectations. If high expectations for academic success are part of the normative environment of an organisation, appropriate behaviours will be encouraged and those not aligned to these goals will be sanctioned.	Hattie (2012); Rosenthal and Badbad (1985) Donohoo (2017); Goddard, LoGerfo & Hoy(2004).
Meaningful Collaboration	When teachers construct knowledge in response to student data, CTE beliefs are elevated. Collective ownership tends to be more pronounced during collaborative instructional inquiry because teachers rely on one another.	Filbin (2008); Ermeling & Graff-Ermeling (2016).
Shared Knowledge	Teachers' sharing of knowledge boosts efficacy which improves teaching	Newmann, Rutter & Smith

	effectiveness. CTE is significantly related to teacher's knowledge about one another's work. CTE is encouraged when teachers view their colleagues as people capable of making an impact on student learning.	(1989); Donohoo (2017)
Collegiality	Social cohesion and CTE are positively correlated. The relationship between teacher networks and student achievement is mediated by beliefs about CTE. Well-connected teacher networks are related to strong efficacy that leads to student achievement.	Brawley, Dorsch, Paskevich & Widmeyer (1999); Moolenaar, Slegers & Daly (2012).
Systems of Interventions	Teachers have a stronger sense of both self-efficacy and collective efficacy in schools with effective systems of intervention and a culture of enrichment. Teachers' perceptions of their own positive collective impact on student achievement is strengthened in such a culture.	DuFour, DuFour, Eaker & Karhanek (2010).
Shared Collective Problems	A groups' confidence in capacity to teach all students is strengthened by overcoming obstacles, resilient responses and successful goal attainment. The depth of teachers' beliefs propels actions either strongly or weakly towards goals. High CTE within a collaborative climate is related to teachers' sharing of goals and collective problem solving.	Bloomberg & Pitchford(2017; Mackenzie (2000).
Interdependency	The interdependency of teachers builds their CTE beliefs. Through sharing problems and collectively finding solutions, teachers gain confidence in their capacity to overcome challenges. Teachers are truly collaborative when engaged in interdependent teaching.	Kurz & Knight (2004); Little (1990).
Collective Teacher Efficacy - the behaviour	The effort teachers exert and their persistence in responsively teaching struggling learners is influenced by their CTE beliefs. Productive patterns of teaching behaviours are a result of CTE.	Tschannen- Moran et al., (2015); Donohoo (2017).

Consideration of the characteristics in Table 1 advances our understanding of the nature of collective teacher efficacy and what may be observed in schools if CTE is present. This study, then, aims to explore these school characteristics in

an international setting using a teacher survey tool, followed-up by a small number of in-depth semi-structured interviews.

## **Methodology**

A mixed-method approach was utilised in this study. The design involved two phases, survey data collection, then further exploration through semi-structured interviews. The instruments and procedures employed are described in the next sections.

## **Survey Development**

Commonly, CTE is measured through questionnaires. These questionnaires require participants to indicate their level of agreement with items which refer to the capacity and capability of faculty members, students and the community. Valid and reliable instruments of CE include Goddard's (2002) CE scale and Tschannen-Moran's (n.d.) CE belief scale. Goddard's CE scale was adapted for this study because it has more predictive power and it's closely aligned to school characteristics associated with CTE (Table 1).

Adaptations were made to Goddard's (2002) collective efficacy survey to align it with the context of a Shanghai international school. As teachers in international schools spend less time on major behavioural issues, items omitted related to student safety and drug and alcohol abuse. Two additional items pertaining to the task analysis dimension were added. These were "There is a strong expectation for persistent effort and academic success" and "Teachers hold high expectations that students participate in all learning tasks". Considering that contextual circumstances are important for the formation of CTE beliefs, these items were designed to capture teachers' assessment of the teaching task, in this context. This includes judgements of student capability and family support. In total the modified survey contained ten items assessing two dimensions of the CE construct. The survey used a 6-point Likert scale ranging from 1= "strongly agree" to 6 = "strongly disagree". These scores were reversed to calculate the mean. Interpretative statistics explored the construct and significant elements related to it.

## **Semi-Structured Interview: Development**

Semi-structured interviews provide insightful information by illuminating the underlying rationales for teachers' actions which attribute to CTE. These interviews were conducted with a convenience sample emerging from the pool of respondents (expatriate teachers). In total nine teachers agreed to be interviewed over a three-week period. An interview protocol was designed to guide the exchange. Questions were carefully developed to elicit teachers' opinions regarding their experience with CTE in their school context. Teachers were asked to focus on the nature of CTE in their setting, consider perceptions of teachers' combined capabilities to achieve successful outcomes and the nature of the relationship with context. Interviewees were representatives of the range of middle (n=1), high (n=2) and specialist teachers (n=6).

Thematic analysis was carried out using an adapted version of Miles and Huberman's (1994) thematic framework. Both deductive and inductive reasoning were applied to identify themes based on literature and CTE survey responses. Once interviews were transcribed, the data was analysed and explored using NVivo. A two-level scheme was applied. The first level involved an analysis of etic codes based on the CTE literature review. The second level discovered emic codes which were nested within the etic codes (Miles & Huberman, 1994, p.61).

## **Sample**

A convenience sample of 100 expatriate teachers from one international school in Shanghai resulted in survey responses from 53 teachers who completed an electronic CTE survey. The school consists of elementary, middle, high and specialist teachers. Surveys were administered via email using Qualtrics. Teachers completed the survey during a faculty meeting. Responses to surveys were voluntary.

## **Context of the study**

The large independent, non-for-profit international school consists of approximately 1,500 students aged between 3 - 18. All students hold foreign passports and approximately 70-80 percent are culturally and ethnically of Asian descent. The remaining 20-30 percent are from western cultures. The school is situated on a large campus with state of the art facilities including: performing arts center, recording studios, black box studios, science labs, multiple libraries, cafeterias, aquatic center, baseball fields, track, basketball courts, design studios including 3D printers and computer labs and classrooms that are fully equipped with the latest technology. There are nearly 200 faculty members with more than 50 percent having earned post-graduate degrees. The teaching staff consist of expatriate and host country (national Chinese) teachers. The Mandarin program is taught by the host country (national Chinese) teachers. The expatriate teachers deliver an English-medium curriculum in all other subject areas, excluding French and Spanish. A large majority of the expatriate teachers are from western cultures and have taught in several international schools across the globe.

## **Results**

This section presents the findings of the first data collection phase; the survey. The CTE survey means, standard deviations, multivariate analysis of variance and factor structure are displayed. Following this, the findings of the second data collection phase; semi-structured interviews are presented. The teacher narratives highlight three main aspects of CTE in an international school context. The results of the two phases are then further explored and described through one triangulated lens.

## Survey Results

Overall the data collected from the survey demonstrate the presence of CTE. The survey was administered to approximately 50 percent of the whole school group and was found to be valid. The 53 respondents included elementary (n=21), middle (n=10), high (n=6), and specialist teachers (n=16). Teachers' level of experience was recorded as medium (graduate and proficient teachers, n=21) or high (accomplished and lead teachers, n=32). The number of years employed at the international school ranged from 1-3 years (n=15), 3-6 years (n=21) and 7+ years (n=17).

**Table 2. Mean and standard deviations of CTE questionnaire**

Items	Mean	SD
CTE1. Teachers in this school are confident they can motivate any student.	4.98	.73
CTE2. Teachers in this school do not give up, even if a child is resistant to learning.	4.79	.89
CTE3. Teachers will persist with adjusting instructional strategies if a child does not learn the first time.	4.72	.94
CTE4. Teachers believe that every child can learn.	5.11	.90
CTE5. Teachers implement effective learning strategies (e.g. offer timely feedback, develop challenging and interesting course work, support students to meet high expectations and reward success).	4.89	.84
CTE6. Teachers in this school have what it takes to get the child to learn.	5.11	.70
CTE7. Students arrive to school ready to learn.	5.19	.65
CTE8. These students are strongly supported by their community and this helps to ensure learning.	4.98	.64
CTE9. There is a strong expectation for persistent effort and academic success.	5.43	.66
CTE10. Teachers hold high expectations that students participate in all learning tasks.	5.30	.75

Table 2 presents the means and standard deviations of the 53 participants' ratings of the 10 items comprising the CTE survey. The data display a mean score ranging between 4.72 and 5.43. This suggests a high level of CTE is present among expatriate teachers. The distribution of the scores relative to the mean, ranged from .64 to .94 standard deviations. This indicates that teachers generally believe their fellow faculty members and students have the capacity and capability to execute the course of action required to achieve success.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine whether there were any differences between teacher variables in terms of teaching assignment (elementary, middle and high, specialist), level of experience (medium, high) and years of employment (low, medium, high) on CTE survey response scores.

Table 3. MANOVA Results, Wilk's Lambda

Variables	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Teaching assignment	.572	1.321 <sup>b</sup>	20	82	.190	.244
Level of experience	.765	1.291 <sup>b</sup>	10	42	.267	.235
Years of employment	.573	1.303 <sup>b</sup>	20	82	.201	.241

Table 3 results indicate there were no significant differences between teaching assignment, level of experience and years of employment on the CTE survey responses.

A factor analysis was utilised to determine the relationship between the items and to understand the key elements with the construct. Specifically, a principal axis factor analysis with a varimax rotation was chosen because of the exploratory nature of the study. Two factors emerged from the CTE items (eigenvalues of 4.456 and 2.035) that explained a total of 57.074 percent of the variance. Further analysis of the factor loadings revealed items that loaded with factor one or two linked to the unique dimensions of Group Competence (GC) or Task Analysis (TA). The Kaiser-Meyer-Olkin (0.787) and Bartlett's Test of sphericity (sig = .000) signified the appropriateness of using factor analysis on data. The internal consistency (alpha) of the CTE survey was 0.85. The internal consistency (alpha) of Factor One (Group Competence) was 0.89 and Factor Two (Task Analysis) was 0.75.

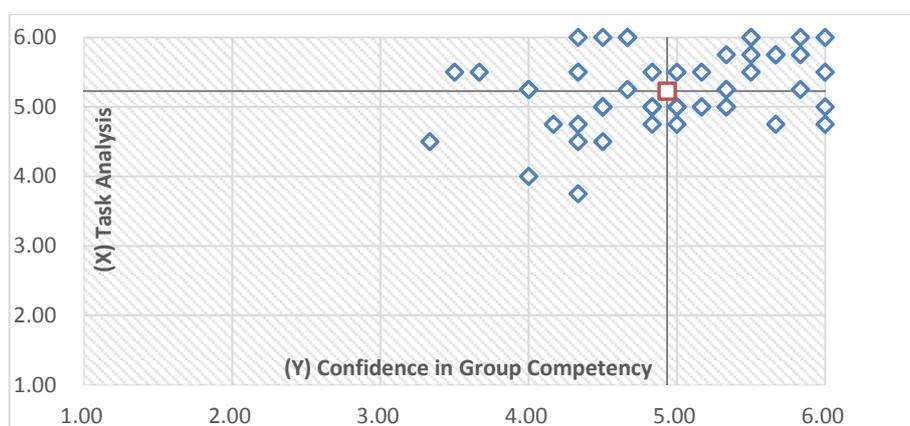
Table 4. Two-factor rotated solution

Item No.	Factor One	Factor Two
	Group Competence	Task Analysis
CTE1	<b>0.628</b>	0.306
CTE2	<b>0.907</b>	-0.013
CTE3	<b>0.718</b>	-0.018
CTE4	<b>0.778</b>	0.068
CTE5	<b>0.704</b>	0.461
CTE6	<b>0.689</b>	0.393
CTE7	0.206	<b>0.467</b>
CTE8	0.031	<b>0.530</b>
CTE9	-0.035	<b>0.924</b>
CTE10	0.239	<b>0.809</b>

The results indicate items loaded on two dimensions. Notably, CTE1 to CTE6 questions captured the strength of teachers' belief in their group's capability. This relates to a sense of confidence in the collective efforts of the group as a whole. Questions CTE7 to CTE10 determine the strength of group capacity to function and operate within social and contextual factors. These include behaviour of students and their readiness for learning (CTE7), behaviour of community and degree of learning support, (CTE8), behaviour of the

organization and emphasis on academic success (CTE9) and teacher's classroom learning expectations (CTE10).

The correlation between the two factors - Group Competence and Task Analysis ( $r = 0.313$ ) was evident, but weak. The data were plotted on a four-quadrant matrix for additional evaluation, demonstrating a clear distinction between both factors. As displayed in Figure 1, teachers can be high in TA and low in GC (Quadrant II), or high in GC and low in TA (Quadrant IV), or both high (Quadrant I), or both low (Quadrant III) for GC and TA. An analysis of each quadrant uncovered valuable information which may be transformed into change-generating action by indicating that GC and/or TA require development.



**Figure 1. Group Competence and Task analysis quadrant matrix.**

Table 5 presents scores that further illuminate the relationship between GC and TA. Results from the quadrant model show a positive, weak, linear relationship with outliers between the two dimensions, GC and TA. When CTE is displayed in a four-quadrant model, the graphic offers a systematic way of relating TA and GC and expands our understanding of teachers' CTE beliefs by magnifying the differences between TA and GC. Once this information was analysed, the findings and emerging constructs were further explored through semi-structured interviews.

**Table 5. Teachers in each quadrant**

Quadrant	TA	GC	N	Percent
Quadrant I	+TA	+GC	16	30.19
Quadrant II	+TA	-GC	11	20.27
Quadrant III	-TA	-GC	15	28.30
Quadrant IV	-TA	+GC	11	20.75

## Semi-Structured Interview Results

The semi-structured interviews began with questions about teaching roles and the number of years employed at the school. Of the nine respondents, six were specialist teachers and worked across two or more schools (elementary, middle and high), two represented the high school and one teacher worked in the middle school. The interviewees years of employment represented 1-3 years (n=2), 3-6 years (n=3) and 7+ years (n=4). There were no significant patterns which indicated substantial differences between teaching groups and/or years of employment.

Teachers unanimously agreed that CTE existed in their school, however, it occurred in varying degrees across the college. Respondents' comments included,

*"...yes definitely, but not consistent," "differs from team to team," "in pockets, yes."*

The interviews explored actions related to CTE in order to understand how it manifests and three main themes emerged. The first theme highlighted a strong (i) interconnected expatriate community; the second validated the importance of (ii) collaboration and knowledge of each other's strengths, weaknesses, and passion for teaching; and a final theme articulated the impact of (iii) academic pressure and expectation for high academic achievement.

### (i) Interconnected Community

The expatriate community is a highly interconnected society. Teachers live, work, and play in close proximity. All teachers discussed the benefit of living in an *"expat bubble,"* both professionally and personally. On a personal level, teachers indicated that friends become family, this gave them a sense of belonging. One respondent explained,

*"...we live in a bubble. I think it's a good thing because you feel like a family...home away from home. Your friends, your colleagues, become your family."*

A respondent suggested personal relationships with colleagues have made a *"huge impact"* on teaching ability and being a foreigner makes it harder to find a community outside of school. On a number of occasions four teachers felt clear boundaries between workplace friendships were harder to establish. There has been preferential treatment because of relationships, but, for the most part, it promotes strong social cohesion and trust among faculty. One respondent explained,

*"we teachers, we need to take care of each other."*

This supportive environment deepens relationship and reinforces beliefs in collective action to bring about positive change. Living in this *"bubble"* enables teachers to gain deeper insights into one another's skill set, which may help build collective efficacy.

**(ii) Collaboration and knowledge of each other's strengths, weaknesses, and passion for the teaching**

Teachers spoke in agreement about their collective capabilities to successfully educate students:

*"I think this (collaboration) is a strength of this community...and (we) have a good understanding of each other's capability."*

This strong collaborative culture builds capacity among teachers. Frequency of collaboration builds capacity because teachers have more opportunity to engage and learn about one another:

*"they do encourage ... collaboration in our ... staff meetings, as much as possible."*

Participants acknowledge a shared approach, and this has an impact on student learning:

*"...the results are better when people work collaboratively."*

The majority of teachers articulated the idea that collective action can produce change. Respondents talked about collective knowledge and (sharing) different lenses and perspectives leading to effective implementation of instructional practice thus increasing student learning experiences.

The teachers explained they have regular professional learning communities (PLC) meetings, it was perceived that the meeting protocols and norms ensured high-quality peer interaction and focus on evaluating impact. The protocols enable a systematic approach to sharing and problem solving, which builds consensus and collective capability:

*"we have our norms of collaboration..."*

Evidently, not all groups use PLC time to collaborate and discuss high quality teaching and learning. Instead time is dominated by discussions about sharing resources:

*"Guys, can we talk about ordering?"*

The shared experiences among expatriate teachers living and working together promotes strong relationships:

*"Everybody's in the bubble. So, with relationships you tend to rely on each other..."*

Evidently, all respondents claimed teachers were devoted to their profession,

*"teachers at our school are very passionate."*

It was felt that this can be empowering and hence increase CTE. Seven teachers declared their faculty have what it takes to motivate students to learn. Seven respondents stated teachers would "never give up" and "work hard" preparing

programs igniting enthusiasm for learning. There was consensus in the belief of collective responsibility, as shown by comments like,

*“when we talk about students, they're all our students,” and this makes a “huge impact on student learning.”*

All participants affirmed student achievement was a direct result of *“incredibly hard working”* teachers. Discussions indicated teachers were highly capable and equally motivated and sustain high level of persistence. This is evidenced by comments such as,

*“teachers here work their butts off.”*

There was not complete agreement among respondents that teachers adapt learning and differentiate effectively to reach struggling learners. Two teachers indicated there was variance in capability among faculty members and felt that sometimes the teacher referred lower achieving students to learning support before adjusting their own instructional strategies. One respondent recalled a recent conversation with a faculty member who said,

*“this kid just needs to not be here because they haven't got what it takes.”*

In contrast, other interviewees expressed the opinion that children were provided with opportunities to *“bloom”* and they didn't see any *“left”* behind. Respondent Four observed evidence of how teachers work together to design engaging lessons during planning time. She stated,

*“I'm astonished ... how much effort they've (teachers) put into designing those lessons.”*

The ability to create meaningful learning experiences feeds into an understanding that success can be achieved together. Several respondents discussed supportive structures in place for collective action in response to defiant or low achieving students. This enabled teachers to work together to deal with discipline and academic issues. As one teacher reflected,

*“there's a whole response to intervention (RTI) and a students of concern (SOC) group.”*

There was also evidence from the interviews to suggest confidence in group members' teaching capabilities. Teachers perceive their faculty as *“highly skilled,”* in pedagogy and instructional strategies and are *“incredibly masterful, knowledgeable, experts”* in content.

### **(iii) Impact of academic pressure and expectation for high academic achievement.**

Teachers unanimously claimed the culture is one of high academic standards. A private international school with high tuition fees comes with an expectation that teachers will produce high achieving students. Respondent Two states,

*"You put a B in the high school, you've got to defend it...parents want to know why it's not an A."*

Pressure for high grades come from parents, students, and the school. Social norms appeared to dictate acceptable behaviour within a group. When social cohesion is strong, it was felt that teachers are influenced by one another and enact behaviours that are deemed necessary for successful collaboration:

*"...when they see other people do it then (they say), 'Oh I have to do it'."*

This contributes to the formation of efficacy beliefs as teachers regulate their choice of behaviour according to the norm of the group. Evidently, there is a belief system among staff which shapes their behaviour and the environment.

### **Data Triangulation**

Our focus of the research was to explore the construct of collective teacher efficacy among expatriate teachers in an international school in Shanghai. Two methods were employed: a survey, yielding a comprehensive picture of the schools' level of CTE, and interviews, providing insights on CTE. Considering these results from one triangulated lens allows for an exploration of convergent and divergent perspectives. The integration of both methods provided several consistent and convergent results, these are explored in the following section.

The survey data and interviews corroborated findings indicating the existence of CTE as motivating students to learn, effort and persistence, community partnership, high expectations and shared knowledge. There is consistency between methods comparison, and both sets of methods provide similar results. While there were not any discrepancies, the interviews provided additional important contextual information explaining how CTE emerged in an international school setting, including collaboration, collegiality, intervention systems, shared collective problems and interdependency. Table 6 below demonstrates the relationship between both the survey and the interviews.

**Table 6. Integration of survey and semi-structured interviews.**

<b>Presence of CTE</b>	<b>Survey</b>	<b>Interviews</b>
Motivating Students to Learn	CTE1 high mean score, low standard deviation.	Unanimous agreement. All children enjoyed being in classrooms and teachers ignited passion for learning.
Effort and Persistence	CTE 1-6 high mean score, low standard deviation.	Majority expressed they can influence student learning. Teachers spoke highly about one another's capability, knowledge, and skill set.  Some teachers reported lower-achieving students were referred to special assistance for assessment unnecessarily.

Community Partnership	CTE 8 & 7 high mean score, low standard deviation.	All teachers stated families are engaged in community activities which supports student learning. Parents are active participants in their child's education.
Collective High Expectations	CTE 9 & 10 high mean score, low standard deviation.	All teachers conveyed high expectation for academic success. Challenging, appropriate goals are set for students.
Share Knowledge	CTE 5 high mean score, low standard deviation.	Most teachers stated collaborative sessions promoted sharing experiences and expressing concerns.
Collaboration	N/A	All teachers engaged in collaborative lesson planning, discussing teaching strategies and sharing resources. Some teachers engaged in deeper conversations, determining resolutions through shared inquiry, problem solving and reflecting.
Collegiality	N/A	All teachers engaged in school community activities. Most teachers live in the same apartment building and often socialise together.
Systems of Interventions	N/A	Teachers intervene and groups get together to collaboratively discuss students of concern and develop effective improvement plans.
Shared Collective Problems and Solutions	N/A	A number of teachers mentioned teaching and learning problems were shared and systems were in place to work together to overcome challenge.
Interdependency	N/A	Teachers lean on one another for personal support. Collaborative groups develop and plan lessons, share resources and teaching strategies. On-site coaches are available for support (this is an optional resource for teachers).

As is demonstrated there are many elements that relate to the literature. The additional elements are specific to the context of this international school in Shanghai.

## Discussion

This study explored the construct of CTE and how this manifest among teachers in an international school in Shanghai. The results not only demonstrated the presence of CTE but also revealed that high levels were evident. Further analysis suggested conceptualising CTE as two distinct constructs – Group Competence and Task Analysis. Isolating the two constructs magnifies the variance between capacity and capability between groups of teachers. Three specific themes emerged from interviews further explaining the construct – interconnected expatriate community; collaboration and knowledge of each other’s strengths, weaknesses, and passion for teaching, and thirdly, academic pressure and expectation for high academic achievement. Both the interview and survey results provided strong evidence supporting the presence of CTE, including teachers’ confidence in their colleagues’ abilities to motivate students, partnering with the community and knowledge sharing. Significantly, teachers acknowledged capability and capacity occurred in varying degrees supporting the importance of the quadrant model analysis. There was a strong suggestion that the depth to which teachers collaborate and work interdependently impact their shared belief that collective actions can positively influence student outcomes. It could be argued this close-knit teaching community actually facilitated CTE within the school context.

Interestingly, the analysis also revealed that the ten items measure two conceptually distinct constructs – Group Competence and Task Analysis. Goddard (2002) posits a one-factor model. According to Bandura (2000), efficacy beliefs determine how the context is interpreted which affects the course of action the group will take and their level of persistence in pursuit to overcome obstacles. Teachers may feel highly efficacious and confident in their group abilities and they may behave differently depending on capabilities and motivation of children. The reverse could also be considered, whereby teachers do not have confidence in the abilities of group members, although they have highly competent and motivated students. Isolating the two constructs of collective teacher efficacy will enable a more detailed analysis of Group Competence and Task Analysis.

In this setting, teachers demonstrated confidence in one another’s ability to motivate students. This is congruent with past research on highly efficacious schools. Here teachers work to effectively motivate student learning which strengthens beliefs in their conjoint capabilities to implement strategies enabling high student achievement (Donohoo, 2018; Hattie et al., 2016). Another valuable aspect of CTE pertains to effort and persistence with struggling learners. While both methods corroborated this, the interviewees had differential responses. Some teachers discussed working harder to plan appropriate courses of action. Others placed blame on children’s inability to learn. Persistent teachers viewed student failure as an incentive to work harder and believe their collective actions influenced students. This supports Ashton et al. (1986) research regarding the relationship between higher teacher endurance with struggling learners and CTE beliefs. In contrast, those teachers who resided to placing blame on the child absolved themselves of responsibilities to teach struggling learners.

Donohoo (2017) proclaims CTE is low when teachers attribute failure to the inabilities of the student. Despite a high presence of CTE, there is evidence of variability in capacity and capability among staff.

It appears CTE is strengthened by the high expectations present in this context. An emphasis on high academic achievement results in setting higher learning goals for students and increases collective beliefs in students' abilities for higher academic attainment. Students value this shared norm and exert effort to meet the high expectations. High expectation for academic success results in a self-fulfilling prophecy. Previous studies found a faculty who work together and implement productive instructional strategies impacts student performance and reinforces high expectation (Rosenthal et al., 1985). This strengthens collective efficacy and confirms teacher's capacity to work together to effect change (Donohoo, 2017). This international setting provides opportunities for the community to experience the strength of their collective efforts. Ross et al. (2006) found CTE was high in schools who partnered effectively with parents.

In addition to the integration of data, interviews provided further insights into collaboration, collegiality, systems of interventions, shared problems, and interdependency. While collaboration was evident across the school, discussions were dominated by sharing of resources and instructional strategies. In contrast, collegiality and reliance on one another for personal advice was strong among expat teachers. This is aligned with Moonlenaar et al.'s (2012) study which signifies the importance of dense teacher networks and CTE. Shared responsibility and systems of interventions enabled teachers to engage in purposeful conversations about student progress. DuFour et al. (2010) claim teachers gain more certainty in their collective abilities when systems of interventions are in place. The study highlights the importance of sharing knowledge about daily work and designing and assessing learning with CTE. Newman et al. (1989) also found a strong correlation between teacher knowledge about one another's work and perception of capability to influence student learning among faculty. Similarly, Kurz and Knight (2004) point out that interdependency strengthens a group's confidence in one another's capability by working through shared problems and achieve depth of learning. Bloomberg et al. (2017) argues that belief in group capacity emerges as teams work through demanding situations in pursuit of goal attainment.

While it appeared that there is a continually emerging or growing culture of collaboration among teachers, evidence suggested that discussions were still dominated by sharing ideas and teaching resources as opposed to inquiry investigations. There is limited evidence of teachers coming together to evaluate their collective impact. The challenge in many schools pertains to shifting discussions from surface talk about student's work to deeper conversations about learning. Thinking like a team and building interdependency includes unanimous pursuit of action and the contribution of each member, debates about important teaching and learning processes, purposefully organised groups, deeper understanding through collective action, transparency and problem solving (Little, 1990; Donohoo, 2017; Ermeling & Graff-Ermeling, 2016).

## Limitations of the Study and Suggestions for Future Research

There were some limitations to this exploratory study. It is acknowledged this is one school and importantly only 53 teachers responded to the survey. The interviews provided descriptive information which enabled corroborations and further supported beliefs in collaborative efforts supporting the teaching and learning process. However, this does add to the body of knowledge in relation to CTE in international schools and warrants further investigation of the notion that an international school context may facilitate CTE.

## Conclusions

Teachers' beliefs of group capabilities in this context matter. Highly efficacious schools believe their collective actions will positively influence student learning. Collective teacher efficacy is worthy of the attention of all school leaders. Due to the context specific nature of CTE, it is important to explore this notion in a variety of settings. International schools in Shanghai are underexplored contexts. This research set out to extend results of previous studies and provide a preliminary understanding of CTE among expatriate teachers.

Contextual conditions play a crucial role in the construction of CTE beliefs. International school leaders would benefit from more research in this context in order to further understand how to facilitate collective efficacy beliefs among teachers. The results revealed that CTE is not only present but high among expatriate teachers. Group Competence and Task Analysis are key to understanding CTE in this context. Three key factors emerged to help explain these results, a strong interconnected expatriate community; collaboration and knowledge of each other's strengths, weaknesses, and passion for teaching; academic pressure and expectation for high academic achievement. The close quarters of expatriate teachers may impact on CTE positively. In sum, understanding collective efficacy requires an awareness of how teachers operate together and focus on what they actually do when they engage in group work. As Bandura (2000) wrote;

*"A group's attainments are the product not only of shared knowledge and skills of its different members, but also of the interactive, coordinative, and synergistic dynamics of their transactions." (p.75)*

## References

- Ashton, P., & Webb, R. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. New York: Longman.
- Bailey, L. (2015). Reskilled and "Running Ahead": Teachers in an international school talk about their work. *Journal of Research in International Education*, 14(1), 3–15. <https://doi.org/10.1177/1475240915572949>
- Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037//0033-295x.84.2.191>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs NJ: Prentice-Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning.

- Educational Psychologist*, 28(2), 117-148.  
[https://doi.org/10.1207/s15326985ep2802\\_3](https://doi.org/10.1207/s15326985ep2802_3)
- Bandura, A. (1997). Self-efficacy: the exercise of control. New York: W.H Freeman
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current directions in psychological science*, 9(3), 75-78. <https://doi.org/10.1111/1467-8721.00064>
- Bloomberg, P & Pitchford, B. (2017). Leading impact teams. Thousand Oaks: Corwin.
- Brawley, L., Dorsch, K., Paskevich, D & Widmeyer, W. (1999). Relationship between collective efficacy and team cohesion: conceptual and measurement issues. *Group Dynamics: Theory, Research, and Practice*, 3(3), 210-222.  
<https://doi.org/10.1037//1089-2699.3.3.210>
- Brummitt, N & Keeling, A. (2013). Charting the growth of International Schools. London: Bloomsbury Academic.
- Bunnell, T. (2017). Teachers in international schools: a neglected “middling actor” in expatriation. *Journal of Global Mobility: The Home of Expatriate Management Research*, 5(2), 194-202. <https://doi.org/10.1108/jgm-07-2016-0033>
- Bunnell, T., Fertig, M & James. C. (2016). What is international about International Schools? An institutional legitimacy perspective. *Oxford Review of Education*, 42(4), 408-423. <https://doi.org/10.1080/03054985.2016.1195735>
- Donohoo, J. (2017). Collective efficacy. How educators’ beliefs impact student learning. Thousand Oaks: Corwin.
- Donohoo, J. (2018). Collective teacher efficacy research: Productive patterns of behaviour and other positive consequences. *Journal of Educational Change*, 19(3), 323-345.  
<https://doi.org/10.1007/s10833-018-9319-2>
- DuFour, R., DuFour, R., Eaker, R & Karhanek, G. (2010). Raising the bar and closing the gap: Whatever it takes. Bloomington: Solution Tree Press.
- Eells, R. J. (2011). *Meta-Analysis of the Relationship Between Collective Teacher Efficacy and Student Achievement*. (Doctoral Dissertation) Loyola University: Chicago. Retrieved from [http://ecommons.luc.edu/luc\\_diss/133](http://ecommons.luc.edu/luc_diss/133)
- Ermeling, B & Graff-Ermeling, G. (2016). Teaching Better; igniting and sustaining instructional improvement. Thousand Oaks: Corwin.
- Filbin, J. E. (2008). *Examining the impact of changes in data driven teaching and leading on collective efficacy* (Order No. 3320581). Available from ProQuest Dissertations & Theses Global. (304631688).  
<http://search.proquest.com.ezp.lib.unimelb.edu.au/docview/304631688?accountid=12372>
- Goddard, R. (2002). A theoretical and empirical analysis of the measurement of collective efficacy: The development of a short form. *Educational and Psychological Measurement*, 62(1), 97-110. <https://doi.org/10.1177/0013164402062001007>
- Goddard, R. (2003). The impact of schools on teacher beliefs, influence, and student achievement: The role of collective efficacy beliefs. Greenwich: Information Age Publishing.
- Goddard, R & Goddard, Y. (2001). A multilevel analysis of the relationship between teacher and collective efficacy in urban schools. *Teaching and Teacher Education*, 17(7), 807-818. [https://doi.org/10.1016/s0742-051x\(01\)00032-4](https://doi.org/10.1016/s0742-051x(01)00032-4)
- Goddard, R., Hoy, W & Woolfolk Hoy, A. (2000). Collective Teacher Efficacy: Its Meaning, Measure, and Impact on Student Achievement. *American Educational Research Journal*, 37(2), 479-507. <https://doi.org/10.3102/00028312037002479>
- Goddard, R., LoGerfo, L & Hoy, W.K. (2004). High School Accountability: The Role of Perceived Collective Efficacy. *Educational Policy*, 18(3), 403-425.  
<https://doi.org/10.1177/0895904804265066>
- Hattie, J. (2012). Visible learning for teachers: Maximizing impact on learning. New York: Routledge.

- Hattie, J. (2016, July). Mindframes and Maximizers. Presented at the Third annual visible learning conference. Washington, DC. Abstract retrieved from <http://www.sagepublications.com/images/eblast/CorwinPress/PDF/AVL-program-2016.pdf>
- Hattie, J., Masters, D & Birch, K. (2016). Visible learning for teachers, maximizing impact on learning. International case studies of impact. New York: Routledge.
- Hayden, M & Thompson, J. (2013). International Schools: Antecedents, current issues and metaphors for the future. International education and schools: Moving beyond the first 40 years. London: Bloomsbury Academic.
- Hill, L. (2014). Internationally minded school as cultural artefacts: Implications for school leadership. *Journal of Research in International Education*, 13(3), 175–189. <https://doi.org/10.1177/1475240914556199>
- Holopainen, J & Björkman, I. (1998). Personnel Review The personal characteristics of the successful expatriate: A critical review of the literature and an empirical investigation. *Personnel Review Leadership and Organization Development Journal*, 34(1), 37–50. <https://doi.org/10.1108/00483480510578476>
- Jensen, B., Sonnemann, J., Roberts-Hull, K & Hunter, A. (2016). Beyond PD: Teacher Professional Learning in High-Performing Systems. Washington DC: National Centre on Education and the Economy. <http://www.ncee.org/wp-content/uploads/2015/08/BeyondPDWeb.pdf>
- Joslin, P., (2002). Teacher relocation reflections in the context of international schools. *Journal of research in international education*, 1(1), 33–62. <https://doi.org/10.1177/1475240902001001268>
- Klassen, R.M., Usher, E.L & Bong, M. (2010). Teachers' Collective Efficacy, Job Satisfaction, and Job Stress in Cross-Cultural Context. *The Journal of Experimental Education*, 78(4), 464–486. <https://doi.org/10.1080/00220970903292975>
- Kurz, T & Knight, S. (2004). An exploration of the relationship among teacher efficacy, collective teacher efficacy, and goal consensus. *Learning environments research*, 7(2), 111–128, <https://doi.org/10.1023/B:LERI.0000037198.37750.0e>
- Lee, J.C.K., Zhang, Z & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education*, 27(5), 820–830. <https://doi.org/10.1016/j.tate.2011.01.006>
- Leroy, N., Bressoux, P., Sarrazin, P & Trouilloud, D. (2007). Impact of teachers' theories and perceived pressures on the establishment of an autonomy supportive climate. *European Journal of Psychology of Education*, 22(4), 529–545. <https://doi.org/10.1007/bf03173470>
- Liang, X., Kidwai, H & Zhang, M. (2016). How Shanghai Does It: Insights and Lessons from the Highest-Ranking Education System in the World. Report. World Bank Group: DC. Retrieved from company database <https://doi.org/10.1596/978-1-4648-0790-9>
- Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record*, 91(4), 509–536.
- Mackenzie, S. (2000). Collective Efficacy and Collaborative Climate in Maine High Schools. (Doctoral Dissertation). The University of Maine: US. Retrieved from <http://digitalcommons.library.umaine.edu/etd>
- Miles, M & Huberman, A. (1994). Qualitative data analysis: An expanded sourcebook. Thousand Oaks: Sage.
- Moolenaar, N.M., Slegers, P.J.C and Daly, A.J. (2012). Teaming up: Linking collaboration networks, collective efficacy, and student achievement. *Teaching and Teacher Education*, 28(2), 251–262. <https://doi.org/10.1016/j.tate.2011.10.001>
- Newmann, F.M., Rutter, R.A & Smith, M.S. (1989). Organizational Factors that Affect School Sense of Efficacy, Community, and Expectations. *Sociology of Education*,

- 62(4), 221–238. <https://doi.org/10.2307/2112828>
- Rosenthal, R & Badbad, E. (1985). Pygmalion in the Gymnasium. *Educational Leadership*, 43(1), 36–39.
- Ross, J.A & Gray, P. (2006). Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy. *School Effectiveness and School Improvement*, 17(2), 179–199. <https://doi.org/10.1080/09243450600565795>
- Ross, J.A., Hogaboam-Gray., A & Gray, P. (2004). Prior Student Achievement, Collaborative School Processes, and Collective Teacher Efficacy. *Leadership and Policy in Schools*, 3(3), 163–188. <https://doi.org/10.1080/15700760490503689>
- Sharma, Y. (2016, February, 24). Asia drives demand for international schools. BBC News. Retrieved from <https://www.bbc.com/news/business-35533953>
- Tan, C., (2013). Learning from Shanghai: Lessons on achieving educational success. Springer: New York. <https://doi.org/10.1007/978-981-4021-87-6>
- Tschannen-Moran, M. (no date). Collective teacher efficacy belief scale. Retrieved from <http://wmpeople.wm.edu/asset/index/mxtsch/ctb>
- Tschannen-Moran, M and Barr, M. (2004). Fostering Student Learning: The Relationship of Collective Teacher Efficacy and Student Achievement. *Leadership and Policy in Schools*, 3(3), 189–209. <https://doi.org/10.1080/15700760490503706>
- Tschannen-Moran, M., Salloum, S & Goddard, R. (2015). Context matters. The Influence of collective beliefs and shared norms. In Martin, L.E., Kragler., Quatroche, D.J., Bauseman, K.L. *International Handbook of Research on Teachers' Beliefs*. pp. 301–316. <https://doi.org/10.4324/9780203108437>
- Tucker, M. (2014). Surpassing Shanghai: an agenda for American education built on the world's leading systems. *International Journal of Qualitative Studies in Education*, 28(5), 632–635. <https://doi.org/10.1080/09518398.2014.916004>
- Zilber, E. (2005). International school educators and their children Implications for educator-parents, colleagues and schools. *Journal of research in international education*, 4(1), 5–22. <https://doi.org/10.1177/1475240905050288>