

Tools for Learning – Tools for Life

*Developing children’s resilience, self-mastery, and empathy for others:
Research brief on an evaluation of Toolbox social and emotional learning curriculum*

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Toolbox is a research-based, social and emotional learning (SEL) curriculum that fosters the development of resilience, emotional intelligence, and other positive behaviors and skills in K–6 students. Toolbox uses a strengths-based approach and the simple metaphor of tools to address the needs of the whole child and promote school and life success.

Developmental supports found in the Toolbox approach include:

1. Building authentic, caring relationships;
2. Promoting high expectation messages;
3. Building positive regard for and between students and teachers; and,
4. Providing students with opportunities to participate in meaningful ways in the school community.

These supports (also known as resiliency protective factors) have been shown to be key in increasing student engagement, learning, and academic success.

Toolbox also recognizes the need to support teachers and administrators as they grow in their own understanding and instructional practices related to teaching social and emotional skills and fostering resiliency. For this reason, Toolbox integrates SEL principles in its instructional support materials and implementation guidelines for school staff. In this way, Toolbox provides both

high-quality student curricula and helps create positive, productive school climates for students and staff.

OVERVIEW OF RESEARCH

In January 2010, Toolbox conducted formative and pilot research on their K–3 curriculum during a 15-week implementation that was part of the *Toolbox/Sonoma County Collaboration for Resilient Children* project. This research was funded by the Stuart Foundation of San Francisco, and was conducted by the educational research, development, and service organization, WestEd. The research study used multiple, pre-post measures, and focused on Toolbox’ potential to positively impact students, schools, and family/community systems along three, overarching objectives:

1. To improve resiliency skills and assets for children in grades K–3;
2. To improve school climate and connectedness for teachers and students; and
3. To improve links between school, home, and community efforts that support children’s positive social, emotional, and behavioral growth.

Data were collected on 437 K–3 students by 32 K–3 teachers, 16 yard duty aides, and 434 parents from two,

public elementary schools located in a largely underserved district in Northern California (approx. 65% free or reduced meals). Both schools had adopted Toolbox as their schoolwide, K–3 SEL curriculum from February to May 2009. A full report of the implementation and formative and pilot research that were conducted as part of the Toolbox/Sonoma County Collaboration is available from WestEd.¹

Two forms of the *Behavioral and Emotional Rating Scale–2* (BERS–2) checklist were used to assess possible changes over time in teacher (classroom environment), yard duty (playground environment), and parent (home environment) perceptions of students’ social and emotional behavior. The BERS–2 measures children’s behavioral and social–emotional skills across four scales, three of which are the focus of this research brief; **Interpersonal Strengths**, **Intrapersonal Strengths**, and **Affective Strengths**.

A customized, Toolbox version of the *California School Climate Survey for staff* (T–CSCS) was used pre– and post– implementation to measure school climate and connectedness indicators. The instrument included expanded questions about teacher beliefs and instructional practices around resilience, as well as a post–only section that focused on teachers’ perceptions of the impact of Toolbox on their students, and feedback on the Toolbox curriculum and materials. Additional measures were used on an ongoing basis during the project to gauge teacher, yard duty, and parent satisfaction with the Toolbox training and materials.

HIGHLIGHTED RESULTS

Analyses of the BERS–2 and T–CSCS data revealed highly positive results. Significant change over time was found in children’s social, emotional and behavioral growth, and in improved resiliency skills and assets. Measures of teacher perceptions of school climate also revealed significant positive changes at both schools.

¹ Research brief based on WestEd (2010). *Report on the Toolbox/Sonoma County Collaboration for Resilient Children*, San Francisco: WestEd. Contact Bo De Long-Cotty, PI for a copy of the full 34-page report: bdelong@wested.org

Additionally, teachers and yard duty aides reported being quite satisfied or extremely satisfied with a majority of the curriculum materials, and there were significant, positive changes in several of their teaching practices around resiliency–related skills. Ninety–seven percent of teachers said they would teach Toolbox again in their classrooms. A majority of parents also reported that they believed they and their children could benefit from using the Toolbox tools at home.

Toolbox and Improved Student Resiliency

Analyses of the BERS–2 revealed numerous significant changes in student behavior and social–emotional skills from pre– to post– implementation. Significant, positive changes ($p < 0.05^*$, $p < 0.01^{**}$) in student behavior were found for 60% of the **Interpersonal Strength Scale** items that were common to the teacher (classroom), yard duty (playground), and parent (home) instruments; 91% of the **Intrapersonal Strength Scale** items given to all three groups; and 71% of **Affective Strength Scale** items given to all three groups. Of these three scales, **Intrapersonal Strength** and **Affective Strength** also showed significant differences for the scales, overall (mean change=0.11** and 0.13**, respectively).

For individual items on the **Interpersonal Strength Scale**, significant, positive changes were found for *apologizing when wrong; using anger management skills; accepting criticism; admitting mistakes; showing remorse; sharing; and reacting to disappointments calmly*. For **Intrapersonal Strength Scale** items, there were significant, positive changes for *identifying feelings and personal strengths; enthusiastic and positive attitudes about life; positive peer relationships; and self–confidence*. For **Affective Strength Scale** items, significant changes were found for *accepts closeness and intimacy; acknowledges painful feelings; asks for help; discusses problems; and expresses affection for others*. Table 1 shows these results for teachers and yard duty aides.

The analyses show that the K–3 students who participated in this formative evaluation study demonstrated significant improvements in a large number of social–emotional skills and behaviors across all three environments — in the classroom, on the playground, and at home.

Table 1. Pre–, Post–differences in means of teacher and yard duty aide reports of the BERS Rating Scales shared items, where at least one sample group reported significant change over time.

BERS Scale and Individual Items	Teacher change (M)	p-value	Yard Duty change (M)	p-value
INTERPERSONAL STRENGTH SCALE	0.05	0.24	0.10	0.08
Accepts criticism	0.09	0.06	0.16*	0.03
Admits mistakes	0.10	0.06	0.18*	0.02
Apologies to others when wrong	0.13**	0.00	0.15*	0.02
Remorseful for hurtful behavior	0.08	0.12	0.25**	0.00
Respects the rights of others	–0.00	0.95	0.13*	0.05
Shares with others	0.01	0.72	0.12*	0.04
Uses anger management skills	0.16**	<0.01	0.23**	<0.01
INTRAPERSONAL STRENGTH SCALE	0.11**	0.00	0.14**	<0.01
Identifies own feelings	0.26**	0.00	0.20**	<0.01
Identifies personal strengths	0.26**	0.00	0.32**	0.00
Is enthusiastic about life	0.08	0.10	0.16*	0.02
Is popular with peers	0.10*	0.04	0.14*	0.04
Is self–confident	0.19**	0.00	0.21*	0.01
Requests support from peers	0.12*	0.02	0.26**	0.00
Talks about positive aspects of life	0.11*	0.04	0.33**	0.00
AFFECTIVE STRENGTH SCALE	0.13**	0.00	0.09	0.14
Accepts others' closeness/intimacy	0.09*	0.04	0.02	0.75
Acknowledges painful feelings	0.19**	0.00	0.07	0.40
Asks for help	0.17**	0.00	0.12	0.12
Discusses problems with others	0.20**	0.00	0.39**	0.00
Expresses affection for others	0.16**	0.00	0.21**	<0.01

» Data Source: Behavioral and Emotional Rating Scale, and Teacher/Yard Duty forms
 Notes: Sample consists of 437 students with both pre– and post–teacher checklist data, 195 students with both pre– and post–yard duty aide checklists.
 » Response options: “Not at all like this student”, “Not much like this student”, “Like this student”, and “Very much like this student” were coded 0, 1, 2 and 3. Response option “Don’t know” were coded missing.
 » *p<0.05; **p<0.01; Blue highlighting indicates significance

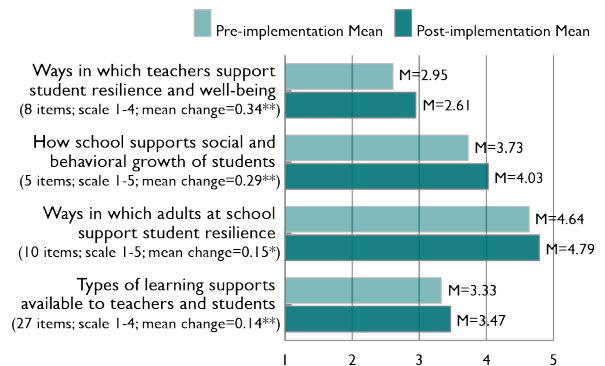
Toolbox and Improved School Climate and Connectedness

The evaluation also examined improvements over time in teacher perceptions of 54 school climate and connectedness indicators, grouped around five topics:

1. how teachers support student resilience and well-being;
2. how the school supports students’ social and behavioral growth;
3. how other adults at the school support student resilience;
4. the availability of physical and mental health support services at the school; and
5. the types and quality of student and teacher learning supports provided by the school.

Results from the T–CSCS showed that teacher perceptions improved over the course of the Toolbox implementation for all five topics, even in light of very strong, positive school climate ratings at baseline for both schools. Combined, mean rating improvements from pre– to post– implementation for all five topics proved to be statistically significant, as did 33% (18) of the total 54 individual items. Eighty–seven percent of the remaining, non–significant individual items showed a definite positive trend. Figure 1 shows the pre– to post– combined mean changes for four of these topics.

Figure 1. Comparison of combined, mean teacher ratings of items grouped into four topics, measuring school support of student resilience, pre– and post–implementation



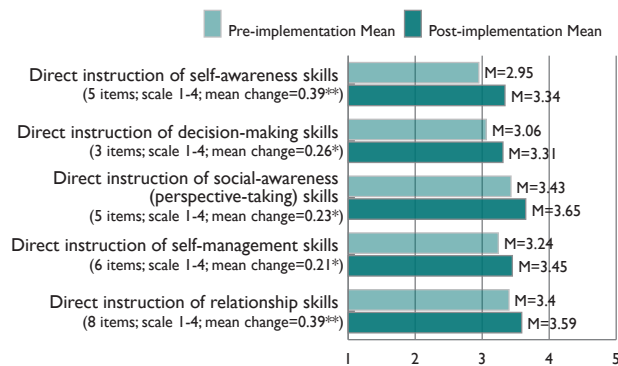
» All scales from 1-4 or 1-5, as indicated, with 1=lowest and 4 or 5=highest ratings.
 » Response level indicators (frequency, strength of agreement, etc.) vary between, but not within groupings.
 » *p<0.05; **p<0.01

Further analyses of T-CSCS data were conducted on teacher reports of the impact of Toolbox on their use of **direct instruction** to teach social-emotional and resilience skills in their classrooms. Specifically, teachers responded, pre- and post- implementation to 27 items grouped into five categories of skills:

1. relationship skills;
2. self-management;
3. self-awareness;
4. social awareness (perspective-taking and empathy); and
5. decision-making (problem-solving).

The combined, mean ratings for all five groups of items showed significant, positive changes from pre- to post-Toolbox implementation (see Figure 2). Forty-one percent (11) of the 27 individual items showed significant change over time.

Figure 2. Comparison of combined, mean teacher ratings of frequency with which teachers used direct instruction of resiliency skills in the classroom, pre- and post- implementation



» All scales, 1=Never; 4=Very Often

» *p<0.05; **p<0.01

Finally, the T-CSCS asked teachers to rate how much they believed they could do to 1) help students deal with stress and problems at home and 2) help students become more resilient and better able to “bounce back” from adversity. Teachers reported significant changes in their beliefs about these two items from pre- to post-Toolbox implementation.

These results are a strong indication that, by the end of the 15-week Toolbox implementation period, teachers perceived significant improvements in school climate, had significantly changed some teaching practices around social-emotional skills and resilience, and believed themselves to be more aware of and able to foster the positive development of critical behavioral and social-emotional skills in their students.

The primary purpose of the evaluation study was to obtain formative information and data that would help in the development and improvement of the Toolbox curriculum and training. Because of this, the evaluation did not employ an experimental design or use a comparison group. It is not possible, therefore, to determine whether these very positive findings were the result of children’s normal maturation processes, or the direct impact of exposure to the Toolbox curriculum (or any number of other influences). However, the researchers believe that the relatively brief (15-week) implementation period might actually support the hypothesis that maturation may not have been a strong factor in the behavioral changes observed in the student sample. Plans for an evaluation employing a rigorous, experimental design are underway as a next step in continuing to examine possible impacts of the Toolbox curriculum and program.

FOR MORE INFORMATION CONTACT:

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