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**DRAFT**

**Teaching Critical Thinking: Cultural Challenges and Strategies in Singapore**

**Abstract**

Among the challenges faced by educators in promoting critical thinking is that of cultural compatibility. Using Singapore as an illustrative case study, this article explores the cultural challenges and recommended strategies for the teaching of critical thinking in schools. The research for this study is based on a theoretical framework that focuses on two dominant practices of critical thinking: confrontational and individualistic on the one hand, and collegial and communal on the other. Research data shows that the main cultural challenges are the dominant social expectation of teachers as knowledge transmitters and a perception that critical thinking is adversarial. The recommended strategies are the utilisation of cooperative learning strategies and the provision of a safe learning environment. There are two major implications arising from this research study. The first is a need for policymakers and educators to be cognisant of cultural constraints in the teaching of critical thinking. The second implication is the significance of teacher efficacy to engender student engagement and successful learning within socio-cultural constraints. The Singapore experience adds to the existing literature by highlighting the existence and significance of communitarian practices of critical thinking in an Asian context.

**Keywords: critical thinking; cultural challenges; strategies; Singapore; teaching**

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**Introduction**

Countries across the globe converge on improving their educational systems to prepare their citizens for the challenges of the 21<sup>st</sup> century. For example, at a 2013 meeting convened by UNESCO, leaders from Asia and the Pacific articulated their shared priority in emphasising diversity, learner-centred methods and whole person development beyond exam-orientation in schools (Law & Miura, 2015). Among the 21<sup>st</sup> century skills, critical thinking is often regarded by political and educational stakeholders as a core competence needed by graduates in an era of globalisation. Many countries including those in Asia such as Japan, South Korea and Nepal have introduced an array of courses, programmes and activities across the educational levels for the purpose of fostering critical thinking in schools (Law & Miura, 2015).

However, among the challenges faced by policymakers and educators in Asia in their endeavours to champion critical thinking is that of cultural compatibility. The extant research reports that students in Asia are generally weak in critical thinking, especially when compared to their counterparts in the Anglophone countries (e.g. Atkinson, 2007; McBride, Xiang, Wittenburg, & Shen, 2002; Tiwari, Avery & Lai, 2003; Turner, 2006). McBride,

Xiang, Wittenburg and Shen (2002), in their comparative study of pre-service teachers' dispositions towards critical thinking in the US and China, attribute the lower scores obtained by the Chinese sample to the cultural system in China that discourages independence of thought. But other researchers have contended that the dominant definitions of and criteria used to measure critical thinking are themselves Eurocentric and culturally biased against Asian students (e.g. Norris, 1995; Atkinson, 2007; Grosser & Lombard, 2008). It is therefore pertinent, in researching critical thinking in Asia (or any other context), to understand the local culture, how it interacts with and mediates the learning and expression of critical thinking, and how educators exercise their agency to foster critical thinking in schools within existing socio-cultural constraints.

This article explores the cultural challenges and recommended strategies for the teaching of critical thinking in Singapore schools. Singapore has been selected as an illustrative case study as it is an Asian society that has been propagating critical thinking for schools for decades. It is therefore salient to examine the contextual influences on the implementation of critical thinking in the country. The first part of the paper introduces the concept of critical thinking and its relationship with culture. This is followed by a discussion of a research study conducted in Singapore in terms of the research background, method, findings and implications.

### **Critical Thinking and Culture Challenges**

Scholars have proposed different interpretations of 'critical thinking', such as viewing it as a generic set of skills (Ennis, 1992), discipline-specific processes (McPeck, 1981), the educational cognate of rationality (Siegel, 1988), formation of good judgement (Lipman, 1991), and thinking that meets relevant standards or criteria of acceptability (Bailin & Siegel, 2003). Moore (2013), in his literature review, highlights seven definitional strands of critical thinking: as judgement; as skepticism; as a simple originality; as sensitive readings; as rationality; as an activist engagement with knowledge; and as self-reflexivity. Walters (1994) identifies two waves of critical thinking, with the first wave centring on the canons of logical analysis and argumentation. The second wave shifts the attention to broader formulations by considering the complex, situated, historical and inter-connected nature of worldviews and human communication. Rather than viewing critical thinking as context-free and universal, the second wave sees it as contextually embedded where one's judgement is undergirded by historical, institutional, moral and socio-cultural conditions and factors. A number of scholars have maintained that varied conceptions and manifestations of critical thinking exist and are shaped by diverse cultures (e.g. Fishman, 1988; Brookfield, 1991; Bailin, 1995; Norris, 1995; Atkinson, 2007; McGuire, 2007; Author). The word 'culture' here is taken to refer to a set of attitudes, values, beliefs, assumptions and behaviours shared by a group of people throughout the generations via symbols, language, rituals and material objects (Barnouw, 1985; Hofstede, 1991). Far from being complete, static and unchanging, culture is constantly being constituted, extended and transformed by its subscribers. The evolving nature of culture testifies to human beings as active agents who make choices in life within their circumscribed cultural environments (Author).

The cultural embeddedness of critical thinking is premised on the assumption that thinking is always contextualised. Standards of rationality, evidence and critical thinking are necessarily dependent on historically concrete languages and practices, and occur in specific cultural contexts in response to particular situations (Maxcy, 1985). There is no 'view from nowhere' since all positions always stem from, rest upon and are shaped by particular historical, economical, and social conditions (Smeyers & Marshall, 1995). The historical and

social rootedness of human beings “will determine the kind of questions which will be raised, the kind of answers that can be given, and the kind of solutions which will make particular questions disappear for us” (Smeyers & Marshall, 1995, p. 223). Bailin, Case, Coombs and Daniels (1999) add that standards and principles of critical thinking are “cultural artifacts that may be, and sometimes are, criticised and altered on the basis of our collective experience in using them” (p. 292). Given the cultural influences on critical thinking, it is helpful to view critical thinking not simply as a set of discrete and universal skills but also as a *practice*. A practice refers to a specific set of coherent activities “embedded in a tradition of ongoing collaboration, with goods and standards of excellence that are internal to itself and can thus be properly achieved and furthered only by those who have become practitioners” (Dunne & Pendlebury, 2003, p. 202). There exists a “multiplicity of practices” (Moore, 2011) with various and even competing constructions and expressions of critical thinking across cultures. Critical thinking as a practice goes beyond focussing on the canon of logical argumentation that serves as the objective standard of good thinking; it also underlines the cultural, affective and normative considerations that impinge on human thinking and actions. In particular, the practice of critical thinking draws our attention to the *judgement* one arrives at through deliberation. I have elsewhere argued that critical thinking as judgement is action-oriented as such a person applies generalised knowledge, norms and procedures to personalised and unpredictable situations insightfully and flexibly (Author). The judgement of a critical thinker stems from and testifies the moral character of the agent. The deliberation process is invariably confronted with normative concerns that require a combination of practical virtues and intellect (Dunne & Pendlebury, 2003). We demonstrate our virtues that are the flexible aspects of our character tied to our sense of self through our reflective responses and decisions in everyday life. Critical thinking as judgement is also interpersonal rather than solitary. Instead of conceiving the critical thinking as championing individual autonomy and social independence, a culturally embedded practice of critical thinking is an act and affirmation of the communal. It is therefore instructive, in exploring the characteristics of critical thinking in a particular locality, to identify and interrogate the nature of judgement that is situated within “culturally and historically situated critical social practices” (Baidon & Sim, 2009, p. 411).

Two dominant practices for the teaching of critical thinking are particularly relevant to our discussion: critical thinking as confrontational and individualistic on the one hand, and critical thinking as collegial and communal on the other (Bailin, 1995). Echoing Bailin is Walters (1994) who distinguishes an “adversarial nature of logicistic critical thinking” and “empathic, interpersonal, and connected styles” (p. 18). Elaborating on the two practices, what he terms ‘adversarial critical thinking’ and ‘cooperative critical thinking’, Waller (2012) posits that the former aims to win the argument by probing the opponent’s argument for weaknesses, exposing his/her flaws and showing that his/her arguments are inferior to one’s own. The adversarial view of critical thinking has been criticised for championing aggressive battlefield metaphors such as attacking and defending positions, and knock-down arguments (Bailin, 1995). An alternative is cooperative critical thinking that aims to reconcile one’s own position and that of the other party; it seeks to build on one another’s ideas so that everyone can benefit from the engagement (Bailin, 1995; Waller, 2012). Also arguing for cooperative critical thinking, Durkin (2008) explains that this ‘middle way’ and ‘gentler’ approach rejects “the confrontational, battlefield approach, which is doubt orientated, and which emphasises an aggressive search for truth” (p. 23). Instead, it upholds relationships and preserves the dignity and integrity of all participants through an ‘agnostic empathy’ towards all views presented. Such a process requires a sensitive ‘openness’ to another’s viewpoint coupled with a desire to listen actively and objectively before arriving at an informed judgement (Durkin, 2008). This involves entering “empathically into more or less alien belief systems” and

bringing “our implicit ideas and reasonings into open dialogical conflict with opposing ones to decide rationally, as best we can, upon their merit as candidates for mindful belief” (Paul, 1987, p. 284).

It should be clarified that the two practices of critical thinking – adversarial versus cooperative – are not the only two approaches to critical thinking, nor are they mutually exclusive. Instead, there exists a continuum along which different and overlapping formulations of critical thinking exist. Another clarification is that both practices of critical thinking are compatible with the two waves of critical thinking discussed earlier, namely the canons of logical analysis and argumentation as the first wave; and the complex, situated, historical and inter-connected nature of worldviews and human communication as the second. This means that participants could engage in critical thinking by, for example, applying deductive and inductive reasoning to arguments in either a confrontational or collegial manner.

In the specific context of Asia, the current literature informs us that Asians generally do not favour a notion of critical thinking that privileges aggressive exchanges and personal autonomy at the expense of societal harmony and interests (Fox, 1996; Littlewood, 1999; Nguyen, Terlouw, & Pilot, 2006; McGuire, 2007; Author). Kim (2003) asserts, “Respect for tradition, the practice of propriety and the reverence with which authority figures are regarded make Asian students much more reluctant to examine and challenge beliefs, assumptions and values” (p. 78). Durkin (2008) reports that many of these students perceive western critique to be “insensitive and unnecessarily offensive” and “felt uncomfortable when they saw critical thinking and debate degenerate into hurtful cynicism” (p. 23). On the contrary, Chinese and other Asian students prefer a more cooperative style of learning that values community and relationship (Atkinson, 2007; Durkin, 2008; Author & Colleagues; Misco, 2013). It is important to add that the Asian students do not necessarily object to the learning of norms and techniques of logical argumentation *per se*. What they are averse to is a specific practice of critical thinking – when participants engage in discourses in an aggressive and ‘the winner takes it all’ fashion.

## **The Research Study**

### ***Background of Study***

Singapore has consistently outperformed other countries in large-scale international assessments such as the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) (OECD, 2015; TIMSS & PIRLS International Study Centre, 2016). Critical thinking is an integral part of the overarching goal of the Ministry of Education (MOE) in Singapore to prepare its students for the future. The premium placed on critical thinking is not new in Singapore schools. Historically, critical thinking skills were taught in schools through programmes such as the ‘Thinking Programme’. They are currently inculcated through activities such as the ‘Philosophy for Children Programme’ (P4C) and subjects such as project work and ‘Knowledge and Inquiry’. Launching the vision, ‘Every Student, A Thinking Student’, the Senior Minister of State, Ministry of Law and Ministry of Education stated that “every student, (not just top students or the ones with the best grades, but every student) at every level, (not just at Upper Primary or Upper Secondary, but at every level), will be developed in their thinking skills and dispositions” (MOE, 2013, para 7). A 21<sup>st</sup> century competencies framework, known as ‘Framework for 21st Century Competencies and Student Outcomes’ has been introduced by the MOE that includes critical thinking as a core skill (MOE, 2016). A critical thinker,

according to the framework, is one who is “discerning in judgment, thinks independently and critically, and communicates effectively” (MOE, 2016, para. 7). The reference to thinking “independently and critically” implies that objective standards for critical thinking are promoted to Singapore students. A former Minister of Education describes ‘critical analysis’ as “knowing what questions to ask, what information you need and the value of different sources of information” (Ng, 2008, cited in Lim, 2014, p. 695). A predominantly instrumentalist and cognitive-based conception of critical thinking prevails in Singapore schools that underlines the learning of specific concepts, strategies and techniques (Author; Lim, 2013, 2014). The rationale for MOE’s emphasis on critical thinking is primarily rooted in pragmatic considerations. Lim (2014) observes that “critical thinking as it is recontextualised in Singapore’s mainstream schools continue to take aim at answering the knowledge economy’s call for knowledge workers skilled and disciplined in the technologies of information processing” (p. 699). In propagating 21<sup>st</sup> century competencies in which critical thinking is a major component, the MOE (2016) points out that Singapore students need to be equipped to face the demands and opportunities brought about by globalisation, changing demographics and technological advancements (para 1). The national agenda to nurture critical thinkers is made more urgent in view of the extant research that shows that Singapore teachers tend to ‘teach to the test’ and direct students to arrive at one correct answer (Vaish, 2008; Chiam et al., 2014). The initiative to promote critical thinking therefore serves to motivate the teachers to infuse critical thinking into the teaching of various subject disciplines and the total curriculum.

### ***Method***

The study was guided by the following research question: What are the cultural challenges and recommended strategies for the teaching of critical thinking in Singapore schools? This study differs from my earlier research on critical thinking (see Author) by focussing on a different aspect of critical thinking (cultural challenges instead of policy enactment) and involving different research subjects. The research data for this article was derived from reflective essays written by 46 undergraduates at a university in Singapore. Aged between 24 and 27, all the undergraduates were well-acquainted with the cultures and education system in Singapore, having studied at various educational institutions in the country. All of them also have prior short-term teaching experience (at least 10 weeks) across schools in Singapore. The essays were part of an eight-week elective course on critical thinking that introduced different definitions, theories, models and approaches of critical reasoning to the participants. The course was taught through film-watching, group presentation, online discussion and essay writing. Each participant was asked to write a reflective essay on the challenges they may face in teaching critical thinking in their schools, and their recommended approaches in response to the challenges. To pre-empt the possibility of the participants being influenced by the expectations of the course leaders and designers, the research topic (i.e., cultural challenges related to the teaching of critical thinking in schools) was not explicitly covered in the class activities and discussion, and the participants were encouraged to freely express their own views in their essays. Furthermore, the participants were informed of and their consent sought for this research only after they had completed the course and obtained their respective course grades. Permission has been granted by the participants to cite from their essays for this article on the condition of anonymity. All the 46 essays were assigned and identified by an individual serial number, i.e., from Essay #1 to Essay #46. The study adopts the research method of qualitative content analysis where artifacts of social communication, in this case, written communication in the form of students’

essays, were reviewed and analysed (Miles & Huberman, 1994; Berg, 2009). The process of content analysis follows the guidelines given by Berg (2009): identify the research questions; determine analytical categories; select the data sources and coding based on analytical categories; determine the criteria of selection for sorting data chunks into the analytic categories; sort the data into the various categories; and identify dominant patterns and themes in the overall framing. The patterns were considered in light of previous research and existing theory as well as guided by the research questions set out for this study.

## **Findings and Discussion**

### *Cultural Challenges*

An analysis of the research data shows that the participants perceived two main cultural challenges for the teaching of critical thinking in schools: (1) the social expectation of teachers as knowledge transmitters and (2) a perception of critical thinking as essentially adversarial. First, the participants identified the socio-cultural value of respecting teachers as authoritative figures and content experts as an impediment for promoting critical thinking in the classroom. A representative comment is as follows:

[T]he teacher has been attuned to taking on the role of an authoritarian figure that doing otherwise just seemed unnatural. Furthermore, could this conundrum be perpetuated by the population's general adherence to 'Asian values', where it is expected for children to be seen and not heard – where the teacher is often revered as both the custodian and provide of knowledge and the students assume a passive role. [Essay #10]

The view of the teacher as the content expert leads to a predominantly didactic environment where students are generally reluctant to speak up and disagree with the teacher for fear of being judged and reprimanded. The inhibition to articulate one's views in class originates from a desire by students to show respect to the teacher and preserve the cordial relationships with others.

The reticence of the students is reinforced by an interpretation of critical thinking as adversarial in practice, which is the second research finding. Such a view takes critical thinking to be synonymous with criticism, as explained by a participant:

[T]he idea of being critical is misunderstood for 'criticism' where one finds a fault or mistake in an issue. Subsequently, this interpretation of being critical as 'criticism' gives off the idea of 'critical reasoning' as being potentially negative and destructive or disruptive. [Essay #36]

The association of critical thinking with negative judgement and confrontation heightens the students' anxiety as they are concerned with defending their views and not being publicly embarrassed. A participant wrote about the cultural influence on the learning of mathematics:

[There exists a] fear of making mathematical mistakes in students which is exemplified (sic) by their display of anxiety when asked to analyse and synthesise information. These perpetual acts ... ultimately result in the absence of students' desire in questioning and risk-taking particularly in Mathematics (Essay #21).

Instead of a confrontational approach to critical thinking, a more collegial model of critical thinking that seeks to affirm and incorporate everyone's ideas is preferred by the participants. As one of them put it:

The structure [of critical thinking] could begin with individual reasoning, to small group discussions and finally, to whole class discussions. This is technique is good as it allows students to constructively come to consensus on a final decision. [Essay #41]

As mentioned, critical thinking may be conceived as aggressive with an accent on personal autonomy or collegial with an emphasis on relationships (Bailin, 1995; Durkin, 2008; Waller, 2012). The research data informs us that the preferred approach to critical thinking is one that supports the prevailing culture of respecting the teacher's authority and perpetuating teacher control in the classroom. Within this socio-cultural reality, critical thinking that advocates 'battlefield' questioning towards the teacher and one's peers is likely to be resisted by the teacher and students.

To further understand the participants' perception of critical thinking, it is useful to relate the data findings to the existing literature on the practices of critical thinking. Siegel (2007) maintains that the promotion of critical thinking entails that "the teacher always recognises the right of the student to question and demand reasons". He adds that the teacher should recognise "an obligation to provide reasons whenever demanded" and "must submit her reasons to the independent evaluation of the student" (p. 442). However, the finding of this study reveals that the participants do not perceive critical thinking as a process where the students 'demand reasons' from the teacher. Nor is the teacher obligated to 'provide reasons whenever demanded' and 'submit her reasons to the independent evaluation of the student'. This does not mean that the participants do not see the cultivation of critical thinking as essential for their students. They also do not reject the adoption of objective standards and techniques for critical thinking such as drawing inferences, providing evidence and identifying fallacies. What they are advocating and are more predisposed to, instead, is a practice of critical thinking that maintains teacher authority as well as fosters constructive engagement between the teacher and students, and among the students themselves. Such a view of critical thinking is predicated on and reinforces the participants' prevailing socio-cultural beliefs of a hierarchical and harmonious relationship between the teachers and students.

### *Recommended Strategies*

As for the second research question on the recommended strategies, the participants suggested two main approaches: (1) the utilisation of cooperative learning strategies and (2) the provision of a safe learning environment. For both strategies, the focus is on teaching the necessary critical thinking skills and dispositions that will enable students to master the disciplinary content and excel in exams. First, the participants supported the adoption of cooperative learning strategies, as illustrated by the following extract:

[T]eachers could engage students in cooperative learning where students can learn more from their peers through sharing of knowledge, at the same time, identifying and correcting the existing misconceptions with one another. Therefore, the goal is to have a classroom which promotes an environment which develops understanding and assist knowledge transfer. [Essay #43]



In particular, a number of participants suggested the approach of ‘Community of Inquiry’ (COI). Essentially, COI encourages students to explore issues and experiences dialogically and critically (Lipman, 1991; Lipman & Sharp, 1980; Sharp, 2004). Through reading stimulus material and vocalising their thoughts together in a collaborative setting, students develop their own specific thinking competencies and dispositions such as meta-cognition, self-control, humility and empathy (Teoh, 2008). Not only is this approach salutary in encouraging interdependence rather than individualism and combativeness, it also facilitates the inculcation of moral values in the students. A participant elaborated:

For this strategy, pupils will have to work in groups where they are involved in thinking critically of what one should do in specific moral scenarios such as bullying and abortion. ... Instead of spoon-feeding the pupils with the values and principles of what one should do, pupils are now required to think and figure out what is needed as a group. With that, pupils will pick up values and dispositions such as empathy and self-control. (Essay #3).

It is apparent that the participants appreciated teaching strategies that were built upon cooperative learning where learners worked independently on tasks under the direction of the teacher (Littlewood, 1999). Cooperative learning is aimed at complementing rather than challenging the traditional structures of knowledge and authority; it allows the teacher to maintain control over what counts as relevant knowledge by deciding on the learning and assessment methods (Littlewood, 1999). To be sure, the acceptance of cooperative learning is not unique to the teaching of critical thinking in Singapore and is in fact well-established in the literature on COI (Lipman & Sharp, 1980; Sharp, 2004). But our research finding shows that the participants’ preference for cooperative learning stems directly from their conviction that such learning is aligned with their socio-cultural value of social cohesion. The support for cooperative learning strategies in Singapore, in short, is justified not only by pedagogical soundness but also by cultural compatibility.

Complementing the cooperative learning strategies is the provision of a safe learning environment for the students. A participant commented:

[The] teacher must ensure that the classroom environment is one that is open, positive and supports intellectual risk taking. In other words, reassurance must be provided to all students that their views and questions will be valued and respect (sic) by the teacher and their peers. Therefore, at the start of every discussion, teacher must established (sic) clear ground rules. [Essay #2]

A non-threatening learning environment can also take place outside the classroom with the help of Information and Communication Technology (ICT) tools. A participant suggested:

A possible strategy to overcome this issue [students who shy away from voicing their ideas in class] would be the use of available communicative technology like online discussion forums for students to think through thoroughly before publishing their answers, devoid of the anxiety that the introverted students may experience during a face-to-face discussion in class. [Essay #27]

As in the case for the appropriation of cooperative learning strategies, the participants’ inclination to give students a safe learning environment originates from their desire to

preserve consensus and avoid public conflicts. It is evident that the teaching philosophy and methods of the participants are underpinned by their prevailing socio-cultural worldviews and assumptions.

Two further observations regarding the recommended strategies from the participants can be made. First, whether it is the employment of cooperative learning strategies or creation of a conducive learning environment, the priority of teachers is on cultivating the necessary critical thinking skills and dispositions for the students' mastery of school subjects. Given that teachers in Singapore need to prepare their students for the high-stakes exams at the end of the primary, secondary and pre-university education, the teaching of critical thinking is expectedly geared towards exam preparation. Reflecting the academic tradition for the practice of critical thinking, the participants regard knowledge as both declarative and functional. Altbach, Reisberg and Rumbley (2009) explain that declarative knowledge is 'declared' in books and transmitted by the teacher, whereas functional knowledge refers to the application of theory by the learner through the active construction of ideas. Accordingly, the participants value declarative knowledge by transmitting knowledge that is tested in exams. Concomitantly, they seek to nurture students as critical thinkers and active learners by emphasising functional knowledge.

The second observation regarding the strategies suggested by the participants in the study concerns the underpinning ideology for the practice of critical thinking in Singapore. The participants' desire to maintain social harmony and hierarchy as well as provide a safe and collaborative learning environment for students points to the preeminence of the communitarian ideology in Asia (Tu, 2000). Communitarianism, in simple terms, holds that individuals are not unencumbered by involuntary obligations, but are instead born into a network of social attachments that shape their preferences (Chatterjee, 1998). Put otherwise, "the self is always constituted through community which provides us with our shared nationality, culture, language, history and religion" (Arthur, 1998, p. 354). By furnishing a collective history, common practices, cultural traditions and shared social understandings, a community is valued, respected and protected by individuals as a good in itself (Seitz, 2003; also see Taylor, 1979, Sandel, 1982; MacIntyre, 1984; Taylor, 1989, Cohen, 2000; Seitz, 2003).

In the case of the participants in this study, their viewpoints on and experiences with critical thinking and 'good' education (as well as cognates such as teaching and learning) are bound up with and shaped by the cultural community that they are in and the terms which are available to them within that culture. Cognisant of sociocultural constraints, the participants recommended approaches that were not disruptive and could easily be incorporated into the existing curriculum arrangement and classroom setting in Singapore schools. Their suggestions tie in well with the prevailing directive teaching method where the teacher retains control of the class discussion, curriculum content and lesson time. Specifically, cooperative learning strategies facilitate student involvement and critical discussion without threatening the harmonious relationships between the teacher and students. For the same reason, the arrangement of a non-threatening learning environment allows students to articulate their views confidently as a community of inquirers. The research findings show that the participants do not regard the cultural constraints as impeding the promotion of critical thinking in the classrooms. Instead, they champion a practice of critical thinking that coheres with their socio-cultural system and way of life.

## **Implications**

There are two major implications arising from this research study. The first is a need for

policymakers and educators to acknowledge the mediating roles of culture in the teaching of critical thinking. Littlewood (1999) cautions against the presupposition that specific notions and practices in the West “*must of necessity* also be appropriate to east Asian contexts” (p. 73, italics in the original). Atkinson (1997) contends that the stance of self-expression stemming from the Western, individualist sense of self is substantially proscribed in many non-Western cultures. An example is the assumption that not speaking up in class or questioning the views of one’s teacher and peers means that no critical thinking has taken place. This assumption is fallacious as it conflates the ability to think critically with the public expression of critical thinking. As Tian and Low (2011) point out, “If Chinese students are quiet, and hesitant to ask questions in class, it does not follow that they are necessarily uncritical” (p. 65). Rather than public debates, these students may prefer to express their critical views through less threatening and more culturally appropriate formats such as essay-writing and small group discussions.

The implication for education authorities and school leaders is to refrain from imposing or assuming a pre-determined or universal conception of critical thinking for a particular cultural context. Instead, they should start with the local conditions and seek to understand how key educational stakeholders such as teachers, students and parents interpret and demonstrate critical thinking within specific historical and social constraints. Such an approach draws our attention to critical thinking as practices that interrogate activities and their underpinning worldviews through ongoing collaborations between policy actors. To borrow the words of Ong (1996), the application and furtherance of critical thinking “only make[s] sense in terms of the imagined communities within which people live and, through their embeddedness in cultural relations and norms, decide what is good and worthwhile in their lives” (p. 134). It follows that the dominant teaching practice of a particular site is directly shaped by particular historical, political social-cultural conditions which in turn determines the theory of critical thinking. As maintained by Smeyers and Marshall (1995), the situated experiences of human beings have a direct impact on “the kind of questions which will be raised, the kind of answers that can be given, and the kind of solutions which will make particular questions disappear for us” (p. 223).

The second implication of this research is the contribution of teacher efficacy to engender student engagement and successful learning in schools. Teacher efficacy refers to the teacher’s confidence in one’s ability to make an educational difference to student engagement and learning (Tschannen-Moran et.al., 1998; Goddard et.al., 2000; Tschannen-Moran & Barr, 2004). Teacher efficacy gives prominence to how the educators seek to create a discursive space by negotiating the propagation of critical thinking within the cultural norms of their own community. This study highlights the cultural influences on teacher agency by viewing educators as active agents located within a specific historical milieu. Teachers exercise their efficacy when they make decisions, carry out intentional actions, monitor effects and respond critically to day-to-day activities as well as problematic situations (Watkins 2005; Biesta & Tedder, 2006, 2007; Durrant & Holden 2006; Root, 2014). Teacher efficacy reminds us that critical thinking is manifested in judgements that are culture-based, action-oriented, normative and interpersonal. Critical thinking as a practice implies agency as teachers need to (re)interpret and make decisions on matters concerning ethical and normative standards and traditions (Smits, 1997). An exploration of teacher efficacy requires an analysis of not just the actions taken by the teacher but also the past experiences of the agent as well as socio-cultural norms, resources and restraints (Frost 2006; Biesta, Priestley & Robinson, 2015; Author).

## Conclusion

This article has investigated the cultural challenges and recommended strategies for the teaching of critical thinking in Singapore schools. It was argued that the main cultural challenges were the social expectations of teachers as knowledge transmitters and students as passive learners coupled with a notion of critical thinking as adversarial. The article also identified the recommended strategies of utilising cooperative learning strategies and providing a safe learning environment. In terms of educational implications, the study foregrounded the cultural embeddedness of critical thinking and the contribution of teacher agency to the advancement of critical thinking in schools. Our study cautions against the fallacy of ‘conceptual colonialism’ (Biggs, 1997) – the presupposition of the universality of one’s cultural terms, criteria and worldviews and the imposition of them onto another culture. The variation between the preferred mode of critical thinking in Asian and Western contexts reflects the divergence between what Tu (2000) calls ‘Enlightenment values’ and ‘Asian values’. Observing that ‘Enlightenment values’ such as rights-consciousness, privacy and individualism are all universalisable modern values, Tu proposes that ‘Asian values’ such as duty-consciousness, ritual and group orientation should also be regarded as universalisable modern values. The example of Singapore alerts researchers, policymakers and educators to the diverse understandings and expressions of critical thinking across cultures. The research findings bring to the fore the existence and significance of collegial and communitarian practices of critical thinking in an Asian context.

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