

Journal of Teaching and Teacher Education

An International Journal

http://dx.doi.org/10.12785/jtte/010201

Teachers' Perceptions of Students' Social Emotional Learning and their Infusion of SEL

Jessie Ee¹ and Quek Lee Cheng²

¹Associate Professor, National Institute of Education, Nanyang Technological University ²Educational Psychologist, Ministry of Education, Singapore Email Address: jessie.ee@nie.edu.sg

Received: 21 Jan. 2013, Revised: 17 Mar. 2013, Accepted: 21 May 2013

Abstract: This study is part of a bigger research project that addresses the infusion of social emotional learning (SEL) in students' academic subjects such as English, Mathematics, Science and Character Education. Seventy-six teachers were involved in the infusion of SEL in four schools. After the Posttest 1, besides administering a teacher questionnaire, 19 out of 76 teachers were interviewed individually to assess their perceptions of SEL, their views on their SEL infusion in class and their perceptions of the factors that enhance or hinder SEL implementation. The interview questions were divided into three categories: the importance of social and emotional competencies (SECs) for students; infusion of SEL into the school curricula and their own attempts at imparting SECs to their students during their lessons. Teachers' perceptions of their role in infusing SEL and their doubtful belief that SEL will lead to students' academic achievement may impede the success of their SEL infusion in class. Furthermore, although they perceived that students with low SECs have poor self-management and relationship-management skills, they did not translate this into practice in enhancing their students' SEL. Implications for the classroom will be discussed.

Keywords: social emotional learning, self-awareness, social awareness, self-management, relationship management, responsible decision making, infusion of SEL, video lesson, lesson plan, Socratic questioning

INTRODUCTION

Importance of Fostering Social-Emotional Learning

A recently completed meta-analysis of 270 SEL programs that promote social and emotional competencies (SECs) have found that SEL interventions significantly improved students' attachment and attitudes towards school, leading to better social attendance, higher motivation, and higher morale (Durlak & Wells, 1997; Zins, Weissberg, Wang, & Walberg, 2003), while decreasing rates of violence/aggression, disciplinary referrals, and substance use (Weissberg & Elias, 1993). People are not able to think clearly when dominated by powerful negative emotions (Weissberg & Elias, 1993) as some emotions (such as sadness and anger) can block learning, while others (such as sense of well-being, or feeling safe and valued) promote learning. Mayer, Perkins, Caruso, and Salovey, (2001) further suggested that emotions help one to prioritise, decide, anticipate and plan. Some researchers (e.g., Wang, Haertel, & Wallberg, 1997) have argued that social and emotional skills are among the most influential factors in student learning. Hence, it is important to foster social emotional learning amongst students.

The Role of the Teacher in Student's SEL

Studies on teacher-effectiveness have shown that teachers have the greatest potential in making a difference in their students' learning (Kemp & Hall, 1992; Taylor, Pearson, Clark, & Walpole, 1999). Klusmann, Kunter, Trautwein, Ludtke, and Baumert (2008) emphasized that the mindset of educators can shape the mindset of students. Students are aware of, and care about teachers' perception of them (Haynes, Emmons &



Ben-Avie, 1997). Furthermore, there is a growing recognition that teachers make crucial contributions to the social and emotional development of their students (Birch & Ladd, 1998; Hamre & Pianta, 2001, 2006; Murray & Greenberg, 2000; Pianta, Hamre, & Stuhlman, 2003). They influence their students not only by what they teach but also how they relate, teach and model the social and emotional constructs, and manage the classroom (Jennings & Greenberg, 2009). Teacher's subject knowledge has been shown to impact pedagogy and delivery which in turn affect students' receptiveness in the classroom (Hmelo-Silver & Barrows, 2006; VanDriel, Bulte, & Verloop, 2007). As such, they become the fulcrum in developing SECs in students.

Hence, it is important that educators are knowledgeable about the SEL framework so as to be able to identify students with low SECs and thereby work towards improving these students' SECs. Teachers who admitted to having lower knowledge of their teaching subject reported less tendency to generate lessons or teaching materials that may facilitate better retention and higher levels of interest in the topic (Hmelo-Silver & Barrows, 2006; VanDriel et al., 2007).

Given the crucial roles of teachers in fostering the social and emotional competencies of their students, it is necessary to examine the views they may have in enhancing social and emotional learning in the classrooms. Teacher's perceptions and beliefs (Brownlee, 2003; Chai, Teo & Lee, 2009) shape their enthusiasm for teaching and guide their teaching philosophy (e.g., Pierce & Ball, 2009; Staub & Sten, 2002; Tan, 2011; Yilmaz, 2009), as well as the manner in which they engage and influence students' receptiveness to their teaching (Hmelo-Silver & Barrows, 2006).

Influences of Teachers' Perception on Teaching

Research has shown teachers' beliefs and perceptions influence not only their pedagogical practices but also their students' efficacy and success (Akey, 2006; Bamburg, 1994; Obiakor, 2000; Pajares, 1996; Rosenthal & Jacobson, 1968; Ryan & Patrick, 2001; Ferguson, 2003; Schirmer, Casbon, & Twiss, 1997; Tatto, 1996; Yero, 2002). Teachers, who report a belief in the dynamism of the teaching process between teachers and students, rather than a didactic relationship, are more likely to make the effort to plan and deliver lessons, as well as report a higher tendency to reflect on students' abilities and learning processes (Brownlee, 2003). Conversely, teachers who subscribe to an entity theory of ability, rather than an incremental one, are less likely to exert efforts to ensure learning in their students once their perceptions of low ability have formed (Chai, et al., 2009; Chai & Khine, 2008).

Brophy (1985) suggested that teachers' perceptions of their students affect the way they interact with them. Teachers who have high expectations for student achievement are likely to enhance student achievement (Roeser, Eccles & Sameroff, 1998). This is very powerful, especially since a teacher's beliefs and perceptions about a particular student's achievement can be developed without regard to prior knowledge about, or experience with, that particular student's ability (Jussim, 1986; Mackler, 1969). This is confirmed by evidence that a student's perceptions and beliefs of his/her own abilities and capacity for learning can positively or negatively be affected by a teacher's perceptions and beliefs (Andrews, Soder & Jacoby, 1986; Brophy & Everston, 1981; Jussim, 1986; McDonald & Elias, 1976; Rutter 1979; Ryan & Patrick, 2001).

According to Jennings and Greenberg (2009), teachers with high SECs have the ability to engage their students in interacting in socially skilled and respectful ways. Teachers' prosocial skills will assist their students to contribute ethically and responsibly to their peers, family members and the community and make them responsible for the consequences of their actions as they develop positive basic competencies, work habits and values for meaningful employment for the near future. As Pianta and La Paro (2003) noted, such teacher behaviours are associated with optimal social and emotional classroom climate and desired student outcomes. There are low levels of conflict and disruptive behaviour, smooth transitions from one activity to another, appropriate expressions of emotions, respectful communication and problem solving, strong interest and focus on task, and supportiveness and responsiveness to individual differences and students' needs in their learning environment. Marzano, Marzano, and Pickering (2003) indicated that when teachers lack the



resources to effectively manage the social emotional challenges within the classroom, children are likely to display lower levels of on-task behaviour and performance. As the classroom climate deteriorates, teachers may become emotionally exhausted and may resort to reactive and punitive responses that do not enhance student self-regulation (Ortner, Sachne, & Zelazo, 2007). Hence for teachers to ignite and maintain a highly positive classroom climate, it is essential for teachers to have the right perceptions and expectations and; be able to model high levels of SEC as well as infuse SEL in the learning environment.

A teacher's perception of whether the SEL program is necessary also affects the effectiveness of the SEL infusion in classrooms (Schultz et al., 2010). In terms of implementation feasibility, while educators felt that it was feasible to include a period of SEL per week, majority of them felt that it was not feasible to go beyond that, citing the lack of time to prepare the lesson (Buchanan et al., 2009). Hence, the teacher's perception of the time he or she has influences the effectiveness of the infusion. It is likely that if the teacher is pressured to ensure the class performs well academically, he or she may think that SEL lessons can be sacrificed in favour of academic subjects. This would lead to a less effective infusion of SEL in classrooms and a lower emphasis on the SECs growth of students (Schultz et al., 2010). The difference in perception of educators' responsibility in developing SEL of students also leads to varying results; if the teacher feels that the social and emotional development of a child falls outside of the job scope of a teacher, he or she is not likely to carry out the SEL programs with conviction (Schultz et al., 2010).

Teachers' perceptions of their work-related psychological experiences were associated with their implementation of a social-emotion curriculum (Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009). Teachers with higher levels of efficiency were more likely to deliver better quality curriculum after being trained. Teachers' confidence (Guskey, 1988) and beliefs (Buchanan, Gueldner, Tran, & Merrell, 2009; Pajares, 1992) are associated with their attitudes regarding both the importance of and the difficulty associated with implementing innovative programs. This implies that as teachers are the primary deliverers of SEL programs, their beliefs, attitudes and support towards SEL influences the adoption, sustainability, and impact of such programs. This may in turn affect the quality of their relationship with their students. The influence of the school's culture (Hallinger & Heck, 1996; Patti & Tobin, 2006; Fullan, Miles, & Taylor, 1980) can also affect teachers' commitment to implement SEL programmes and model SEL skills (McCormick, Steckler, & McLeroy, 1995; Brackett, Reyes, Rivers, Elbertson, & Salovey, 2012). As such, teachers are powerful influences of students with their subject knowledge impacting pedagogy and delivery (Hmelo-Silver & Barrows, 2006; VanDriel, Bulte & Verloop, 2007). Therefore, teachers' perception and beliefs shape teachers' enthusiasm for teaching and guide their teaching philosophy and practices (Brownlee, 2003; Chai, et al., 2009). This in turn affect the effectiveness of the SEL infusion in classrooms and students' interaction (Jennings & Greenberg, 2009), which can positively or negatively affect students' abilities and capacity for learning. In summary, teachers' beliefs and perceptions of their attitudes and SEL infusion determine the success of the SEL intervention program.

Buchanan, Gueldner, Tran, and Merrell (2009) study on teachers' knowledge, perceptions, and practices in SEL classrooms indicated that teachers must take active roles by receiving training and support from a variety of professionals to cope with the current academic demands to improve students' SECs. Furthermore, as Buchanan and colleagues' (2009) study is conducted in the United States, this study seeks to explore if the results can be generalizable to the Singaporean context.

Social-Emotional Learning Framework in Singapore

Social emotional competencies (SECs) have been defined as the possession of a range of capabilities to recognize and manage emotions, develop care and concern for others, solve problems effectively, establish positive relationships with others and making responsible decisions to handle challenging situations effectively (CASEL, 2005; Elias, Zins, Graczyk, & Weissberg, 2003; Zins & Elias, 2006). When it comes to academic settings such as the classrooms and schools, the focus is on a range of manifested behaviours such as control of emotions, care about peers, effective communication with peers, engagement in group work, and maintaining a healthy relationship with others in school.



According to the SEL Framework adopted by the Ministry of Education (MOE, 2008) in Singapore (see Figure 1), the five SECs are self-awareness, social awareness, self-management, relationship management and responsible decision making. As students' SECs are enhanced, they should be able to acquire the skills, knowledge and dispositions to help them face future challenges.

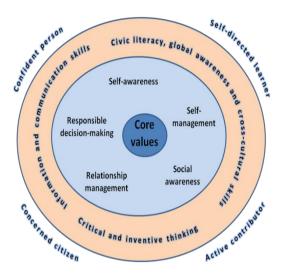


Figure 1 Social-Emotional Learning Framework in Singapore Source: Ministry of Education, Singapore

Developing Social-Emotional Competencies through Classroom Instructions

Fostering SECs to enhance knowledge, responsibility and caring is both challenging and a highly rewarding aspect of teaching (Elias et al., 1997). Different models have been developed with regards to how teachers can create a sense of respect, caring, and belonging by attending to students' social and emotional needs. However, a high SEC teacher, who recognizes an individual student's emotions and understands their cognitive appraisals may be more effective in responding to their students' individual needs. In this paper, teachers' perceptions and beliefs are investigated to understand their SEL intervention in their classrooms.

Current Study

This study aims to investigate the following by means of interviewing a number of teachers from the larger study:

- 1. Teachers' perceptions of SEL.
- 2. Their views on their SEL infusion in class in their curriculum subject areas.
- 3. Positive or negative factors that may affect the implementation of SEL.

Refer Appendix 1 for details on the interview questions.

METHODOLOGY

Subjects

Nineteen teachers, 7 males (36.8%) and 12 females (63.2%) from two primary schools and two secondary schools in Singapore participated and completed an interview for this study. 68.4% percent (n = 13) were Chinese, 10.5% (n = 2) were Malays and 21.1% (n = 4) were Indians.

Convenient sampling was used to ensure that teachers from all four subject areas were involved. Nine of the teachers infused SEL in English, eight in Mathematics and four in Science. While most of the teachers only infused in their academic subject area, seven of them also taught Character Education.



Data collection and analysis

A qualitative study design consisting of teachers' interview questionnaire was administered to teachers. The interviews were audio-recorded, coded and transcribed. Two raters independently coded the teachers' responses and the inter-rater reliability was found to be 89%. All disagreements were discussed until the raters reached an agreement on the coding.

Instrumentation

Teachers were interviewed individually to determine their perceptions of:

- 1. SEL and the Student e.g. teachers' knowledge of the benefits of SECs and their indicators of a competent or incompetent SEC student.
- 2. Infusion of SEC in their lessons e.g. teachers' role(s), confidence, and SE-related questions in infusing SEL in their academic subject areas and their views of which subject is the easiest or hardest for SEL infusion and the types of strategies used.
- 3. Implementation of SEL in the Curriculum e.g. factors that foster or hinder the success of the SEL program, the alignment of the school's mission and values in supporting SEL implementation.

RESULTS

1. TEACHERS' PERCEPTIONS OF SEL

Benefits of SEL in the curriculum

Many benefits of SEL were mentioned but the most salient one to teachers (56%) was that SEL helped in giving students a holistic education. Teachers' knowledge of the benefits corresponded with their perceptions of the indicators of a high SEC student, citing better self-management (44%) and social awareness (32%) as advantages of having SEL in the curriculum. Also, thirty-eight percent of teachers felt that SEL helped to provide a framework for teaching SECs.

T9S2: "Able to make decisions, consider different factors (not impulsive decisions), handle themselves and their emotions better, know how to prioritize"

T18S1: "Inculcate values towards studies, problem-solving and life skills".

T16S1: "More aware of appropriate behaviours and how to carry themselves and control their emotions in front of others".

Teachers were asked to give reasons why SECs were important for students. The most common response teachers gave was that SEC was instrumental in character development and the instilling of the right values e.g. 'SEL basically focuses on the infusion of values into a student'. SECs were also perceived to be important in enhancing students' decision-making skills, social awareness, self-regulation and in relating to society as a whole.

Knowledge of Competent or Incompetent SEC Student

Teachers were asked what they thought the indicators of a competent or incompetent SEC student were. Fifty-nine percent of them indicated that high SEC students were able to self-manage i.e. were 'less impulsive', 'better disciplined', "more able to control their temper" and "were able to manage their studies or CCAs". Low SEC students on the other hand were described by a teacher to be irresponsible and ignorant. Fifty-three percent of teachers also felt that high SEC students had better social awareness as they were able to take the perspective of others and were more empathetic. Thirty-eight percent of teachers mentioned those who were responsible at making decisions were likely to think twice before making decisions while twenty-



three percent cited their ability to manage relationships (e.g. 'deal with disputes maturely'). Only a small percentage of teachers (6%) cited self-awareness as an important characteristic in high SEC students.

2. TEACHERS' PERCEPTIONS OF INFUSION OF SEL INTO THE SCHOOL CURRICULA

Teachers' role(s) in effective SEL infusion

Most teachers commented that it was their role to guide students in the process of learning rather than impose certain values on their students. The most frequently cited role amongst the teachers was to be a facilitator (33%) followed by being a role model (17%).

- T7S2: "Facilitator. It's not like I'm 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".
- T14S2: "Nurturer, role model, cheerer for students, support. Somebody they can go to for help, a surrogate parent".

SEL infusion

The most frequently cited method (30%) was to infuse SEL in all topics and subjects. Some other ways to effectively infuse SEL in the curriculum included infusing directly into the content. Contrary to this, several teachers (24%) also mentioned that SEL should be infused indirectly, and the same number of teachers felt that it should only be infused in subjects which are amenable to SEL, and that "blanket infusion" was not effective.

Confidence in SEL infusion

While 47% of teachers were either confident or somewhat confident in infusing SEL into lessons, 26% of teachers did not feel confident. Factors which teachers felt affected their confidence were rapport with the class (21%), ability to infuse SEL into certain topics (16%), and the need to feel appropriately prepared to infuse SEL for the lesson beforehand (16%).

- T7S2: "Confident that they're able to relate to me and understand why I'm saying it. It is about communicating with them beyond academics".
- T16S1: "Lessons 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".

Teachers' SE-related questions in relation to students' behaviours / actions / decisions

Half of the teachers interviewed indicated that students were able to relate their questions to appropriate behaviours, actions and decisions. Other teachers (31%) reported that students were only able to do so to some extent, while the remaining teachers indicated that students were not able to relate at all. Some teachers (16%) were unable to tell if students were able to relate to such behaviours, actions and decisions. One teacher reported that students would be able to relate better if the teacher was able to ask the appropriate questions. Interestingly, twenty-six percent of teachers pointed out that even though students were able to give appropriate answers to SE-related questions, they might not necessarily manifest appropriate behaviours.

T9S2: "Sometimes they are able to give the right answer, but may not be able to do so when facing the real situation".

Easiest subject for SEL infusion



Half of the teachers interviewed named English Language as the easiest subject to infuse SEL. Character Education was another subject named by teachers (39%) to be an easier subject to infuse SEL. Other subjects that were easier to infuse SEC were Mother Tongue, History, Geography, Social Studies and English Literature.

T10S2: "For English, a lot of activities can be carried out. Language-based, more options when crafting lesson".

T15S3: "English and Character Education. Because the units come in story form and they have values about characters so they are easy to infuse".

Hardest subject for SEL infusion and difficulties faced

More than half the teachers (59%) encountered the most problems when attempting to infuse SECs in Science; forty-seven percent of the teachers found Mathematics to be the subject that was the next most difficult to infuse SECs. The teachers generally felt that it was difficult to infuse SECs in certain topics (e.g. algebra, atoms and molecules) and that Science and Mathematics were more "factual" subjects where students needed to be drilled and given time to practice. None of the teachers named English or Character Education as the most difficult subject to infuse SECs while twelve percent of the teachers felt there was no particularly difficult subject for infusing SEL.

T7S2: "Math / Science. Very technical subjects, faced difficulty in infusing SEL in a way that is useful".

T5S1: "Science is not natural fit for SEL, cannot teach and infuse at the same time especially since some topics are just facts".

Most relevant and easiest to illustrate SEC

When asked which SECs was the most relevant and easiest to illustrate, three quarters of the teachers picked 'Self-awareness'. While half of these teachers also named 'social awareness' as the most relevant and easiest to illustrate SECs; 'relationship management' and 'responsible decision-making' were each mentioned by only eight percent of teachers. None of the teachers chose 'self-management'.

T4S1: "Self Awareness. Doing mathematics require perseverance, encourages them to be more aware of themselves, the confidence they have in solving problems or how far they can go".

Strategies used for infusing SEL

The most popular strategy (37%) used by teachers to infuse the SECs in subjects was 'Questioning' while others (32%) said that they linked SECs to the syllabus content. Newspaper articles, video or movie clips, class discussions (32%) and role-play (26%) were some of the other strategies teachers used for infusing SEL. Other strategies pointed out by teachers include scenario-writing, worksheets, graphs, animation, debates, storyboards, case studies, short stories, pictures, acronyms, analogies, getting students to do research beforehand, and by observation of student behaviours.

T18S1: "Science, use social awareness examples. English, use inference type of questions. For Math, give them scenarios. For Character Development, show them YouTube videos, PowerPoint slides and worksheet".

3. TEACHERS' PERCEPTIONS OF SEL IMPLEMENTATION

Factors that hinder SEL

Teachers (42.1%) commented that there was insufficient time to implement SEL in the lessons as they had to cover the syllabus as well. Another obstacle faced by some teachers (47%) was linking the content of the



subjects to SEL. Other hindrances of effective implementation of SEL included the time needed for preparation or planning of SEL-infused lessons, and availability of suitable resources (21%).

T15S3: "Over concern over results, no support from home and time".

T18S1: "Time management and eagerness to complete syllabus. Family background".

Changes that were needed in the school system to enable better implementation of SEL

Forty-three percent of the teachers interviewed reported that curriculum time should either be lengthened or that their workload should be decreased so that they would have sufficient time for preparation and effective implementation of SEL. Only one teacher felt no change was needed. Some teachers (21%) also reported that it was important that there was a school-wide approach to implementing SEL. They further suggested that the school could support teachers by incorporating elements of SEL during school assembly and other school events. Other changes suggested (16%) included recognizing good behaviours, pre-service training of teachers for SEL, infusing SEL during assembly or other school events, and having more support from the school management.

T4S1: "Teachers need more pre-service training in order to make them aware. Schools should provide more training".

T6S1: "Emphasize the need for SEL during school assembly. Reward students when good values are shown. SEL should be a habit/culture".

T18S1: "Cut down syllabus and not stressing on academic excellence but on holistic education".

School's mission in supporting SEC acquisition

Most of the teachers (74%) felt that their school mission and values supported the acquisition of SE competencies, whereas only one of the teachers felt that the school mission or values had to be changed to be in line with SE competencies. The remaining teachers felt that the school mission and values only partially supported the acquisition of SE competencies. These teachers also felt that even though the school mission and values were in line with SE competencies, there was a question as to whether there is proper implementation of SEL in the school.

T7S2: "Yes, the school vision and values definitely have intentions to develop a child to be SEL competent. But to what degree we're doing it is really the question here".

T12S2: "Yes, totally support. Respect, resoluteness, responsibility are cornerstone of SECs".

DISCUSSION

Importance of SECs for Students

In general, teachers did perceive the importance of SEL in character development and instilling of the right values, thus developing students holistically. This is consistent with the findings of Buchanan, Gueldner, Tran and Merrell (2009) that teachers' knowledge of SEL in the classroom was found to enhance students' life endeavours. However, our teachers did not indicate the effect of SEL on students' academic outcomes like in Buchanan et al (2009) study. This may indicate that many teachers were still not convinced that SEL could lead to higher students' academic achievement. If teachers were not fully convinced of the usefulness of SEL intervention they would not give their full commitment and would not fully implement SEL to make an impact on their students.

Teachers were able to identify a high SEC student from a low SEC student by observing students' ability to manage their emotions and their studies, as well as their empathy and mature interactions during disputes. However, they did not factor self-awareness highly in their perceptions of their students' SEC. It is likely that teachers found ease in interpreting outward behaviours and students empathy (e.g., self and relationship management, and social awareness) rather than students' inner awareness (e.g. self-efficacy) and knowledge



of the self (strengths), as criteria for high SECs of students. This could be due to their lack of complete understanding of the various dimensions of SEC.

Infusion of SEL

Teachers perceived themselves as a facilitator and role model when infusing SEL in the classroom. This may indirectly reflect their recognition of the need to provide a student-centred environment to ensure that students' views were heard. Furthermore, a majority (78%) of teachers were relatively confident of infusing SEL. Indeed, a recent study (Brackett et al., 2012) showed that teachers who were more confident in their ability to teach the SEL programme perceived it as more effective, and enjoyed the program. Moreover, previous studies (Guskey, 1988; Rohrbach, Graham, & Hansen, 1993) substantiated that teachers' confidence was linked to their perceptions of the importance and difficulties associated with the implementation of SEL programmes.

Teachers found it easier to infuse SEL in English and Character Education than in Mathematics and Science. This may be due to the content nature of language and expressive arts. Mathematics and Science, on the other hand, were viewed as more "factual" and technical in nature, making SEL infusion a challenge. Teachers need to allocate time for effective planning of adequate linkage of SEL to curriculum areas, especially in Mathematics and Science.

In addition, teachers found self-awareness to be the easiest SEC to infuse, followed by social awareness and responsible decision making, but none felt self-management relevant and easy to illustrate. This may show that teachers were more spontaneous in providing more 'awareness' questions in the classroom. This notion was further supported and substantiated when half of the teachers interviewed picked 'questioning' to be the most popular strategy to infuse SEL.

Challenges in SEL Implementation

Insufficient time to complete the curriculum and to plan and link SEL to their content were factors that hindered their SEL infusion in the classroom. Even if teachers were to be convinced that SEL was just as important or even more important than academic success, teachers might still feel that the time and energy to instill SECs took away time from teaching skills that students needed for their academic development (Kress, Norris, Schoenholz, Elias, & Seigle, 2004). Teachers' time availability for lesson preparation was also consistent with Buchanan et al.'s (2009) study. These might reflect a lack of knowledge in SECs content knowledge which is necessary to infuse SEL more effectively in the curriculum. Curriculum time could possibly be lengthened and a reduction of the teachers' workload would help make implementation of SEL programs more achievable. Designing routines where students can use the different SECs and providing teachers with outlines of lesson plans on SEL programmes (Jones & Bouffard, 2012) are examples that might help them overcome the time constraint. Furthermore, pre-service SEL training in NIE or in-service SEL training for teachers in schools may be provided to enhance teacher competency, as previous research suggested that training is associated with both the quality and quantity of implementation (Connell, Turner, & Mason, 1985; McCormick, Steckler, & McLeroy, 1995).

Although teachers encountered difficulties in SEL infusion in the classroom, most of the teachers still felt that their school mission and values support the acquisition of SE competencies. Also, teachers perceived that changes in the school system was necessary to enhance SEL facilitation and these changes include incorporating SEL in the classroom, assembly, school events, and more support from the management. Past studies have indicated that administrative support is critical for a successful program implementation (Fullan, 2001; Gottfredson & Gottfredson, 2002; Kam, Greenberg, & Walls, 2003; Neil, Carlisle, Knipe, & McEwen, 2001; Viig & Wold, 2005) and therefore, a school-wide program approach involving teachers, students and parents towards SEL implementation needs to be adopted. Designing strong school-wide programmes (Jones & Bouffard, 2012) that develop SECs in a systematic way such as incorporating SEL into educational goals and benchmarks, as well as providing supportive school culture and climate are strategies that schools can incorporate so as to facilitate teachers' SEL classroom infusion.



CONCLUSION

According to Joseph and Strain (2003) and Ee and Zhou (2012), children's social and emotional abilities are strongly associated with their academic skills and their ability to learn and be successful in school as well as their willingness to share their knowledge with their peers (Kress et al., 2004). It is important for educators to understand that they have the greatest potential to make a difference in their students' learning. Teachers' knowledge of SEL, their perceptions of the effect of SEL on students' academic outcomes and the importance of an effective SEL intervention program influence the success of the program. If teachers are not convinced that SEL will lead to students' academic achievement and that it is useful to have SEL intervention, the intervention program may not have any impact on students' SEC. Therefore, teachers need to be exposed to relevant research that showed the usefulness of SEL on students' achievement.

Elias (2006) has suggested that the SEC skills must be taught in an incremental, coordinated and continuous manner. Furthermore, teachers' knowledge of SEL and their content area affect their ability to link SEL to their content area. Teachers need to infuse SEL by applying the SEL pedagogy principles to address the social and emotional development of the students. This can be done by providing age-appropriate and relevant activities that encourage reflections, role-play and application that addresses their social and emotional dimensions. In addition, teachers need to assist their students to self-management their emotions (e.g. anger, frustrations, fear of failure, lost of face etc.) and self-regulate their study behaviours to enhance students' SECs. Brainstorming through relevant scenarios e.g. dilemmas and role-plays may facilitate these SECs so that students can recognise the links between their emotions, their thoughts, and their behaviours. Specific routines using Traffic lights for responsible decision making or I-messages for relationship management can be incorporated in lesson routines to save class time for teachers. Subject Heads of departments can discuss ways to infuse SEL with regards to their specific subject domains so that teachers can link SEL better to their relevant subject content areas.

Teachers need to have high SECs as well as right beliefs and perceptions to make a difference in their students' learning. All teachers should go through a screening test before entry into the teaching profession and be given SEC training even if they are merely relief teachers in the classes. This is to ensure that teachers have the right mindset in preparing their students for the 21st century.

Their perceived support and alignment of the school's mission, thrusts and resource allocation also impact the effective implementation of the SEL program. Past researches (Kam et al., 2003; Ransford et al., 2009) have revealed that the strongest intervention effect occurs when principal support and implementation quality are high. Ideally, the school's vision to adopt SEL school-wide will provide the "missing piece" to the specific set of skills important for success at home, school, and life as indicated by Elias (2006). Teacher representatives in cluster groups may organise focus group discussions to better facilitate SEL seamlessly into classrooms as well as school-wide.

There is also a need to address the perceived mutual exclusivity between SEL and the academic curriculum areas, possibly through workshops given to teachers and precise lesson plans, stating exactly how certain SECs can be infused through the different subject domains (Kress et al., 2004).

It is necessary for future research to follow up on assessing factors which could influence the effective implementation and sustainability of SEL, namely: pre-implementation, supported implementation, and sustainability (Schultz et al., 2010). Teacher attitudes and motivation to continue implementing SEL would differ from phase to phase and there is a need to further investigate how such a solution could be obtained in a form of mentoring. Since teachers' beliefs about SEL influence implementation effectiveness, there is a need to highlight research that illustrates that quality of teaching takes precedence to quantity for positive results to occur in classrooms. Teachers who believe students' social and emotional skills are malleable are more likely to spend more time on SEL instruction and buy into SEL efforts at their schools (Dweck, Chiu, & Hong, 1995). This parallels to Kress and Elias' (2006) quote that "teachers who believe that social and emotional skills are part of a student's immutable genetic makeup will be likely to show support for a program".



ACKNOWLEDGMENTS

This research was conducted with the support of a grant by the Centre for Research in Pedagogy and Practice under a Singapore Ministry of Education research grant. Any opinions, findings, and conclusions expressed in this article are those of the authors and do not reflect the views of the Centre for Research in Pedagogy and Practice or the Singapore Ministry of Education.

REFERENCES

- Allison, S. (1988). *Meaning-making in Marriage: An exploratory study* (Doctoral Dissertation). Massachusetts School of Professional Psychology, Newton, Massachusetts.
- Akey, T. M. (2006). Student context, student attitudes and behavior, and academic achievement: An exploratory analysis. Technical paper prepared for Manpower Development Research Corporation (MDRC).
- Andrews, R. L., Soder, R., & Jacoby, D. (1986). *Principal roles, other in-school variables, and academic achievement by ethnicity and SES*. Paper presented at the annual meeting of the American Educational Research Association (AERA), San Francisco, CA.
- Bamburg, J. D. (1994). *Raising expectations to improve student learning. Urban monograph series.* (ERIC document ED 378290).
- Birch, S. H., & Ladd, G. W. (1998). Children's interpersonal behaviors and the teacher–child relationship. *Developmental Psychology*, *34*, 934-946.
- Brackett, M. A., Reyes, M. R., Rivers, S. E., Elbertson, N. A., & Salovey, P. (2012). Assessing teachers' beliefs about social and emotional learning. *Journal of Psychoeducational Assessment*. 30(3) 219–236.
- Brophy, J. (1985). Interactions of male and female students with male and female teachers. In L.C. Wilkinson & C.B Marrett (Eds), *Gender influences in classroom interaction*, pp. 115-142. New York Academic Press.
- Brophy, J., & Evertson, C. (1981). Student characteristics and teaching. New York:Longman.
- Brown, J. L., Jones, S. M., LaRusso, M. D., & Aber, J. L. (2010). Improving classroom quality: Teacher influences and experimental impacts of the 4Rs Program. *Journal of Educational Psychology*, 102(1), 153-167.
- Brownlee, J. (2003). Changes in Primary school teachers' beliefs without knowing: A longitudinal study. *Asia-Pacific Journal of Teacher Education*, 31(1), 87-97.
- Buchanan, R., Gueldner, B. A., Tran, O., & Merrell, K. W. (2009). Social and emotional learning in classrooms: A survey of teachers' knowledge, perceptions, and practices. *Journal of Applied School Psychology*, 25, 187–203.
- Chai, C. S., & Khine, M. S. (2008). Assessing the epistemological and pedagogical beliefs and beliefs among pre-service teachers in Singapore. In M. S. Khine (Ed.), In *Knowing, knowledge and beliefs: Epistemological studies across diverse* cultures. (pp. 287-299). Netherlands: Springer.
- Chai, C. S., Teo, T., & Lee, C. B. (2009). The change in epistemological beliefs and beliefs about teaching and learning: A study among pre-service teachers. *Asia-Pacific Journal of Teacher Education*, 37(4), 351-362.
- Collaborative for Academic, Social, and Emotional Learning (CASEL). (2005). Safe and sound: An educational leader's guide to evidence-based social and emotional learning (SEL) programs. Chicago: Author.
- Connell, D. B., Turner, R. R., & Mason, E. F. (1985). Summary of the findings of the School Health Education Evaluation: Health promotion effectiveness, implementation, and costs. *Journal of School Health*, *55*, 316–323.
- Durlak, J. A., & Wells, A. M. (1997). Primary prevention mental health programs for children and adolescents: A meta-analytic review. *American Journal of Community Psychology*, 25, 115-152.
- Dweck, C. S., Chiu, C., & Hong, Y. (1995). Implicit theories: Elaboration and extension of the model. *Psychological Inquiry*, 6, 322-333.
- Ee, J., & Zhou, M. (2012). Empowering metacognition through social emotional learning. Final report. Singapore: OER, NIE Publication.
- Elias, M. (2006). The connection between academic and social-emotional learning. Thousand Oaks, CA: Corwin Press.
- Elias, M. J., Zins, J. E., Weissberg, K. S., Greenberg, M. T., Haynes, N. M., Kessler, R., ... Shriver, T. P. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Elias, M., Zins, J., Graczyk, P., & Weissberg, R. (2003). Implementation, sustainability, and scaling up of social-emotional and academic innovations in public schools. School Psychology Review, 32(3), 303-319.
- Ferguson, R. F. (2003). Teachers' perceptions and expectations and the black-white test score gap. *Urban Education*, 38, 460-507.
- Fullan, M. G. (2001). *The new meaning of educational change* (3rd ed.). New York, NY: Teachers College Press and Routledge Falmer.
- Fullan, M., Miles, M. B., & Taylor, G. (1980). Organization development in schools: The state of the art. *Review of Educational Research*, 50(1), 121-183.
- Gottfredson, D. C., & Gottfredson, G. D. (2002). Quality of school-based prevention programs: Results from a national survey. *Journal of Research in Crime and Delinquency*, 39, 3–35.
- Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes toward the implementation of instructional innovation. *Teaching and Teaching Education*, *4*, 63–69.



- Hallinger, P., & Heck, R. H. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995. *Educational Administration Quarterly*, 32(1), 5-44.
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72, 625-638.
- Hamre, B. K., & Pianta, R. C. (2006) Student-teacher relationships. In G. G. Bear, & K. M. Minke, (Eds.), *Children's needs III: Development, prevention, and intervention* (pp. 59-71). Washington, DC: National Association of School Psychologists.
- Haynes, N. M., Emmons, C., & Ben-Avie, M. (1997). School climate as a factor in student adjustment and achievement. *Journal of Educational and Psychological Consultation*, 8(3), 321-329.
- Hmelo-Silver, C. E., & Barrows, H. S. (2006). Goals and strategies of a problem-based learning facilitator. *The Interdisciplinary Journal of Problem-based Learning*, 1(1), 21-39.
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. Review of Educational Research, 79, 491-525.
- Jones, S. M., & Bouffard, S. M. (2012). Social policy report. Social Emotional Learning in schools: From programs to strategies. *Sharing Child and Youth Development Knowledge*, 26(4), 1-32.
- Joseph, G., & Strain, P. (2003). Comprehensive evidence-based social-emotional curricula for young children: An analysis of efficacious adaption potential. *Topics in Early Childhood Special Education*, 23, 65-76.
- Jussim, L. (1986). Self-fulfilling prophecies: A theoretical and integrative review. Psychological Review, 93, 429-445.
- Kam, C. M., Greenberg, M. T., & Walls, C. T. (2003). Examining the role of implementation quality in school-based prevention using the PATHS curriculum. *Prevention Science*, *4*, 55–63.
- Kemp, L., & Hall, A. H. (1992). Impact of effective teaching research on student achievement and teacher performance: Equity and access implications for quality education. Jackson, MS: Jackson State University.
- Klusmann, U., Kunter. M., Trautwein, U., Ludtke, D., & Baumert, J. (2008). Teachers' occupational well being and quality of instruction: The important role of self-regulatory patterns. *Journal of Educational Psychology*, 100(3), 702–715.
- Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Corwin Press.
- Kress, J. S., & Elias, M. J. (2006). School-based social and emotional learning programs. In K. A. Renninger, I. E. Sigel, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Child psychology in practice* (Vol. 4, 6th ed., pp. 592-618). Hoboken, NJ: John Wiley.
- Kress, J., Norris, J., Schoenholz, D., Elias, M., & Seigle, P. (2004). Bringing together educational standards and social and emotional learning: Making the case for educators. *American Journal of Education*, 111(1), 68-89.
- Mackler, B. (1969). Grouping in the ghetto. Education and Urban Society, 2, 80-96.
- Marzano, R. J., Marzano, J. S., & Pickering, D. J. (2003). Classroom management that works: Research based strategies for every teacher. Alexandria, VA: Association for Supervision and Curriculum Development.
- Mayer, J. D., Perkins, D. M., Caruso, D. R., & Salovey, P. (2001). Emotional intelligence and giftedness. *Roeper Review*, 23, 131-137.
- McCormick, L. K., Steckler, A. B., & McLeroy, K. R. (1995). Diffusion of innovations in schools: A study of adoption and implementation of school-based tobacco prevention curricula. *American Journal of Health Promotion*, *9*, 210–219.
- McDonald, F., & Elias, P. (1976). The effects of teaching performance on pupil learning, Vol. I: Beginning teacher evaluation study, Phase 2. Princeton, NJ: Educational Testing Service.
- Ministry of Education (2008). The SEL resource pack for Singapore schools. Singapore: Guidance Branch.
- Murray, C., & Greenberg, M. T. (2000). Children's relationships with teachers and bonds with school: An investigation of patterns and correlates in middle childhood. *Journal of School Psychology*, 38, 423–445.
- Neil, P., Carlisle, K., Knipe, D., & McEwen, A. (2001). Principals in action: An analysis of school leadership. *Research in Education*, 66, 40–53.
- Obiakor, F. E. (2000). *Transforming teaching-learning to improve student achievement*. Beliefs About Student Resilience. Paper presented at the Best Practice Conference, Institute for the Transformation of Learning, Marquette University, Milwaukee. WI.
- Ortner, C., Sachne, K., & Zelazo, P. (2007). Mindfulness meditation and reduced emotional interference on a cognitive task. *Motivation & Emotion*, 31, 271-283.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62, 307-332.
- Pajares, F. (1996). Self-efficacy beliefs in academic settings. Review of Educational Research, 66, 543-579.
- Patti, J., & Tobin, J. (2006). Smart school leaders: Leading with emotional intelligence. Dubuque, IA: Kendall-Hunt.
- Pianta, R. C., Hamre, B., & Stuhlman, M. (2003). Relationships between teachers and children. In W. M. Reynolds & G. Miller (Eds.), *Handbook of psychology: Educational psychology* (pp. 199–234). New York: Wiley.
- Pianta, R. C., & La Paro, K. (2003). Improving early school success. Educational Leadership, 60(7), 24-29.
- Pierce, R., & Ball, L. (2009). Perceptions that may affect teachers' intention to use technology in secondary mathematics classes. *Educational Studies in Mathematics*, 71(3), 299-317.
- Ransford, C. R., Greenberg, M. T., Domitrovich, C.E., Small, M., & Jacobson, L. (2009). The role of teachers' psychological experiences and perceptions of supports on the implementation of a social and emotional learning curriculum. *School Psychology Review*, 38(4), 510-532.
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (1998). Academic and psychological adjustment in early adolescence: Longitudinal patterns, relations, and prediction by middle school experience. *Development and Psychopathology*, 10, 321-352.



- Rohrbach, L. A., Graham, J. W., & Hansen, W. B. (1993). Diffusion of a school-based substance abuse prevention program:

 Predictors of program implementation. Preventive Medicine. *An International Journal Devoted to Practice and Theory*,
 22, 237-260
- Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom: Teachers' expectations and pupils' intellectual development.*New York: Holt, Rinehart and Winston.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantaged. In M.W. Kent & J. E. Rolf (Eds.), *Primary prevention of psychopathology: Social competence in children* (pp.49-74). Oxford, UK: Blackwell.
- Ryan, A., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, 38, 437-460.
- Schirmer, B. R., Casbon, J., & Twiss, L. L. (1997). Teacher beliefs about learning: What happens when the child doesn't fit the schema? *The Reading Teacher*, 50(8), 690-692.
- Schultz, D., Ambike, A., Stapleton, L. M., Domitrovich, C. E., Schaeffer, C. M., & Bartels, B. (2010). Development of a questionnaire assessing teacher perceived support for and attitudes about social and emotional learning. *Early Education* and Development, 21(6), 865-885.
- Staub, F. C., & Stern, E. (2002). The nature of teachers' pedagogical content beliefs matters for students' achievement gains: Quasi-experimental evidence from elementary mathematics. *Journal of Educational Psychology*, 94(2), 344-355.
- Tan, M. (2011). Mathematics and science teachers' beliefs and practices regarding the teaching of language in content learning. Language Teaching Research, 15(3), 325-342.
- Tatto, M. T. (1996). Examining values and beliefs about teaching diverse students: Understanding the challenges for teacher education. *Educational Evaluation and Policy Analysis*, 18, 155-180.
- Taylor, B. M., Pearson, P. D., Clark, K., & Walpole, S. (1999). Beating the odds in teaching all children to read: Lessons from effective schools and exemplary teachers (CIERA Report #2-006). Ann Arbor, MI: Center for the Improvement of Early Reading Achievement.
- VanDriel, J., Bulte, A. M. V., & Verloop, N. (2007). The relationship between teachers' general beliefs about teaching and learning and their domain specific curricular beliefs. *Learning and Instruction*, 17(2), 156-171.
- Viig, N. G., & Wold, B. (2005). Facilitating teachers' participation in school-based health promotion— A qualitative study. Scandinavian Journal of Educational Research, 49, 83–109.
- Wang, M. C., Haertel, G. D., & Walberg, H. J. (1997). Learning influences. In H. J. Walberg & G. D. Haertel (Eds.), *Psychology and educational practice* (pp. 199–211). Berkeley, CA: McCatchan.
- Weissberg, R. P., & Elias, M. J. (1993). Enhancing young people's social competence and health behavior: An important challenge for educators, scientists, policy makers, and funders. Applied and Preventive Psychology: Current Scientific Perspectives, 3,179–190.
- Yero, J. L. (2002). Teaching in mind: How teacher thinking shapes education. Hamilton, MT: Mindflight Publishing.
- Yilmaz, A. (2009). Self-efficacy perceptions of prospective social studies teachers in relation to history teaching. *Education*, 129(3), 506-520.
- Zins, J. E., & Elias, M. J. (2006). Social and emotional learning: Promoting the development of all students. In G. G. Bear, K. M. Minke, & A. Thomas (Eds.), *Children's needs III: Development, problems, and alternatives* (pp. 1–13). Bethesda, MD: National Association of School Psychologists.
- Zins, J. E., Weissberg, R. P., Wang, M. L., & Walberg, H. J. (2003). Building school success through social and emotional learning: Implications for practice and research. New York: Teachers College.



Appendix 1: Teacher Interview Questionnaire

SEC and the student

- 1. Why are social emotional competencies such as self-awareness, self-management, social awareness, relationship management and responsible decision-making important for our students?
- 2. What are the indicators of a socially and emotionally competent / incompetent student? or How do you know that a student is socially-emotionally competent / incompetent?

Perceptions based on Experience (of infusing SEL)

- 1. How do you see your role in trying to infuse SEL into your lessons?
- 2. How confident are you in infusing SEL into the lessons? Please elaborate.
- 3. Are the students able to relate to behaviours / actions / decisions that they should manifest when triggered by your SE-related questions? Please elaborate.
- 4. What difficulties do you face in trying to infuse SEL into your lessons?
- 5. Did you use different strategies when infusing SEL into different subjects? If yes, Why? / If no, Why not?
- 6. Do you believe that by infusing SEL in your lessons, your students will become more socially and emotionally competent? If yes, Why? / If no, Why not?

Curriculum Aspects

- 1. What do you think are the benefits of infusing SEL into the curriculum?
- 2. How do you think SEL can be infused effectively in the curriculum?
- 3. What do you think can hinder the effective implementation of SEL in the curriculum?
- 4. What changes do you think are needed in the school system to enable a better implementation of SEL?
- 5. How do you think your school mission and values support the acquisition of SE competencies?