Social and emotional learning in elementary school settings: Identifying mechanisms that matter

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Social and Emotional Learning in Elementary School Settings: Identifying Mechanisms that Matter

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Introduction

The Collaborative for Academic, Social and Emotional Learning (CASEL) defines Social and Emotional Learning as “a process for helping children and even adults develop the fundamental skills for life effectiveness” (CASEL, 2013a). SEL skills consist of “recognizing and managing our emotions, developing caring and concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations constructively and ethically” (CASEL, 2013a). There has been tremendous growth in the past several decades in the presence of interventions designed to teach elementary students SEL skills as well as the establishment of the evidential basis for these interventions (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Elementary SEL interventions have been viewed as levers to produce school improvement. This reality is exemplified in the way that SEL has been integrated into state learning standards (Dusenbury, Zadrazil, Mart, & Weissberg, 2011) and supported in the proposed federal Academic, Social and Emotional Learning Act (HR 2437, 2011).

New resources that review elementary school SEL interventions have become available in the last several years. The 2013 CASEL guide categorized and described preschool and elementary-level SEL programs based on program design, effectiveness, and supports for implementation (CASEL, 2013b). A recent meta-analysis synthesized research on SEL interventions and their efficacy in producing behavioral and academic gains (Durlak et al., 2011). The What Works Clearinghouse catalogues the quality of evidence for SEL interventions (U.S. Department of Education, 2013). Although these resources describe program design, composition, and effectiveness, they do not examine the key mechanisms in SEL interventions that are intended to impact student outcomes. Adopting an SEL intervention translates into shifts in teachers’ and students’ day-to-day behaviors and experiences in the classroom. This chapter
builds upon prior work by looking inside classrooms to consider student and teacher mechanisms responsible for program effects. We call these shifts in teachers and students the *mechanisms that matter*. In particular, we consider how various SEL interventions change what teachers do and how students spend their time. We describe how specific SEL interventions emphasize some student skills versus others.

**Definitions and Scope**

We begin by introducing a set of terms to describe SEL interventions. All SEL interventions ascribe to a *theory of change*, that is, SEL interventions are designed as a set of program elements and/or steps that can be described in conceptual terms and give insight into the process of change (Knowlton & Phillips, 2008). The theory of changes helps identify *intervention core components*, defined as the key aspects of the intervention that contain the intervention active ingredients intended to produce changes in students’ social, emotional and/or academic skills (Hulleman, Rimm-Kaufman & Abry, 2013). Intervention core components are created and/or selected by the intervention developer because, in theory, they change what occurs in the classroom to improve student outcomes. Explicit instructions in social skills or regular use of a mixed age buddy activity are examples of intervention core components.

The theory of change helps differentiate between *proximal* and *distal outcomes* expected to result from using the intervention in the classroom. Proximal outcomes refer to immediate, close at hand results of the intervention; in essence, the first signs in a classroom that an intervention is creating a change. For instance, when a teacher begins using a SEL intervention, she may see evidence of more prosocial conversation among peers in his/her classroom or improved attentional skills among several students. Distal outcomes occur as distant, long-term results of an intervention. When a teacher implements a SEL intervention, she may be supporting a set of
interpersonal skills that may not be immediately apparent but may lead to improved social skills and long term gains in students’ ability to relate, show empathy toward, and communicate with other people inside and outside of school. Proximal outcomes of an intervention can be viewed as important outcomes unto themselves because they signal potential efficacy of the intervention. Further, proximal outcomes can *mediate* or bring about the effects of the intervention to the distal outcome—yet another way in which they substantiate the theory of change.

Initiating use of a SEL program sets in motion a process that unfolds over time. In theory, intervention core components become agents of change that bring about proximal outcomes. In turn, those proximal outcomes become agents of change that lead to distal outcomes. If intervention core components are used properly in the classroom and are truly effective, then the mechanisms underlying the process of change—intervention core components and proximal outcomes—represent what we call the *mechanisms that matter* in SEL. Mechanisms that matter are typically described in broad or specific terms by the developers of interventions, and in essence, reflect the theories or beliefs about how a SEL intervention is designed to improve students’ social and academic performance. Focusing on the *mechanisms that matter* provides a unique vantage point for understanding SEL. This approach enables us to zoom in to consider what occurs inside classrooms in the presence of SEL interventions and to illustrate variety among the many existing approaches to improving SEL.

Describing mechanisms that matter also poses a significant challenge. Most research on SEL interventions examines the efficacy of multi-component SEL interventions in which many intervention core components are combined into single intervention and used in the classroom. There is too little work that isolates each intervention core component within any single intervention and tests it rigorously so that we know which components are potent and which are
extraneous for enhancing student outcomes. Therefore, based upon the current state of research, we can describe which interventions have substantial versus less evidence for their efficacy in improving social and emotional outcomes. However, in relation to the various intervention core components and how they produce changes within classrooms, we mostly talk about presumed mechanisms that matter, not actual demonstrated evidence of the effects of those mechanisms.

The purpose of this chapter is to review selected literature on elementary school SEL. We describe SEL theory in a way that emphasizes mechanisms that matter and present a brief overview of SEL strategies used in elementary school classrooms. Next, we select ten SEL interventions and categorize those into those that work (based upon three or more studies of the intervention) and those that seem promising (but have fewer than three studies of their efficacy). For each intervention, we existing research on the efficacy of the intervention on distal outcomes. In addition, we describe the presumed mechanisms that matter based upon intervention websites and published work. After describing what works and what is promising in elementary SEL, we provide a brief description of what does not work. Finally, we close with a summary and implications for research and practice.

Theories

The SEL conceptual framework we use is grounded in theory and research in educational and developmental science. We draw from work by Zins and colleagues (2004), CASEL (2013b), Jennings and Greenberg (2009) and integrate other frameworks (Jones & Bouffard, 2012) to describe how school-based SEL interventions are designed to improve students’ social and academic performance. The conceptual framework shown in Figure 1 depicts how effective use of SEL intervention core components in classrooms sets new classroom experiences into motion. Some intervention core components involve explicit instruction in SEL skills described
by a curriculum. This type of component involves teachers’ enactment of lessons on SEL topics (e.g., how to label emotions, resolve conflict with a peer) or teachers’ explicit modeling of a desired behavior (e.g., how to take turns with a peer, how to stand in line). Alternatively, intervention core components can be integrated into the academic curricula, for example, teachers may incorporate SEL skill development into literature lessons by reading and discussing an age appropriate book and having students’ connect the experience to their own lives and decision-making in social situations. Intervention core components can also be embedded in SEL classroom teaching practices. Such practices refer to the way that teachers interact with students to facilitate student learning in social and emotional skills. For example, SEL classroom teaching practices may include facilitation of a group activity that offers students opportunities to practice social and emotional skills, and teacher language that implicitly supports students’ motivation or autonomy (CASEL, 2013b).

In theory, **effective use of SEL intervention core components** leads to improved proximal outcomes: **classroom social environment** and **students skills in the classroom**. Improved quality of the classroom social environment may be evident in the way that teachers show greater awareness of and emotional responsiveness to students or via teachers’ enhanced approach to classroom management (Jennings & Greenberg, 2009). Better quality of classroom social environments may mean that students are more cooperative and prosocial toward one another. Whether the improvements stem from teachers and/or student interactions, students who experience better quality classroom social environments are likely to be exposed to more frequent opportunities to learn and practice SEL skills.
SEL intervention core components are designed to improve students’ SEL skills. Student SEL skills include emotional, interpersonal, cognitive, and/or self-skills. Emotional skills refer to the ability to recognize, understand, label, express, and regulate emotions. Interpersonal skills include communication, prosocial, and relationship development skills. Cognitive skills refer to the management of attention, planning of future actions, inhibition of short term response for a long term goal (Jones & Bouffard, 2012). Self-skills refer to student attitudes and perceptions about themselves as learners and the school context, including students’ sense of self as a learner, feelings of bonding toward school, and motivation to learn (Skinner, Kinderman, Connell, & Wellborn, 2009).

SEL theory describes various possible mechanisms for how classroom social environments and student SEL skills interact. Use of intervention core components may operate directly by improving students SEL skills or indirectly by enhancing the social climate of the classroom, thus exposing students to more positive social environments, and then, improving student SEL skills. Regardless of mechanism, a core idea in SEL theory is that SEL skills become important child assets with positive consequences for development because these skills provide students with internal resources needed to take advantage of social and academic opportunities offered in the classroom. In this way (and via other mechanisms), enhanced classroom social environments and student’s improved skills interact to improve distal outcomes, social and academic performance both inside and outside of school.

The conceptual framework implies a direction of influence (i.e., use of SEL intervention core components leads to proximal and then distal outcomes). Although beyond the scope of the present chapter, it is safe to assume the presence of bi-directional influences in this model (Skinner, et al., 2009). For instance, as students in a classroom develop emotional, interpersonal,
cognitive skills, and self-skills they may raise the level of discourse surrounding instruction in SEL skills and cause teachers to elevate use of SEL classroom teaching practices to a higher level of sophistication (e.g., from basic peer social skills to conflict resolution skills).

**Overview of Strategies**

A wide variety of approaches for improving SEL are available to educators. Intervention core components vary in the way that they are delivered (e.g., explicit lessons, integration with academic content, change in teaching practices) (CASEL, 2013b). Some SEL interventions place primacy on the development of some skills over others whereas many target various skill domains. Some SEL interventions have been tested rigorously through numerous field trials whereas others are quite new and show only preliminary evidence. Despite the variability, there are common themes among SEL interventions. All SEL interventions ascribe to a theory of change and can be described in relation to presumed mechanisms that matter. Virtually all SEL interventions recognize that developing skills in one domain (e.g., emotional) have implications for students’ skills in another (e.g., interpersonal). For instance, competent emotional skills enable students to perceive their friends’ emotional cues and manage their own feelings of frustration in ways that do not interfere with friendship (Downer, Sabol, & Hamre, 2010). Students’ development of cognitive regulation skills improve their ability to engage in classroom activities available to them, which in turn, improves their sense of self and attitude toward learning (Liew, 2012).

Below, we describe ten SEL interventions that are administered by teachers inside elementary school classrooms. These ten interventions were selected to illustrate variety of presumed mechanisms that matter. (See the 2013 CASEL Guide for a more thorough listing of
SEL approaches.) Some of the selected interventions have additional family components, school components, or reach into the middle school years—topics covered elsewhere in this volume.

**What Works**

These five interventions have three or more studies demonstrating intervention efficacy:
- Caring School Community,
- Promoting Alternative Thinking Strategies (PATHS),
- Positive Action,
- Responsive Classroom approach,
- and Second Step.

We describe existing research on use of the intervention and distal outcomes for each. Then, we described the presumed (or actual) mechanisms that matter by describing intervention core components and proximal outcomes.

Caring School Community (CSC) is designed to create caring classroom and school communities such that students experience increased connection and bonding toward school. The program targets interpersonal and self-skills, especially enhanced relationships among peers and between teachers and students and increased connection to school. Several studies provide evidence for the efficacy CSC. Findings from a randomized controlled trial point to the efficacy of the approach for increasing students’ sense of connection to school and engagement in learning as well as improved interpersonal skills (altruistic behavior). Research shows that students’ perception of an increased sense of community in the school relates to a rise in interpersonal skills (prosocial values, behaviors) and self-skills (academic motivation and engagement), as well social and achievement outcomes (Solomon, Battistich, Watson, Schaps, & Lewis, 2000). Finding from a recent quasi-experimental study of third through fifth graders reflect the efficacy of CSC for improving self-skills (i.e., feelings of autonomy and influence in the classroom, students’ perception of classroom supportiveness) (Chang & Munoz, 2006).

Turning attention to distal outcomes, students experiencing CSC showed some improved achievement and behavioral outcomes (Battistich, Schaps, & Wilson, 2004), particularly when
schools implemented the intervention as intended (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Chang & Munoz, 2006).

Returning to the SEL conceptual model, intervention core components emphasize integration of SEL and academics and SEL classroom teaching practices with some curricular components. The intervention core components include Class Meetings, Cross-Age Buddy Activities, Homeside Activities, and Schoolwide Community-Building Activities matched to students’ developmental level. The Class Meetings provide opportunities for teachers and students to establish classroom norms, engage in social problem solving (e.g., how to respond to teasing, social exclusion), build teams, and reflect upon the classroom as a community. The Cross-Age Buddy Activities pair older students with younger students and have them work on meaningful academic tasks together. The buddy experience requires the older student to prepare, engage in the buddy activity, and then reflect. The program has family and school-wide components, as well. Homeside Activities involve initiating an activity at school that students take home and use to elicit conversation with their family members and Schoolwide Community Building Activities involve activities designed to create collaboration among students, families, and the out-of-school community. These intervention core components are designed to create a more caring classroom and school environment and comprise the mechanisms that matter in CSC. Based on program theory, these mechanisms that matter develop students’ connection toward school, thus improving students’ motivation, social skills, behavior, and achievement (Developmental Studies Center, 2013).

PATHS (Promoting Alternative Thinking Strategies) is a curriculum-based intervention designed to enhance students’ self-regulation, understanding of emotions, self-esteem, social relationships, and social problem solving (PATHS, 2013). Various randomized controlled trials
demonstrate links between PATHS and proximal outcomes pertaining to three developmental domains: emotional, interpersonal and cognitive. Exposure to PATHS has been linked to improved emotional skills (i.e., emotion recognition, emotional coping) among young children from poor families as well as elementary-aged students with hearing impairments (Conduct Problems Prevention Research Group [CRPRG], 1999; Greenberg & Kusché, 1998). PATHS has been linked to improved interpersonal skills, including enhanced social problem solving and increased positive peer interaction (CRPRG, 1999), as well as decreased aggression and fewer problems with acceptance of authority (CRPRG, 2010). Further, PATHS has been associated with enhanced cognitive skills (e.g., cognitive concentration, inhibitory control, verbal fluency (Greenberg et al., 2006, 2010). Work describing PATHS and distal outcomes (social and academic performance) suggests efficacy. One randomized controlled trial showed three years of PATHS exposure linked to less disruptive behavior and aggression (CPPRG, 2010). A randomized controlled trial of PATHS among students with special needs (in grades 1-3) found that one year of PATHS decreased externalizing and mitigated growth trends in internalizing as reported by teachers two years after the intervention (Kam, Greenberg & Kusché, 2004).

Inside the classroom the PATHS intervention core components take the form of explicit instruction in SEL skills and SEL classroom teaching practices that promote application of those skills (CPRPG, 2010). The PATHS curriculum includes age appropriate units that teach students to recognize and label emotional cues, differentiate between feelings and behaviors, create and sustain friendship relationship, show good manners, take turns, share, and reconcile challenging friendship issues (CPRPG, 2010). PATHS targets a very broad set of SEL goals. The presumed mechanisms that matter are the lessons (involving explicit instruction, behavioral modeling,
discussion, stories and videos) and the teachers’ extension of those lessons as “teachable moments” throughout the school day (PATHS, 2013).

Positive Action (PA) is designed around the premise that self-concept plays a critical role in students’ behavior. The intervention is designed to create “a cycle of reinforcement in which positive thoughts lead to positive behaviors that generate positive feelings about self, which, in turn, lead to more positive thoughts and behaviors” (Washburn, et al., 2011, p. 315). The numerous quasi-experimental and experimental studies that have been conducted on Positive Action show a consistent pattern of positive results. Pertaining to proximal outcomes, results from three experimental studies of Positive Action were conducted that followed children longitudinally for 3-4 years between the ages of 6 and 11. Developmental trends showed declines in self-skills (self-control, being honest to oneself, working toward continual improvement). However, the declines were smaller in Positive Action than comparison schools (Washburn et al., 2011). Studies also show the efficacy of Positive Action on distal outcomes. Fifth grade students who received Positive Action earlier in elementary schools showed less substance use and sexual activity (Beets et al., 2009); less violent and bullying behavior (Li et al., 2011); and improved reading and math achievement (Flay, Allred, & Ordway, 2001).

Inside the classroom, intervention core components are enacted through explicit instruction in SEL skills on topics including self-concept; positive action in relation to one’s body; responsible management of social interactions, emotional responses, and relationships; honesty to self and others; and self-improvement (goal setting, persistence) (Positive Action, 2013). In addition, intervention core components are embedded in SEL teaching practices between teachers and students and among students via small group activities including games, skill practice, and role-play activities (Beets et al., 2009). The program involves school-wide
changes and community and family involvement components to support classroom components. Together, the teacher-led lessons and their accompanying activities and materials comprise the presumed mechanisms that matter. Based on program theory, these mechanisms that matter enhance self-skills meaning that students will learn and internalize healthy decision-making that will set into motion a recursive process leading to a broad range of SEL skills and positive outcomes (Positive Action, 2013).

The Responsive Classroom approach targets improvement of the classroom social environment by enhancing teachers’ capacity to create a caring community, use proactive approaches to classroom management, and develop student autonomy and engagement in learning. Two quasi-experimental and one randomized controlled trial have been conducted on the RC approach. Research linking the RC approach to proximal outcomes suggests that RC practices foster students’ assertiveness and prosocial skills (Elliott, 1999; Rimm-Kaufman & Chiu, 2007) and contributes to students’ positive views of their classroom environment (i.e., liking for school, learning, teachers and peers) (Brock, Nishida, Chiong, Grimm, & Rimm-Kaufman, 2008). Studies from a randomized controlled trial show links between training in the RC approach and improved teacher-child interactions. Training in the RC approach predicted more inquiry-based mathematics practices (defined as practices aligned with National Council of Teachers of Mathematics standards) compared to teachers at control schools (Ottmar, Rimm-Kaufman, Berry, & Larsen, 2013). Teachers who implemented more RC practices showed higher quality teacher-child interactions (Abry, Rimm-Kaufman, Larsen & Brewer, 2013) and closer relationships with their students (Baroody, Rimm-Kaufman, Larsen, 2013). Research has been conducted linking the RC approach to the distal outcome of achievement. Findings from two
studies show gains in math and reading achievement after two to three years of exposure of RC practices (Rimm-Kaufman, Fan, Chiu, & You, 2007; Rimm-Kaufman, et al., in press).

Looking inside the classroom, RC emphasizes strategies that integrate SEL and academics via ten teaching practices that focus on improving students’ interpersonal, cognitive, and self-skills. The teaching practices constitute intervention core components and guide the structure of interactions between teachers and students. As examples of the ten teaching practices, teachers use a daily Morning Meeting to integrate SEL and academics, establish a sense of community, learn and practice social skills, and create a spark for academic and social learning. Teachers use Academic Choice as means to adopt a structured approach to offering students choice and autonomy in academic activities and Interactive Modeling to teach expected social behaviors and self-regulatory skills. The presumed mechanisms that matter are the RC practices and their intended changes in the quality of teachers’ interactions with students and students’ interactions with each other. Based on program theory, these mechanisms that matter shift the classroom social environment, create opportunities to teach, model, and practice SEL skills, and thus lead to social and academic gains (Northeast Foundation for Children, 2011).

Second Step is designed to improve students’ emotional, interpersonal, and cognitive skills for students in grades K- 8. Second Step offers a set curriculum involving lessons and activities designed to help each student in the classroom learn and practice a broad range of SEL skills (Committee for Children, 2013). Several research studies have been conducted on Second Step. A randomized controlled trial of grades 2 through 5 showed increased interpersonal skills (increased prosocial goals, decreased aggression, improved social behavior) as a consequence of receiving the intervention. Further, exposure to the intervention related to improved cooperation, an interpersonal skill crucial for group learning, a finding that was present for girls but not boys
(Frey, Nolen, Edstrom & Hirchstein, 2005). Research in Norway suggests improved social competence for fifth and sixth grade students as well as decreased externalizing among sixth grade boys (Holsen, Smith & Frey, 2008). Results from a randomized controlled trial conducted in Germany showed improved social behavior, less anxiety and internalizing for treatment, compared to control students in K-3 grades (Schick & Cierpka, 2005).

Inside the classroom, the intervention core components are delivered to students via explicit instruction in SEL skills. The presumed mechanisms that matter are prepared scripts and lessons, stories with discussion, practice activities to reinforce new skills, and selected books; all of which are organized around a single topic each week. Topics include solving social problems (e.g., staying calm, following a set of problem solving steps, describing the problem without assigning blame) and skills for learning (e.g., how to focus attention, listen, be assertive, and use self-talk to manage one’s attention). Second Step has a home-based component, also. Based on program theory, Second Step teaches students a broad range of skills (empathy, management of emotions, problem solving, conflict resolution, skills for learning) that enable them to take full advantage of the classroom learning environment (Committee for Children, 2013).

These five interventions—CSC, PATHS, PA, RC, and Second Step—have distinct intervention core components and mechanisms that matter. Consider the primary approach to implementation: CSC and RC approach emphasize use of SEL classroom teaching practices and do not have a set of sequenced, established lessons for explicit instruction in SEL. In contrast, PATHS, PA and Second Step offer a curriculum and sequenced lessons to be enacted in the classroom. Yet another distinction among these interventions is the ways in which they are designed to modify the classroom social environment versus target student skills directly. CSC and RC place more emphasis on building teacher capacity and creating changes to the classroom
social environment (teacher-student interactions, peer relationships) with the premise that modifications to students’ social environment will result in improvement in students’ SEL skills. In contrast, PATHS, PA, and Second Step place greater emphasis on improving individual students’ skills with the idea that students will then apply these skills in the classroom and in life. These five interventions also differ in the extent to which they concentrate on a narrow band of SEL skills (with the goal that students will use those skills to improve other SEL skills) versus focusing a full range of SEL skills. For instance, CSC emphasizes interpersonal and self-skills with the premise that bonding toward school will enhance other SEL schools and distal outcomes. Positive Action targets self-skills first with the notion that once those self-skills are developed they will translate into a broader range of SEL skills. In contrast, PATH, Second Step, and RC target a broad range of skills. The five interventions have existed for a decade or more and have three or more studies demonstrating intervention efficacy. Now, we turn attention to newer and/or less well-researched interventions that look promising.

**What is Promising**

We selected five promising SEL interventions that represent notable variation in presumed mechanisms that matter in SEL: Tribes Learning Communities, RULER, MindUp, Resolving Conflict Creatively, and 4Rs (Reading, Writing, Respect, and Resolution). Again, the interventions selected are illustrative, not exhaustive.

Tribes Learning Communities is designed to enhance students’ sense of community inside and outside of the school with the goal of reducing aggression, disruptive behavior, and violence. The most distinctive intervention core component is that teachers organize students into small working groups that last for the full academic year. The one randomized controlled trial of Tribes focused on students in grades one through four and examined proximal and distal
effects. There was some suggestion that Tribes students showed more sharing and increased engagement compared to the comparison group after one year of exposure (Hanson, Izu, Petrosino, Delong-Cotty, & Zheng, 2011). Tribes tended to benefit boys but be unfavorable for girls. Among boys exposed to Tribes, teachers noted higher affective and intrapersonal skills and parents reported more intrapersonal skills and less rule breaking at home. In contrast, girls exposed to Tribes showed a decrease in language and math student test scores. Findings differed for younger (grades 1 and 2) and older (grades 3 and 4) students. In grades 1 and 2, Tribes enhanced intrapersonal and interpersonal skills for girls, but not boys. In grades 3 and 4, Tribes improved intrapersonal and interpersonal skills for boys but not girls (Hanson et al., 2011).

Tribes integrates a set of collaborative activities into the existing curriculum. One intervention core component involves facilitation of small group work on projects that engage students in meaningful work. Teachers use SEL classroom teaching practices to teach and reinforce collaborative skills, foster students’ appreciation, respect, and high expectations for each other, and foster positive emotional climate in the classroom (Tribes, 2014). The presumed mechanisms that matter are the long-lasting work groups designed to give students practice and experience with relationships skills and the teachers’ efforts to support collaboration skills. Based on program theory, these mechanisms that matter enhance student skills and knowledge in ways that foster individual resiliency in the classroom and other contexts (Hanson et al., 2011).

Very few SEL interventions have been designed to primarily target emotional skills as proximal outcomes toward the distal goal of improvement in social and/or academic skills. The RULER Feeling Words Curriculum (RULER, 2013) is one such intervention; it involves explicit instruction in a set of emotional skills described by the developer as “RULER” skills (i.e., Recognizing, Understanding, Labeling, Expressing, and Regulating emotions) in order to
enhance emotional literacy. To date, one quasi-experimental and one randomized controlled trial have been conducted. Existing research suggests that the intervention boosts proximal (emotion skills, interpersonal skills), classroom social environment, and distal outcomes (report card grades). One quasi-experimental study of fifth and sixth graders showed improved emotional skills (recognition, understanding, labeling, expression, and regulation of emotion), interpersonal skills (social competence), and grades after receiving the intervention (Brackett, Rivers, Reyes, & Salovey, 2010). A follow-up randomized controlled trial among sixth graders showed that when teachers received high quality training in the intervention and students received sufficient dosage, students were more likely to show improved emotional skills (students’ understanding and regulation of emotion) and social problem solving skills (Reyes et al., 2012). Classrooms using RULER had more positive, emotionally-supportive social environments compared to counterparts using business-as-usual approaches (Rivers et al., 2013).

RULER intervention core components involves explicit instruction in SEL skills administered lessons that teach students to recognize emotions in themselves and others, understand causes and consequences of emotional states, label emotions using a range of words introduced in lessons, regulate their own emotions, and express emotions in ways that are socially appropriate ways. Thus, the presumed mechanisms that matter are the teacher-administered lessons, opportunities to practice emotion vocabulary in ways that integrate with language arts instruction, and the positive social interactions and emotional climate in the classroom (Brackett et al., 2010; Rivers, et al., 2013).

The MindUP intervention is unique in its approach because of its integration of mediation-oriented practices into classroom life. One quasi-experimental study of MindUp conducted among fourth through seventh graders showed increased optimism and positive impact on self-
concept among the fourth graders. Teachers’ ratings of students showed greater attentiveness, concentration, emotion regulation, and emotional and social competence among students in the intervention group compared to those in a control condition (Schonert-Reichl & Lawlor, 2010).

The MindUP intervention core components involve explicit instruction in SEL in the form of teacher lessons in mindfulness and teaching practices to extend those lessons as teachers lead students in mindfulness exercises (based upon scripts) three times a day for about three minutes each time (Schonert-Reichl & Lawlor, 2010). Thus, the presumed mechanisms that matter are the mindfulness lessons and exercises designed to focus students on breathing and help students increase awareness of the present moment. Based on program theory, the mechanisms that matter enhance emotional skills (management of negative emotions), cognitive skills (strengthened executive function skills including attention), and self-skills (awareness of self and others) with the implication that development of these skills will enhance social and academic performance (MindUP, 2013; Schonert-Reichl & Lawlor, 2010).

Perhaps the most common SEL interventions are those designed to promote student’s interpersonal skills by improving prosocial skills and reducing student aggression. Resolving Conflict Creatively Program (RCCP) stands out because it is designed to attenuate a set of negative developmental processes that often emerge as children progress from early to late childhood. RCCP is a curriculum comprised of interactive lessons to teach students conflict resolution techniques and skills to improve social interactions, cooperation, and feelings of safety in classrooms and schools (Educators for Social Responsibility [ESR], 2014). A randomized controlled trial of RCCP examined students (aged 6-12) for a two year period to assess program efficacy. Results showed the efficacy of the program in relation to slowing the growth of certain negative processes that tend to develop over middle childhood. Students, on average, showed
increased use of hostile attribution and aggressive approaches to problem solving over a two year than the comparison group and decreases in hostile attribution and aggressive approaches to problem solving over two years. Among students in the intervention group, those exposed to more lessons showed increases in prosocial behavior and decreases in aggressive behavior over two years of intervention (Aber, Pederson, Brown, Jones, Gershoff, 2003).

Within the classroom, the intervention core components are integrated into a curriculum to teach caring, positive approaches for handling conflict, active listening, reducing prejudice, managing anger and frustration, developing cooperative relationships, showing empathy, and other topics. RCCP includes peer mediation, administrator, family, and school staff training components, as well. The interactive instructions that correspond to the curriculum constitute the mechanisms that matter. Program theory links the mechanisms that matter to student interpersonal and self-skills, and, in turn, distal outcomes including success in school and reduced violence and violence-related behavior (ESR, 2014).

The 4Rs intervention is a promising intervention that integrates SEL into students’ language arts curriculum. The 4Rs is designed to enhance social cognition based upon the notion that the interpretation of social cues, beliefs about aggression and interpersonal negotiation strategies underlie the more complicated skills implicated in intergroup understanding and conflict resolution (Morningside Center, 2012). The one randomized controlled trial on 4Rs studied students for two years (grades 3 and 4). Work examining 4Rs and proximal outcomes (classroom social environment) showed that third grade teachers trained to integrate language arts learning with SEL learning had improved quality of classroom interactions (i.e., instructional and emotional support), after accounting for teachers’ social and emotional functioning (Brown, Jones, LaRusso & Aber, 2010). Work measuring changes to students’ SEL skill showed that
students at both types of schools showed increased hostile attribution bias and aggressive interpersonal negotiations strategies from the beginning of third grade to the end of fourth grade. However, students in the intervention schools showed slower rates of growth in both of these constructs compared to control schools (Jones, Brown, & Aber, 2011). Further, among students entering the sample high in aggression, those students in the intervention group reported fewer aggressive fantasies such as having thoughts that emerge in their minds about hurting someone, hitting someone, or fighting with someone (Jones, Brown, Hoglund, & Aber, 2010).

As enacted in the classroom, 4Rs intervention core components are embedded in a sequence of literacy lessons and SEL teaching practices to extend those lessons. One intervention core component is a Read Aloud of a book relevant to an SEL theme. Another intervention core component is Book Talk comprised of conversation, role playing, and writing opportunities that help students understand the theme and connect it to their own experiences. 4Rs has a family component, as well. The 4Rs program stands out from other classroom-based interventions in that the presumed mechanisms that matter are integrated into curricular features of the classroom and the intent is for students to learn SEL skills through academically meaningful experiences. Program theory and research suggests these mechanisms improve the quality of interactions in the classroom (Brown et al., 2010) and lead to distal outcomes (Jones et al., 2010, 2011).

These five interventions—Tribes, RULER, MindUp, RCCP, and 4Rs—show remarkable variety in their presumed mechanisms that matter. RULER, Resolving Conflict Creatively, and MindUp embed their intervention core components into curricula and explicit instruction in SEL. Even in the presence of that commonality, each target a distinct SEL skill as primary: RULER emphasizes emotional skills, RCCP targets interpersonal skills, and MindUP focuses on cognitive skills. Both Tribes and RCCP target interpersonal skills; however, the presumed
mechanism that matters in Tribes pertains to the classroom social environment whereas RCCP views teaching student skills and techniques as primary. 4Rs is distinct among these five SEL interventions because of the way in which SEL learning is integrated with books, materials and academic content. The five interventions share a common quality; they are school-based SEL interventions that look promising but require further research.

**What Doesn’t Work**

Looking inside the classroom provides a unique perspective on what does not work in elementary school SEL. Specific conditions need to be present for evidenced-based SEL interventions to translate into mechanisms that matter in the classroom. In this chapter, evidence of efficacy rests on the assumption that teachers implement intervention core components in ways that are consistent with program theory and the developer’s intent. It is important to question this assumption. Thus, we describe three prominent factors that prevent SEL from being implemented successfully in elementary schools: (a) Interventions tend to be adopted but not fully used; (b) Interventions are often adapted in ways that cause the intervention core components to lose their integrity; and (c) Intervention efforts are often initiated in early childhood and not sustained over the course of students’ development. Below, we describe each barrier and describe current work that casts light on the challenges that these barriers pose.

SEL interventions do not work if they are adopted but not fully utilized in the classroom (Webster-Stratton & Herman, 2010). The efficacy of SEL practices hinges on high fidelity of implementation, meaning that the intervention core components are being used as intended and designed (O’Donnell, 2008). In practice, this means that making the decision to adopt an intervention and training teachers in school-based interventions are only the initial steps toward
actual production of the mechanisms that matter in the classroom. Theory and research provides insights into conditions that contribute to high fidelity of implementation.

Teacher receptivity, high quality teacher training, ongoing consultation and supportive coaching, administrative support and system-level alignment with the intervention represent a few of the provisions needed to ensure high fidelity implementation (Fixsen, Blasé, Naoom & Wallace, 2009). Teachers who feel more efficacious and less burned out adopt new SEL practices more readily than their counterparts who feel less efficacious and more burned out (Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009). Teachers are more likely to implement SEL interventions in the presence of administrative support and high quality coaching experiences (Ransford, et al.; Wanless, Patton, Rimm-Kaufman, & Deutsch, 2013). Despite strong theory and new research, identification of conditions conducive to SEL implementation is far from straightforward. One recent study assessing teachers comfort, commitment, and culture in relation to SEL showed that teachers who were more comfortable with and committed to SEL showed more openness to SEL programming (in this case, RULER). However, there was no established link between culture, comfort and commitment to SEL early in the year and implementation of RULER practices (Brackett, Reyes, Rivers, Elbertson, & Salovey, 2011). Further work is needed to identify and conduct rigorous tests of factors that contribute to full implementation of SEL interventions.

SEL interventions do not work if they are adapted to the point that they lose their potency. Many SEL interventions are packaged programs or approaches that teachers learn through manuals, trainings, and coaching experiences. However, as teachers apply SEL intervention core components to their classrooms, they adapt the components to match the culturally-specific, developmental, and individual needs of children, their own teaching style, as
well as other features of their classroom and schools. Teachers face a delicate balance between implementing interventions with fidelity and adapting interventions to meet local circumstances, a topic that has been discussed elsewhere (Datnow & Stringfield, 2000; Hulleman, Rimm-Kaufman, & Abry, 2013; O'Donnell, 2008).

Managing problems related to adaptation requires empirically-based identification of which intervention core components are more or less effective and then communication about the rationale and key ingredients behind those intervention core components to the teachers or other practitioners implementing and adapting the intervention. To start, very few interventions have the research base to differentiate among the more versus less effective intervention core components. (This requires reference to presumed mechanisms that matter instead of evidence-based mechanisms that matter.) Thus, there is a need for rigorous research that identifies “evidence-based kernels” (Embry & Biglan, 2008, p. 75) defined as the specific practices that teachers use toward their students that are critical to the success of the intervention. In addition to investigation, all interventions need to give clear explanations for why practices matter. SEL interventions need to be taught in such a way that teachers understand the purpose of each intervention core component, the psychological explanation supporting it, and the parameters for acceptable adaptation. Even in the absence of empirical data about which intervention core components are more effective than others, the quality of SEL practice can be improved by helping teachers understand the theory behind the practices that they use so that they are more effective at deciding whether their adaptations will be acceptable or erode intervention efficacy.

Students may not retain SEL skills if they receive SEL interventions in early childhood without age-appropriate follow-up support. A review of the literature reveals that more SEL interventions are available for earlier grades (PreK-2) compared to the later grades (3-6). This
imbalance is problematic. Developmental research shows normative declines in students’ feelings about school, social competence and aspects of self-control as students progress from the elementary into the middle school years. Declines may be partially attenuated by the presence of SEL interventions (Jones et al., 2011; Washburn et al., 2011) but, still, the declines exist at the exact time that school bonding and application of SEL skills to social and academic situations becomes most important for long term success. Strategic approaches to practice can address this issue. Some SEL interventions are designed around the fact that students in the upper elementary grades have different SEL skills and developmental needs compared to students in earlier grades. Districts can lay out a plan for the development of students’ SEL skills that begins in preschool years and extends through the high school years. Some promising social psychological interventions tap into self-skills at pivotal moments in development resulting in effective attributions or feelings of school belonging that have long-lasting influence on students over time even without the presence of ongoing intervention (Yaeger & Walton, 2011).

**Summary**

Several consistent themes emerge in relation to elementary school-based SEL. SEL interventions vary greatly in their approach and differ in the presumed mechanisms that matter. All point to the critical importance of learning and practicing SEL skills in the elementary school years for future growth and development. Obtaining SEL skills provides children personal resources and relationship skills that enable them to benefit from and emotionally connect to positive classroom environments that contribute to further SEL and academic growth. Thus, either explicitly or implicitly, a guiding premise of most SEL programs is that they will set into a motion recursive developmental process. Teaching children SEL skills enables them to more fully utilize social and academic resources available to them. By teaching SEL skills to
classroom of student sand facilitating their use of those skills in academic learning, teachers can improve students’ access to the various growth opportunities available in the classroom.

Clear recommendations follow from looking inside classrooms. Researchers need to provide better roadmaps for decision-making. The focus needs to shift to understand what intervention core components are essential to its efficacy. Teachers working with children need opportunities to learn about SEL in ways that explain why and how an intervention works and what constitutes acceptable and unacceptable adaptations. SEL needs more replication trials, more research conducted across a variety of samples and ages, and, in particular, research that differentiates mechanisms that matter from less important intervention components. School practitioners, intervention developers, and researchers need to collaborate to construct continuous improvement practices to support practitioners’ sustained use of high quality SEL practices.

Looking inside classrooms provides insights into the future. Consider the effect that the accountability movement and standardized testing has placed on what occurs inside classrooms in schools in the United States. Establishing a metric of academic performance has modified day-to-day classroom experiences to focus on particular academic content and specific academic goals in elementary school classroom. Consider the usefulness of a comparable national metric to assess students’ social and emotional competencies. How would day-to-day classroom experiences differ if teachers were held accountable for students’ emotional and social development? How would classroom social environments be different? What SEL skills would students exhibit regularly in their classrooms? Envisioning answers to these questions provides insight into how elementary school classrooms would change if national educational goals included SEL objectives designed to prepare students for school, work, and life ahead.
Figure 1. Conceptual Framework Describing the Contribution of Social Emotional Learning Interventions to Proximal and Distal Outcomes
References


