

# Social and Emotional Learning in Singapore's Schools: Framework, Practice, Research, and Future Directions

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**Abstract** Education in Singapore strives to foster the holistic development of its youth. To attain this goal, social and emotional learning (SEL) has been an integral part of the academic curricula at the different levels of schooling. The SEL Framework, which was formally introduced by the Ministry of Education in 2005 (see Ministry of Education 2008) and then further formulated to be the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014), provides an organizing structure to conceptualize, design, implement, evaluate, and refine school-based programs seeking to facilitate the development of social and emotional competencies (SECs) of Singaporean youth. Although the five key SECs emphasized in the Framework (Ministry of Education 2008; Ministry of Education 2014) are aligned with those in the widely adopted prototypical model of SECs formulated by the Collaborative for Academic, Social, and Emotional Learning (CASEL), the Framework differs in its emphasis on the cultivation of core moral values (respect, responsibility, integrity, care, resilience, and harmony) as guiding principles for the application of SECs. The SECs under the Framework are also the basis of the broader twenty first century skills and competencies (civic literacy, global awareness and cross-cultural skills, critical and inventive thinking, and communication, collaboration and information skills). Importantly, the Framework also takes the view that the promotion of SECs in

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schools is part of the concerted effort in attaining desired outcomes of education: nurturing young Singaporeans who are confident, self-directed in learning, actively contributing to collective efforts, and concerned about the well-being of others, community, and society. The present chapter not only examines key components of the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014), it also discusses its pedagogical principles and approaches to school-wide implementation of SEL. Recent SEL studies in Singapore are reviewed, and future directions for SEL application and research in Singapore are proposed.

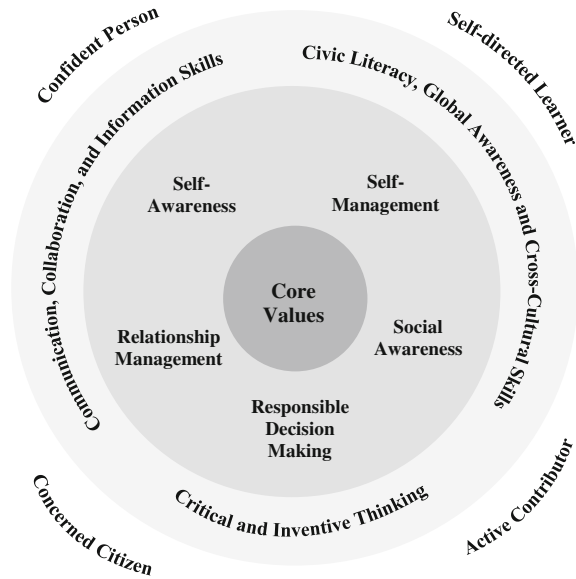
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“We need to develop our children holistically, in all aspects—moral, cognitive, physical, social, and esthetic, or what is termed in Chinese as 德智体群美 (*de zhi ti qun mei*), and between academic achievement and values, it must not be ‘either/or’. We should strive to achieve both” (Heng 2011). This statement was one of the key nation-wide educational missions highlighted by Singapore’s Minister for Education (MOE), Mr. Heng Swee Keat, in his address at the 2011 MOE Work Plan Seminar. The mission was reiterated in his 2012 speech, “It is not cognitive skills alone, but character traits of empathy, graciousness, responsibility, and integrity that will enable our kids to succeed” (Heng 2012). With this educational spirit in mind, social and emotional learning (SEL) has been at the heart of Singapore’s education system since the SEL Framework was first introduced in 2005 (see Ministry of Education 2008). The SEL Framework (Ministry of Education 2008), or its expanded formulation, the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014; see Fig. 1), was formally established with the aim to provide an organizing structure to conceptualize, design, implement, evaluate, and refine school-based programs seeking to facilitate the social and emotional development of Singaporean youth. The present chapter examines the Framework and its recommended pedagogical approaches and principles, reviews recent SEL studies in Singapore, and proposes future directions for SEL application and research in Singapore.

## 1 The Social and Emotional Learning Framework

In Singapore’s education system, SEL has been an integral part of Character and Citizenship Education (CCE) with the goal “to inculcate values and build competencies in our students to develop them to be good individuals and useful citizens” (Ministry of Education 2012). With particular reference to the SEL conceptualization by the Collaborative for Academic, Social, and Emotional Learning (CASEL, [www.casel.org](http://www.casel.org); see also Weissberg et al. 2015), the SEL Framework

**Fig. 1** Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014)—Reprinted with permission



defines SEL as, “the acquisition of skills needed to recognize and manage emotions, develop care and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively” (Ministry of Education 2008, p. 1). The SEL Framework (Ministry of Education 2008), which has been used as the guidelines to facilitate the development of Singaporean students’ social and emotional competencies (SECs), was formulated by the MOE by conducting international reviews of best SEL practices in 20 countries (e.g., Australia, China, Korea, the USA, the UK) across 26 programs and 20 frameworks and by studying various theories of social and emotional development. Three SEL centers of international standing (the CASEL in Chicago, the Center for Social and Emotional Education in New York, and the Welsh Qualifications, Curriculum and Assessment Authority in the UK) were also visited and consulted. In addition, a series of workshops involving school leaders and teachers from 42 schools in Singapore, MOE specialists, National Institute of Education (NIE) teacher educators, parents, and employers were conducted to seek their perspectives about SEL and SECs (see Ministry of Education 2008).

The SEL Framework (Ministry of Education 2008) was subsequently expanded to be the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014). The Framework for Twenty First Century Competencies and Student Outcomes views SECs as the foundations of the twenty first century competencies that are important to prepare young Singaporeans to flourish in a world characterized by rapid globalization, technological advancements, and changing demographics. As shown in the center circle in Fig. 1, the Framework focuses on inter-related cognitive, affective, and behavioral skills that

can be subsumed into five core SEC domains: *self-awareness* (i.e., the ability to recognize one's emotions and thoughts, to identify one's strengths, needs, and values), *self-management* (i.e., the ability to monitor and regulate one's emotions, thoughts, and impulses, to coordinate personal resources to achieve desirable goals), *social awareness* (i.e., the ability to be in somebody else's shoes, to empathize, to recognize and respect similarities and differences between one's perspectives and those of others), *relationship management* (i.e., the ability to maintain positive social relationships through effective communication, negotiation, and cooperation; to seek and provide help), and *responsible decision making* (i.e., the ability to identify problems, to evaluate the situations and make decisions based on moral and ethical considerations). In this regard, the five SECs in the Framework are identical with the key SECs identified by the CASEL, which have also characterized many of the SEL frameworks worldwide.

However, the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014) in Fig. 1 differs from the SEL model formulated by the CASEL in three ways. The first difference lies in the addition of "core values" at the center of the Framework. That is, although the Framework takes the position that SECs are neutral and amoral (i.e., neither good nor bad), it posits that the SEC skills can be used for good or bad purposes (Ministry of Education 2008, 2012, 2014). For example, a student who has good social awareness is able to identify his/her friends who are in need of help. This provides the student an opportunity to either help or exploit the situation. It is for this reason that core values are represented in the innermost circle in the Framework (see Fig. 1). This is to underscore that the teaching and application of SECs should be grounded and rooted in sound values (Ministry of Education 2008, 2012, 2014). While recognizing many different values guiding people's behaviors, the six regarded by the MOE as core values are *respect* (i.e., the importance of respecting oneself and others based on one's and others' intrinsic worth), *responsibility* (i.e., the importance of recognizing that one has duties to oneself, family, community, nation, and the world, and of fulfilling these duties), *integrity* (i.e., the importance of upholding ethical and moral principles and acting in accordance with these principles), *care* (i.e., the importance of acting with kindness and compassion), *resilience* (i.e., the importance of developing psychological toughness, optimism, adaptability, and resourcefulness when facing life challenges), and *harmony* (i.e., the importance of inner happiness and maintaining social cohesion and at the same time respecting and appreciating the diversity of a multicultural society).

The Framework considers core values as the "why" of behaviors which provides the reason and goal for the behaviors, whereas SECs are the "how" of behaviors which serve as the skills and concrete actions to display the behaviors (Ministry of Education 2008, 2014). For example, in order to be appreciative and respectful toward individual differences (i.e., valuing harmony), one needs to be empathetic and to know that others may have different perspectives (i.e., having social awareness). Or, in order to be buoyant in facing life challenges (i.e., valuing resilience), one has to be able to recognize his/her own strengths, regulate his/her thoughts and emotions, negotiate challenges, and seek help from others when necessary (i.e., having

self-awareness, self-management, and responsible decision-making skills). Thus, unlike the SEL model developed by the CASEL which defines SECs as desirable social and emotional abilities or skills that young people are expected to acquire, develop, and apply in daily lives, the Framework considers that the acquisition and development of SECs should also be for “good” causes and guided by values—especially those recognized to be important or “core” for people living in a multi-cultural society like Singapore.

The second difference lies in the functional emphasis of SECs in underpinning key twenty first century competencies; that is, a set of competencies considered to be fundamentally important for thriving in the present fast-changing and globalized world (Ministry of Education 2008, 2012, 2014). Represented in the outer circle of the Framework, these twenty first century competencies include *civic literacy*, *global awareness*, and *cross-cultural skills*, which all refer to the capacity to contribute to society and to work with people who come from diverse cultural backgrounds and bring different perspectives; *critical and inventive thinking*, which refer to the capacity to think critically and out of the box and to challenge oneself to pursue and attain something at a greater height; and *communication, collaboration, and information skills*, which refer to the capacity to find and select information and to effectively communicate one's ideas and work together with others (Ministry of Education 2008, 2012, 2014). Each of these sets of competencies, according to the Framework, is underpinned by the individual's SECs. To illustrate, to collaborate effectively with others, including people of different cultures or nationalities, one requires the capacity to recognize the dynamic moment-to-moment states of others' emotions and the differences in perspectives about a certain issue that others may adopt (i.e., having social awareness skills), besides the ability to maintain positive social interactions, to communicate, and to solve conflicts when they arise (i.e., having relationship management skills). The inclusion of the twenty first century competencies in the Framework appears to demonstrate the high importance of nurturing a generation of young Singaporeans who are competitive and relevant to today's world.

Further, the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014) also states that the focus on nurturing the SECs and the twenty first century competencies anchored in core values represents the building blocks that lead to the development of personal qualities encapsulated in the Desired Outcomes of Education or DOEs (Ministry of Education 2009, 2014). This is a third difference between the Framework and the SEC model articulated by the CASEL. The four DOEs (Ministry of Education 2014), upon the completion of formal education, are:

- a **confident person** who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgment, thinks independently and critically, and communicates effectively;
- a **self-directed learner** who takes responsibility for his/her own learning, who questions, reflects, and perseveres in the pursuit of learning;

- an **active contributor** who is able to work effectively in teams, exercises initiative, takes calculated risks, is innovative and strives for excellence; and
- a **concerned citizen** who is committed to Singapore, has a strong civic consciousness, is informed, and takes an active role in bettering the lives of others.

From the Framework, it is clear that the implementation of SEL in Singapore's schools (with the aim to nurture Singaporean young people's SECs, grounded in core values) is well aligned with the goals of the nation's formal education in developing individuals who are confident and able to learn independently and actively contribute to the lives of others, the community, and the society. These dynamic links among key individual attributes surrounding SECs are shown in Fig. 1, the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014).

## 2 Applied Recommendations in the Framework

The facilitation of SEL emphasizes the importance of supportive school culture, or "school culture of care," which is fundamentally underpinned by teacher–student relationship and role modeling (Ministry of Education 2008, 2016). To support schools in achieving the desired outcomes of SEL, the MOE has developed a multi-pronged implementation plan. As elaborated by Kom (2011), the multi-pronged plan consists of four key approaches including *prototyping* (i.e., a systematic process that requires schools to develop innovatively customized programmes to nurture their students' SECs), *training* (i.e., a concerted effort to equip pre-service and in-service teachers with the knowledge and skills to promote SECs in their students), *curriculum* (i.e., developing syllabi and strategies to explicitly teach SECs, to infuse SEL into formal academic subjects such as English and Mother Tongue and informal school-based programmes such as co-curricular activities, and to harness teachable moments), and *evaluation* (i.e., developing a framework and tools to help schools to identify their needs and assess the extent to which they have attained SEL-desired outcomes).

To evaluate the effectiveness of school-based SEL, the MOE formally outlines the goals, standards, and benchmarks of SEL (Ministry of Education 2008). Not only do SEL goals, standards, and benchmarks provide explicit learning outcomes that school-based SEL initiatives and interventions are expected to attain, they also serve to guide and inform the design and evaluation of SEL programs. More precisely, the SEL goals provide the overarching purposes that SEL programs and processes are expected to achieve and the rationale for why these purposes are considered important. The SEL standards represent the general desired outcomes concerning social and emotional skills, knowledge, and attitudes that learners will be able to perform, know, and possess. The SEL benchmarks refer to developmentally specific target SECs that learners at the different levels of education are to achieve (Ministry of Education 2008). For example, the SEL goal of "developing

self-awareness and self-management skills to achieve personal well-being” has “identifying one’s emotions, strengths, weaknesses, and values, and understanding how these influence one’s actions and behaviors” as one of its statements of standard. This standard is further divided into “recognizing and labeling one’s emotions and identifying contributing factors to one’s emotions” and “understanding the relationship between thoughts, emotions, and behaviors” as two key benchmarks that the SEL process aims to achieve at the lower and upper primary school levels, respectively (Ministry of Education 2008).

Further, the MOE identifies eight approaches to the school-wide implementation of SEL. These approaches, which are regarded to be culturally and systemically appropriate to develop the SECs of young people in Singapore’s schools, include:

1. *Supportive learning and school environment.* This approach underscores the importance of role modeling by all the school personnel (school leaders, teachers, and administrative staff) who are expected to show warm, supportive, and respectful relationships among each other and with students.
2. *Partnership with parents and the community.* This approach involves parents and the community to nurture SECs in the youth. This can be done through platforms such as teacher–parent meetings, workshops for parents, and differentiated programs for students by community agencies.
3. *Specific curricula for SEL.* This approach refers to special school programs that can be used as platforms to directly cultivate SECs in the youth, such as Life Skills, Educational and Career Guidance, and Human Sexuality Education.
4. *Infusion of SEL into the existing academic curriculum.* This approach infuses SEL into the formal academic curriculum particularly through topics that lend themselves to the cultivation of SECs (e.g., English Language and Literature, Civics and Moral Education, Instructional Program).
5. *Pedagogical approaches that require students to apply SECs.* This approach harnesses instructional practices to foster SECs, such as group work, cooperative learning, and buddy system.
6. *Informal curriculum.* This approach refers to specific school programs such as co-curricular activities, peer mediation, conflict management, and student leadership programs that provide opportunities for students to practice their SECs.
7. *Experiential learning.* This approach emphasizes the acquisition of SECs in applied settings by exposing students to real-life challenges (e.g., school camps, community involvement programs).
8. *Teachable moments.* This approach refers to unplanned and authentic opportunities during classroom lessons which can be used by teachers to foster SECs and to communicate important learning points.

In addition to these eight main approaches, the Framework recommends five pedagogical principles (5PPs) that can be used to guide teachers in planning and conducting SEL-focused lessons in their specific subject areas. The 5PPs for SEL include the following:

1. *Providing for the Social Dimension.* This principle underscores the need to provide opportunities for students to interact with the teacher, to observe appropriate social behaviors, and to interact with each other to practice the social skills they learn.
2. *Providing for the Emotional Dimension.* This principle highlights the importance of creating a safe and supportive learning environment to help students connect with their own feelings and be willing to express these feelings.
3. *Reflection.* This principle focuses on the value of providing opportunities for students to think and ponder about their social and emotional experiences and to internalize and construct personal meaning in what they learn.
4. *Relevance.* This principle centers on the need to provide choice of materials and activities that help students to understand, remember, and transfer what they learn during the SEL process.
5. *Action.* This principle refers to the importance of providing opportunities for students to put into practice what they learn during SEL.

As elucidated earlier, the SEL Framework outlines practical recommendations for effective SEL implementation. Although it is apparent that the SEL Framework is systemically adapted from existing SEL prototypes for use in Singapore and the recommendations seem to be deeply grounded in theories of social and emotional development, the articulation of the theory-practice links in the SEL Framework is relatively limited. This may be because the model and recommendations are mainly developed and offered for school leaders and teachers as practitioners. Whenever the theory-practice links are explicitly stated, they refer to classic developmental and motivational theories. For example, the key developmental theories referenced to support the explicit teaching of SECs during the Form Teacher Guidance Period (FTGP) include those by Maslow, Erikson, Selman, and Piaget (see also Ministry of Education 2012).

With reference to Maslow's (1968) hierarchy of needs model (which assumes that lower-order physiological, safety, belonging, and love needs must be met before satisfying self-esteem and self-actualization needs), pedagogy should first pay attention to the fulfillment of lower-order needs as a preliminary basis for nurturing students' self-awareness and, in turn, fostering their self-esteem, self-concept, and self-efficacy. This can be done by teachers, for example, by creating a learning environment that is consistently supportive, warm, and safe such that the students are more ready to learn. As posited by Selman (1971), the theoretical idea that children's role-taking perspective ability developmentally progresses (from one that is ego-centric and self-focused to one that is more neutral, social, and societal) guides the design of SEL activities that aim to prepare the students to acquire developmentally more sophisticated perspectives than those that the students have already possessed or adopted to view social issues. This can be done, for example, by asking questions that scaffold the students to see an issue from various angles that are beyond the lens they already use to view the issue. Similarly, Piaget's (1954) theory of cognitive development (which assumes that children's cognitive capacity develops from concrete thinking to abstract and hypothetical thinking) informs the choice of SEL activities



such that they are appropriately aligned with the developmental stages of the students. For instance, it is developmentally more appropriate to design and implement SEL activities that require students at the lower primary school levels (grade-1 and grade-2) to recognize their own basic emotions through concrete experiences; ask students at the middle primary school levels (grade-3 and grade-4) to recognize multiple and more complex emotions that they and others feel; and expect students at the upper primary school level (grade-5 and grade-6) to predict (or hypothesize) and weigh the upsides and downsides of what would happen when they make a decision on a given social issue. Lastly, alluding to Erikson's (1968) model of individual development (which theorizes the psychosocial needs to develop a sense of competence, industry, and a clear sense of identity during the primary and secondary school years), SEL practices should aim at cultivating effective learning skills, attitudes, and capacity to manage emotions (e.g., loss, disappointment, anxiety) associated with learning expectations and roles. This can be done, for example, by asking the students to play different roles in group activities (e.g., leader, secretary, time keeper, member), coaching them conflict management skills to resolve issues that may arise during group projects, or helping them to identify the roots of poor performance and concrete ways, such as study strategies and time management, to remedy it.

### 3 SEL Research in Singapore

Formal research on SEL in Singapore is now unfolding. Three lines of research have emerged: (a) research on the effectiveness of SEL programs, (b) research on the development of SEC assessment scales and methods, and (c) research on SEL implementation in classroom teaching. Key relevant studies are reviewed below.

*Research on the effectiveness of SEL programs.* In a study seeking to investigate the effectiveness of an 8-week Outdoor Education (OE) program in fostering SECs, Abdul Rahman (2009) assigned 40 secondary-3 (grade-9) students of different ability streams into experimental and control groups. All secondary students in Singapore were placed into either a higher-ability, middle-ability, or lower-ability stream based on their Primary School Leaving Examination (PSLE) results (see Liem et al. 2013). Students in the control group underwent the regular OE program consisting of four lessons of rock-climbing and four lessons of orienteering and focusing on achievements. Students in the experimental group underwent the OE.SEL@ZSS program specially designed to enhance SECs. Not only did the OE.SEL@ZSS consist of the four lessons of rock-climbing (similar to those in the control group), it also equipped students with safety skills and required them to work as a team, to be responsible for their peers' safety, and to trust each other. During the process, the students were facilitated to build their self-awareness and self-management competencies as well as social awareness and relationship management skills. In addition, they had to constantly make informed and responsible decisions that would not only affect their personal well-being but also their relationships with peers and teachers. Efforts were made to conduct the OE.SEL@ZSS

program using the 5PPs recommended in the SEL Framework (Ministry of Education 2008). A 28-item questionnaire measuring the five domains of SEC was administered to all the participants twice, before, and after the program. The results showed a consistent pattern that students in the experimental group reported significant and more sizable increases than those in the control group on all SEC domains. Among students in the experimental group, however, the higher-ability students showed larger gains through the program compared to their lower-ability peers. Also, male students reported larger gains than their female peers. These findings point to the need to take into consideration the academic ability and gender of the prospective participants when designing SEL programs because there could be ability- and gender-related differences in SEL developmental advancement that may impact the effectiveness of the programs.

In a mixed-method study that examined the impact of a two-day, one-night SEL camp, themed “*Glow! Grow! Go!*”, Ee and Ong (2014) administered the Social Emotional Competence Questionnaire (SECQ, Zhou and Ee 2012) to 93 secondary-2 (grade-8) students at pre-camp and immediately after the last camp activity. The camp was designed to provide a safe environment for the participants to work in a group, to freely express themselves, and to develop their self-worth, management and communication skills, responsibility, and decision-making skills. Activities during the camp included *Problem-Solving Station Games*, *Push Ball Challenge*, *Low Element Challenge Circuit*, *Rock Wall*, *Water Rafting*, *Outdoor Cooking*, and *Night Walk*. Each participant was given a camp handbook in which he or she was required to write a reflection upon each activity using the following guiding questions, “What did I learn about myself? What did I notice about the relationships between my friends and I, and among my friends? What were the good/bad feelings, if any? What did I learn about responding to situations? What would I do differently? What are the two or three words that I can use to describe how I felt about this activity?” Teacher facilitators were each given an observation checklist to rate the individual students’ behaviors in different situations during the camp on each of the five SEC domains.

The findings indicated that the students reported significant and sizeable improvements in all the five SEC scores after the camp, with self-awareness and relationship management being two domains of SEC showing the largest gains. Analysis of the students’ reflection entries substantiated the quantitative findings, indicating that 49% of the students reported a greater sense of self-awareness, 26% reported a greater sense of relationship management, and between 4 and 16% reported a greater sense of competency in the other three SEC domains. Among the camp activities, the *Night Walk* activity was found to generate the highest gains of self-awareness (60%) and self-management skills (22%), whereas the *Problem-Solving Station Games* was seen by the students as honing their relationship management skills (40%). These findings may not be too surprising because *Night Walk* was the only activity that involved individual participation in which students had to navigate their way in the dark and face uncertain situations, requiring them to manage fear and anxiety. *Problem-Solving Station Games* was an activity that

consisted of different puzzles designed to facilitate the students to learn about themselves and how they functioned as a group. In this activity, the students were expected to consider different strengths, limitations, and unique skills of each group member and to share their ideas to attain the collective goals of solving the puzzles. Thus, the development of SECs through activities like those in the “*Glow! Grow! Go!*” program appears to be associated with the nature of the activities that the students are expected to do or experience during the program.

Some of the students' verbatim responses associated with self-awareness, self-management, and relationship management skills included, “*I learnt that I have confidence. I was scared at first but I built up my confidence during the Night Walk*” (self-awareness), “*If I see something not normal, I will keep calm and keep walking*” (self-management), and “*We can communicate well if we accept other people's ideas and not to do something selfish like stubbornly support our own ideas*” (relationship management). The teachers' ratings, however, showed a different pattern. Although the students were observed by the teachers as displaying a fair amount of self-awareness, self-management, social awareness, and responsible decision-making skills, their relationship management skills were observed to be the lowest. This discrepancy, according to Ee and Ong (2014), may indicate that “teachers tend to see more overt actions rather than examining students' thoughts and reflections as well” (p. 38). Taken together, while the study exemplifies an SEL-focused program that effectively brought about positive changes in students' SECs, it also points to the need to consider different sources of information, including from parents and peers, in assessing the growth of students' SECs.

*Research on the development of SEC assessment scales and methods.* In a measurement study, Zhou and Ee (2012) developed an instrument measuring Singaporean students' SECs in the five domains. Targeting one primary school and three secondary school samples, they developed the Social Emotional Competence Questionnaire (SECQ) comprising 25 items, with each SEC domain measured by five items. Sample items included: “I know what I am thinking and doing” (self-awareness), “I recognize how people feel by looking at their facial expressions” (social awareness), “I can stay calm in stressful situations” (self-management), “I will always apologize when I hurt my friend unintentionally” (relationship management), and “When making decisions, I take into account the consequence of my actions” (responsible decision making). The five SEC subscales were found to be significantly correlated with objective performance scores in English, mathematics, and science. However, confirmatory factor analyses showed marginal fit indices and the internal consistency reliability of most of the subscales was below 70s for the primary school sample (though, it was around 70s for the secondary school samples). The study thus provided preliminary progress in generating a valid and reliable self-report measure of SECs among children and adolescents in Singapore.

In a novel qualitative study assessing SECs, Ee (2014) employed a scenario-based instrument adapted from the Defining Issue Test (DIT) paradigm (Rest 1979) to assess 802 secondary-1 (grade-7) and secondary-2 (grade-8)

students' competencies in the five SE domains. The DIT was initially used as an alternative to Kohlberg's semi-structured interviews to understand adolescents' and adults' moral reasoning (see Colby and Kohlberg 1987). The DIT used Rest's (1979) four-step model for ethical decision making: (1) recognize an ethical dilemma, (2) evaluate the alternatives, (3) make a decision, and (4) act on the decision. In this study, a scenario about a boy named Bill obsessively playing computer games and having to prepare for exams was presented in a printed form, with spaces provided for the students to write their responses to each of the five guiding open-ended question: (1) "What can you learn from this scenario?", (2) "What do you think are the consequences of Bill's actions?", (3) "How can Bill control his obsession with the Internet?", (4) "What effect will Bill's obsession have on himself, his parents, and his future?", and (5) "What would you do if you were Bill? Why?" Content analysis showed that the students' responses to the different questions can be classified into one of the five SEC domains (except relationship management because the scenario was not related to relationship issues). Analysis indicated that responses to the second and fourth questions could be classified into social awareness, responses to the third question could be classified into self-management, and responses to the first and fifth questions could be classified into responsible decision making, self-awareness, and social awareness. The DIT thus appears to be another promising approach to assessing and better understanding students' SECs.

*Research on SEL implementation in classroom teaching.* Other studies have focused on the role of the teachers in infusing SEL in their curriculum instruction. In one such study, Ee and Quek (2013) conducted semi-structured interviews with 19 teachers of English, Mathematics, Science, and Character Education. These teachers were asked questions probing their perceptions of SEL and its importance for students, the indicators of socially and emotionally competent and incompetent students, the infusion of SEL in lessons, and the factors that hinder the success of SEL programs. Analysis of the responses showed that more than half of the respondents believed that SEL is important for providing holistic education to students. The teachers interviewed also stated that students with high SEC are those who are: able to manage themselves (e.g., "less impulsive," "better disciplined," "more able to control their temper"), socially aware (e.g., "able to take the perspective of others," "more empathetic"), responsible in making decisions (e.g., "think twice before making decisions"), and able to manage their relationships (e.g., "deal with disputes maturely"). One third of the teachers believed that their role in effective SEL promotion is as a facilitator (e.g., "Facilitator. It is not like I am telling or prescribing this is the way you should behave, this is the right thing to do. But rather, it should be a process by which they learn and then they understand. Then, they do it") or a role model (e.g., "Nurturer, role model, cheerer for students, support. Somebody they can go to for help, a surrogate parent"). While half of the teachers felt confident in infusing SEL into their lessons (e.g., "Confident that they are able to relate to me and understand why I am saying it. It is about communicating with them beyond academics"), a quarter of them were more circumspect (e.g., "As a whole I am not sure as I have not tried it yet, but if it is a little at a time I

*think it is possible*”). Half of the interviewees identified English as the easiest subject in which to infuse SEL, followed by Character Education, Mother Tongue, History, Geography, and Social Studies. On the other hand, Mathematics and Science were deemed the most difficult subjects in which to infuse SEL. The teachers also reported the lack of available time for infusing SEL into the lesson, the difficulty in linking the content subjects to SEL, the time needed for preparing SEL-infused lessons, and the (un)availability of suitable supportive resources as key factors hindering their SEL infusion. Taken together, this study identified teachers' perceptions of the relevance of SEL to education and for the students' holistic development, their perceptions of key indicators of socially and emotionally competent students and of challenges in infusing SEL into their teaching. As such, there is a need for systematic training and continuous support for teachers to equip them with pedagogical knowledge and strategies to promote SEL into their teaching of specific curriculum content areas.

In a follow-up study on SEL in classroom teaching, Ee et al. (2014) analyzed 29 videotaped lessons of 15 primary school teachers and 47 videotaped lessons of 26 secondary school teachers. The study sought to examine the pedagogical strategies that teachers employed to infuse SEL into their daily teaching, the differences in use of these strategies across grade levels and subject areas, and the contributing factors to successful SEL in daily teaching. Results demonstrated that the teachers used a variety of strategies to foster SECs, including class discussion stimulated by news reports, videos, or movie clips, role plays, scenario-writing, reflection, logs, animation, debates, storyboards, case studies, short stories, pictures, and analogies. The results reflected a similar pattern across primary and secondary levels: Teachers tended to generate more questions and discussion pertinent to self-awareness, followed by social awareness, responsible decision making, relationship management, and self-management. Teachers believed that self-awareness was the easiest, and relationship and self-management were the most difficult, to structure questions and facilitate discussions. The findings also showed that, in general, most teachers attempted to infuse SEL into their lessons, regardless of the subject areas they taught. Character Education, however, was found to be the subject with the highest number of SEL questions in lessons—this was true for both primary and secondary levels. Mathematics, English, and Science were found to be the subjects with the next highest numbers of SEL questions raised in the primary school classrooms; English, Science, and Mathematics were the subjects with the next highest numbers of SEL questions raised in the secondary classrooms.

Analysis of the videotaped lessons also showed a variety of factors that contributed to the quality and quantity of SEL promotion. These factors can be classified into four themes: (1) *teacher–student relationships*, suggesting the importance of good rapport between the teacher and the students for effective SEL, (2) *classroom climate*, pointing to the need to create a positive and conducive learning environment where students feel free and comfortable to express their thoughts and emotions without a fear of being judged, (3) *classroom management skills*, referring to the teacher's ability to manage the class in terms of noise level and behaviors that are important before quality SEL-related discussions occur, and

(4) *general teaching competencies*, representing the possession of a wide range of pedagogical practices and activities that lend themselves to SEL, such as cooperative learning or project-oriented learning. Based on these findings, Ee and colleagues identified two needs to address various barriers to SEL in daily teaching. First, staff development programs need to facilitate teachers' positive attitudes toward SEC development in students and the realization that teachers' SECs are closely associated with their students' SECs. Second, there is value in building a professional learning community, both at the school and district levels, to provide a platform for school leaders, heads of department, subject heads, and senior teachers to share their resources with more junior colleagues. This is especially important given the limitations in time and resources available for SEL in a busy curriculum that some teachers identified in interviews.

#### **4 Recommendations for Future Research and Applied Implications**

The chapter has outlined the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014) formulated by the Singapore MOE and now adopted in schools in Singapore. It has also identified SEL pedagogical principles and practical approaches and discussed a number of Singapore-based studies pertinent to SEL (Ministry of Education 2008). Taking policy, research, and practice together, we propose a number of recommendations to further progress SEL in Singapore.

The SEL Framework (Ministry of Education 2008) or its expanded version, the Framework for Twenty First Century Competencies and Student Outcomes (Ministry of Education 2014) has been very systematic and comprehensive in its conceptualization of SEL, its articulation of target SEL goals, standards, and benchmarks, and its recommendations on SEL pedagogical practices. Brackett et al. (2015, p. 21) stated "approaches to SEL that are applied in schools need to specify which variables impact children's development—from what teachers teach and how they teach it, to how and what children learn, to how various environmental factors affect both teachers and children." That is, to develop SEL programs that are of high quality, approaches must be "based on sound theories of child development, learning, prevention science, and empirically validated practices" (Zins et al. 2004, p. 10). Insofar as this is the case, the theoretical rationale of recommended SEL practices needs to be more explicitly communicated to teachers during professional development as well as clearly stated in accompanying training documents. Doing so, the application of SEL pedagogical principles and approaches is expected to be clearer and more targeted. Following from this, the objectives of instructional activities aimed at promoting SEL can be met more effectively.

Teachers play a crucial role in determining the extent to which the curriculum-based promotion of SEL and school-wide infusion of SEL are effectively implemented. To continuously empower teachers in their capacity as SEL facilitators, there needs to be programmatic theory- and research-grounded trainings that aim to foster teachers' competencies in not only the skills and knowledge about SEL but also the mindset and attitudes toward SEL. Indeed, Jennings and Greenberg's (2009) prosocial classroom model might be used as an integrative framework for teacher professional development programs. This model highlights the importance of teachers' SECs and well-being, and how these teacher factors affect their students' social, emotional, and academic development through positive teacher–student relationships, competent student and classroom management, and effective implementation of SEL programs. These facilitating factors are consistent with the local findings by Ee et al. (2014) who found that good teacher–student rapport, classroom management skills, supportive classroom climate, and general teaching competencies were key factors that contributed to the quality and quantity of SEL in the classrooms. Indeed, Chong and Lee (2015) also suggested that SEL engagement may be enhanced through meaningful teacher–student relationships. Further, as suggested by Jennings and Greenberg, the effectiveness of teacher training programs—such as one seeking to foster teachers' SECs and well-being—needs to be empirically evaluated through randomized controlled experimental designs with a variety of outcomes, derived from both teachers and students.

A recent meta-analysis identified the benefits of SEL-based curricula and programs for a variety of adaptive outcomes, including more positive student attitudes (e.g., stronger academic motivation and self-efficacy, higher educational aspirations, better coping with school stressors), behaviors (e.g., more prosocial behaviors, heightened school attendance, less school absences and suspensions, decline in fights and disruptions), more critical thinking skills, and better academic performance (Durlak et al. 2011). These findings were based on research mostly conducted in the North American context, and so there is a need to establish a similar evidence base in Singapore (Abdul Rahman 2009; Ee and Ong 2014).

Given the somewhat collectivistic nature of Singaporean society, there may also be value in studying socio-contextual antecedents of students' SECs. Research along these lines might investigate socio-contextual factors, such as the role of the community, parents, peers, and teachers, in fostering or hindering the optimal development of students' SECs. To this end, the bio-ecological theory of individual development and well-being (Bronfenbrenner and Morris 1998) would be of particular relevance and could be used to guide this line of research. To empower SEL research in Singapore, there is also a pressing need to develop a standardized measure of SECs with strong psychometric properties that can be applied on a large-scale basis across primary and secondary school students. The SCEQ developed by Zhou and Ee (2012) represents an important first step; however, there is now a need to continue their efforts in order to generate a valid and reliable SEC measure for school students at different developmental stages. Importantly, as with any educational research program, the success of SEL research in Singapore will

not take place without a strong partnership between the Ministry of Education, school personnel, and university researchers. Cooperation and collaboration between these stakeholders will play a critical role in bringing SEL practice and research in Singapore to new and greater heights.

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