Seven schools in an economically challenged area of an urban school district in central California implemented mentored peer mediation programs under the guidance of a university–K-12 partnership project, Mediator Mentors. Individual student outcomes for social-cognitive dispositions, perceptions of school climate, conflict strategy choices, and standardized testing results in language arts were analyzed on the basis of assessments administered after one year of program implementation and compared to pretest values generated by student mediators and nonmediators. Attendance and student perceptions of school safety were also examined after a year of peer mediation at the schools. Overall school climate was analyzed with respect to bullying incidence and suspension and expulsion rates before and after one year of program implementation.

Mediation is often described by those new to the field as a win-win process, with a focus on disputants who design their mutually satisfactory conflict resolution. While this is a valid perspective, our research confirms that there are additional and perhaps larger “wins” for students who are facilitating the mediation and for the school community as a whole. This outcome perspective is often met with some skepticism when the school community is situated in a neighborhood characterized by high rates of crime, poverty, and low levels of literacy. All seven of the schools in this study can be described in this manner. Our study of mentored peer mediation programs in the San Joaquin Valley was supported by The California Endowment, Building Healthy Communities grant in 2013.
As in the studies of peer mediation in the 1980s and 1990s, positive outcomes of this inquiry also justify program implementation. However, what may distinguish the contribution of this study to the existing knowledge base are (1) the social-emotional variables selected for measurement; (2) the considerable number of participants across schools in economically challenged neighborhoods; (3) the tie to academic achievement, specifically language arts for English language learners; and (4) the unique mentoring aspect of the mediation model.

Background and Literature Review

Conflict resolution education (CRE) programs come in all shapes and sizes (Jones 2004). Peer mediation is one. The program that served as “treatment” in our study features university students (future helping professionals) adopting a school and participating in assessment, training, and ongoing relationship building. Each of our seven schools had a university student mediator mentor who collaborated with classroom teachers, school administrators, and university professors. The mediators were on their school campus to advertise the upcoming program rollout by distributing applications to any interested child in grades 4 to 8 (reducing selection bias).

During the teacher training and the two days of student training, the mediator mentors were present and learning with their mentees while helping professors and teacher trainers facilitate the exercise. These desirable role models were in on the peer mediation team development from the start and therefore often became the go-to adults for most of the younger student mediators. Although peer mediation programs have been documented and evaluated for decades in hundreds of studies (Durlak et al. 2011; Johnson and Johnson 1999; Jones 2004), we submit that the ongoing program development provided by mentoring is powerful.

Perhaps the CRE program most similar to ours is Bickmore’s (2002) Winning Against Violent Environments (WAVE). Developed by Carole Close and institutionalized in the Cleveland Municipal School District, twenty-eight urban elementary schools were evaluated. WAVE high school mediators trained twenty-five to thirty elementary mediators in each school, conducted follow-up visits with schools, presented at school staff meetings, and led workshops for parent groups. Data were collected to determine the impact on understanding of conflict, attitudes toward conflict, perceptions of school climate, attendance rate, number of suspensions, and academic
Direct Instruction and Guided Practice Matter

achievement. The results indicated that peer mediation had significant positive results for mediator and nonmediator attitudes about conflict, understanding of conflict, and perceptions of school climate. The mediators tended to have more sizable increases on these measures than nonmediators, and this varied by experience level (Jones 2004; Jones and Sanford 2003).

Happily for our youth, CRE has been joined by the development of strong curriculum and research in social-emotional learning (SEL). The Center for Academic and Social-Emotional Learning is leading and inspiring studies that incorporate social-emotional variables like empathy and perspective taking, along with more typical outcome variables such as suspensions and expulsions (Weissberg and Cascarino 2013). There are convincing findings that students who experience direct instruction and exposure to SEL and skill development, such as peer mediation training, achieve gains in academic performance. The work of Durlak, Weissberg, and Pachan (2010), Durlak et al. (2011), Cassinerio and Lane-Garon (2006), Jones (2004), Lane-Garon (2011), and Zins et al. (2004) is representative of research with similar goals and outcomes. When students are emotionally invested in their own and one another’s welfare, they find it easier to achieve academic success in the resulting supportive environment (Lane-Garon, Yergat, and Kralowec 2012). Social interest, as Dreikurs (1950) articulated it, is encouraged by schools with peer mediation, restorative justice, character education, and positive behavior intervention supports.

Jones (2004) masterfully summarized the context and history of conflict resolution education and specifically peer mediation. The Comprehensive Peer Mediation Evaluation Project (Jones et al. 1997) revealed that peer mediation programs provide benefit in developing constructive social and conflict behavior in children at all educational levels. Some early work by Johnson, Johnson, and Dudley (1992) focused primarily on peer mediation programs and conflict education within a cooperative learning context. They reported positive findings of self-efficacy associated with peer mediation and conflict education, particularly on increases in student conflict knowledge, self-reported prosocial behavior, negotiation skills, and positive impact on classroom climate. Lane-Garon (2000) examined the effect of peer mediation on cognitive and affective perspective taking, strategy choice, and school climate. The study design compared mediators and nonmediators over a year’s interval, as is the case in our inquiry, but also by gender and ethnicity. Findings in Lane-Garon’s 2000 study indicated that girls were slightly more disposed to perspective taking than boys and that some ethnic minority children grew
significantly more in social skills as a result of mentored peer mediation when compared to majority population children.

From the decades of research, it is clear that experience with peer mediation programs has had a significant impact on student conflict attitude and behavior. Students who are recipients of direct instruction in mediation and mentored practice while serving their schools as dispute resolution facilitators experience the greatest effect. Not surprisingly, students without training also benefit, but to a lesser extent. The nonmediators are often those whose dispute resolution is facilitated by their mediator peers. Osmosis is good, but it is no substitute for direct instruction. The data clearly demonstrate that exposure to peer mediation reduces personal conflict, especially for peer mediators; these impacts are significant, cumulative, and sustained for long periods (Jones 2004).

Today there is intensified interest in conflict resolution education as schools embrace the demands of Common Core State Standards that challenge students to engage in complex discussion about topics specifically designed to require critical thinking and social problem solving. The body of evidence showing the interconnection between academic learning and social-emotional skills continues to grow (Weissberg and Cascarino 2013). Our findings from the seven mentored mediation programs in our culturally diverse low-income setting add support to previous results about the importance of social-emotional learning, conflict resolution education, and mentored mediation in particular.

**Method**

**Selection and Training**

Mediator Mentors recruited and trained thirty mentors (university students in degree, credential, and licensure programs). They attended three information and initial training meetings where they practiced conflict resolution and mediation skills, developed strategies for assisting teacher leaders with program development, and learned pedagogy for teaching children conflict mediation skills.

Each elementary and middle school site ran two mediator nomination weeks in which students were nominated by their peers and endorsed by teachers. University professors, mentors, mediators, and teacher leaders participated in two-day conflict resolution and peer mediation trainings; some took place at the university and some at school sites.
All mediation training was guided by the *Peer Mediation Handbook* (Lane-Garon et al. 1997/2010) and the Association for Conflict Resolution National Standards (ACR Education Section) for school-based peer mediation programs.

**Implementation**

After training, university mentors spent two to three lunch periods each week at their selected schools. They cofacilitated monthly mediator meetings with team teacher leaders and in middle schools with conflict resolution classes (Tehipite) and conflict resolution clubs (Yosemite).

**Setting and Focus**

Downtown Fresno has approximately ninety-five thousand residents, and over one hundred different languages are spoken. The California Endowment mandated that the focus of our work was to be supporting healthy youth development and school safety. The purpose of our work in the grant was to train and nurture respectful conflict resolution skills that supported healthy school environments for students through direct instruction, guided practice, and cross-age mentoring relationships in the prescribed geographical area. The project vision was focused on supporting conflict resolution education at all levels for the purpose of effecting peaceful and productive problem solving in our communities and world. Project values included respect for diversity of persons, ideas, and practices, as well as sensitivity to learner contexts.

**Measurement**

Our study addressed nine variables that were assessed before and after implementation with a one-year interval:

1. Cognitive and affective perspective taking, as measured before and after by the Interpersonal Reactivity Index (Davis 1983)

2. Language arts, as measured by the California Standards Test—Language Arts Subtest (California Department of Education 2010, 2011, 2013)

3. School attendance, as measured by school reporting

4. Student sense of safety, as measured by the California Healthy Kids Survey
5. Student sense of belonging, as measured by the California Healthy Kids Survey
6. Incidence of bullying, as measured by individual school reports
7. Suspensions and expulsions, as measured by school reporting
8. Conflict strategy choice, as measured by student scenario response
9. English learner language arts standardized test scores reported by schools

Sample

Five elementary schools and two middle schools in Fresno Unified School District participated in this study. Elementary schools were Lowell, Ann Leavenworth, Southeast, Mayfair, and Jackson. Middle schools were Yosemite and Tehipite.

The participating schools received the same supports for their mentored peer mediation program implementation. All peer mediation teacher and counselor leaders received training, as did their students (approximately thirty-five student mediators) on two days each semester. In addition, all schools received ongoing program development consultation from Mediator Mentor project leaders. Every school participated in pre- and postmeasurements to determine implementation effects. And finally, all schools had the benefit of regular communication with university student mentors who informed school teams of upcoming trainings, activities, and opportunities. Through the mediator mentor liaison, team leaders at each school shared program development and problem-solving ideas.

Collaboration took place at every level: professors, mentors, school administrators, teachers, school counselors, and school psychologists. As in all other good collaborations, the mediation programs took on the distinctive characteristics of their environments, based on what site leaders believed best fit their schools. For example, for mediation at Yosemite, students went to the “Bear Cave.” For mediation at Tehipite, students went to the fifth-period class, Communication and Conflict Resolution Elective. At each elementary school, mediation took place at recess. All schools had regular team meetings, and the agenda of these meetings typically addressed these topics: “What are we doing well?”; “What do we need to work on?”; and “Our skill for today is . . .” Thus, ongoing training and conflict resolution education took place in these meetings as well as in “skill spots” facilitated by the university mediator mentors on the school grounds. Preassessments
took place before students became mediators. Postassessments were completed at least one year following program implementation.

Results and Discussion

For clarity, study results are presented by variable. All statistical analysis was performed using SPSS software.

**Empathy or Affective Perspective Taking**

Based on findings of previous research and on theory associated with violence reduction and resiliency characteristics in youth, we anticipated that training in communication and service as a mediator might result in changes in student perspective taking and empathy, as measured by the adapted Davis Interpersonal Reactivity Inventory scales or the IRI (adapted from Davis [1983] by Cassinerio and Lane-Garon [2006]). The adaptation was made for use with middle school children and English learners. These participants, many of whom were learning English, required short, child-friendly vignettes that were orally translated as needed for Hmong and Spanish speakers. (Permission was granted by Mark Davis for IRI modifications.) For example, the IRI item “Before criticizing somebody, I try to imagine how I would feel if I were in his/her shoes” was followed by a vignette about an unfortunate haircut that is easily translatable to a child’s experience (Kralowec 2013). With respect to dispositional empathy (the ability and socialized tendency to feel with another), a mixed factorial analysis of variance (ANOVA) indicated a significant interaction between change over time and mediator status in empathy scores (Figure 1): $F(1,259) = 13.618, p < .001$, partial $\eta^2 = .035$. This is a robust finding. Post hoc tests with an adjusted alpha of .025 indicated that mediators ($N = 127$) showed a significant increase in empathy from before training as a mediator ($M = 5.08$, $SE = .08$) to after training in mediation and service as a mediator or at the end of our study: $M = 5.33$, $SE = .09$); $F(1,126) = 6.010, p = .016$. Conversely, nonmediators ($N = 134$) showed a significant decrease in empathy scores from pre- to postassessment (prescores: $M = 5.04$, $SE = .10$; postscores: $M = 4.69$, $SE = .11$); $F(1,133) = 7.816, p = .006$. In addition mediators at posttest showed significantly higher scores in empathy ($M = 5.29$, $SD = 1.01$) than nonmediators ($M = 4.66$, $SD = 1.25$); $t(335.178) = 5.254$, $p < .001$, $d = .57$. This is a large effect size for this significant finding.
and is good news for school climate and youth development. One interpretation of the empathy findings is that direct instruction and guided practice matter. Nonmediators did not receive direct instruction in active listening, questioning, encouraging, summarizing feelings and content, and so on. Students who elected to become mediators had focused, direct instruction in empathy skill development.

Interestingly, empathy scores correlated at posttest with both pre- and post-CST language arts scores: \( r(240) = .20, p < .01; r(249) = .30, p < .01 \). Cognitive perspective-taking scores at postassessment were also correlated with pre- and post-language arts scores: \( r(234) = .22, p < .01; r(243) = .30, p < .01 \). This finding may illustrate the connection between language development and social-emotional learning, as provided in the Mediator Mentors program. In order to empathize, feeling word vocabulary and social inference language must be in the student’s vocabulary and be part of the dispositional tendency to engage in that behavior.

Another important fact to note when considering the findings of our data analysis is the nature of the change from pre- to postassessment. Before students were selected as mediators, they responded to surveys. At that time, there was no statistically significant difference between mediators and nonmediators as evidenced by survey scores at pretest. However, after program implementation (a year of mediation training and service), empathy scores of mediators were significantly higher than those of nonmediators. Of course, we may ask whether empathy translates to prosocial action. The mediator teams experienced very little attrition and served their peers as facilitators of dispute resolution for an entire year. This meant giving up
hang time with friends. Servant leadership requires commitment and sacrifice, and students at all our schools demonstrated that.

**Cognitive Perspective Taking**

Much research has connected the importance of cognitive perspective taking to the tendency to empathize with others (Davis 1983; Eisenberg and Fabes 1991; Elkind 1967). For example, we know that those who have antisocial personalities are either not able or not socially disposed to consider the thoughts and feelings of others or take their perspectives. Those who hurt others consistently are poor perspective takers or not inclined to empathize. Based on findings of previous research and on theory associated with violence reduction and resiliency characteristics in youth, we anticipated that training in communication and service as a mediator might result in changes in student perspective taking and empathy, as measured by the Davis scales IRI (Davis 1983; Lane-Garon 2000). The cognitive ability and tendency to put oneself in another’s shoes was analyzed before and after mediation training and service (Figure 2). Cognitive perspective taking scores at posttest were correlated with pre– and post–language arts scores: $r(234) = .22, p < .01$; $r(243) = .30, p < .01$. The connection of social-emotional learning to academic learning is underscored by this detected relationship. Furthermore, a mixed ANOVA indicates both a main effect for change over time, $[F(1,273) = 4.871, p = .028]$ and mediator status, $[F(1,273) = 10.310, p < .001]$, but no interaction with partial $\eta^2 = .017$. Pairwise comparisons show significant difference in estimated marginal means between mediators ($M = 4.94$, SE = .083) and nonmediators ($M =$

![Figure 2. Cognitive Perspective Taking](image_url)
4.56, SE = .084), \( p = .001 \). In this finding, we may again be detecting the importance of direct instruction. The nonmediators who did not receive the training and engage in service to their peers actually demonstrated perspective-taking score decreases over time.

A significant difference was revealed in cognitive perspective taking between mediators and nonmediators at posttest: \( t(318) = 5.702, p < .001, d = .64 \). This is also a robust effect size for this significant finding, which corroborates previous findings about the nature of mediation training and practice in schools. The language of mediation features elaborated vocabulary and process aimed at developing the ability and tendency to consider the thoughts and feelings of others. With respect to this variable, a significant difference between those who received direct instruction and those who did not again emerged. We can consider these phrases from the Mediator Handbook, the learning tool for all our mediators and mentors, in order to get a sense of the opportunity students have to make the cognitive leap into another’s experience that is part and parcel of every mediation:

Can you restate his perspective? Did you know how he felt? Can you reflect his feelings?

Was she accurate in her listening? Good. Does knowing this make some difference to you now? How many possible solutions can you two come up with?

**Attendance**

One of the challenges in all of the schools we worked with was school attendance. In analyzing our end-of-year data (Figure 3), we discovered that mediators had significantly fewer absences (\( N = 171; M = .42, SD = .89 \)) in the period of grant implementation than did students who were not mediators: \( N = 139; M = .77, SD = 1.82 \); \( t(192.14) = -2.10, p = .037, d = .30 \). Absences over the year are a fairly accurate (negative) measure of commitment to school.

Mediators missed a significantly lower number of school days than did nonmediators. This finding may be interpreted in a variety of ways. One that we find highly supportable is that students who have a socially meaningful job to do feel the importance of showing up for their peers because they believe their contributions are significant to the greater good (Nelson, Martella, and Marchand-Martella 2002). Social interest gets children to school, sometimes more than the desire to learn subject mat-
The lesson we take from this finding is the high value that must always be placed on learning and the practice of the social-emotional behaviors that will invest our children in the welfare of others, as well as their own (Haynes and Avery 1979). A small effect size for this significant finding was revealed (partial $\eta^2$ for mediator = .035). However, a large, related contextual finding is of interest as well. When we look at unexcused absences across all seven sample schools, there was a remarkable decrease of 16.2 percent from the time before Mediator Mentors program implementation to the postassessment period (Figure 4).
Of course, there are many programs in our schools working toward the same goals of decreasing absences. Nonetheless, we find this a remarkable decrease and wish to report it by way of recognizing improved attendance during the period measured. We now know that mediators miss fewer days than nonmediators and that unexcused absences decreased significantly in our seven schools.

**Conflict Strategy Choice**

At pretest and posttest, all sample participants were asked to respond to a conflict resolution scenario about a limited number of computers and an assignment due (Jones and Compton 2003). The responses were scored 1, 2, and 3. A score of 1 indicated an inappropriate strategy. A score of 2 indicated an appropriate strategy, such as asking a teacher for help. A score of 3 was awarded to responses in which students indicated that they would ask questions about the disputant’s needs and interests. Data analysis revealed that students who later became mediators scored significantly higher on conflict strategies (M = 2.31, SD = .88) than nonmediators [(M = 2.05, SD = .93); t(343) = 2.649, p = .008, d = .29].

This is a pretest finding that perhaps indicates that students who became mediators already had an idea of productive ways to resolve conflict. Conflict resolution educators value interest-based negotiation as an enlightened departure from position-based argumentation. For example, a position in the scenario case might be stated, “I was first.” An interest, on the other hand, could be articulated, “My assignment is due in the next hour. When is yours due?” In our evaluation, students who had the benefit of mediation training and service scored significantly more 3s on this measure than did nonmediators at pretest. An important question for the research became: Does conflict strategy choice demonstrate change over time as a result of mediation program implementation? At posttest, mediators had increased their conflict strategy scores by adopting more interest-based solutions to the scenario problem: t(113) = 2.228, p = .028, d = .42. There was no significant change demonstrated by nonmediators. Again, the power of direct instruction, guided practice, and opportunity to serve as conflict resolution facilitator is underscored.

**Mediators, English Language Learners, and CSTLA Test Scores**

In our work plan, one of our central interests was the connection between social-emotional learning (as in Mediator Mentors training and service)
and academic achievement (as measured by California Standards Test, Language Arts Scores). Overall, a one-between, one-within $2 \times 2$ ANOVA across mediator status and pre- and postassessment CSTLA scores showed a significant effect for time interval $[F(1,280) = 21.576, p < .01, \text{partial } \eta^2 = .071]$ and for mediator status $[F(1,280) = 18.426, p < .01, \text{partial } \eta^2 = .061]$. This means that being a mediator matters to change over time in academic learning, specifically language arts (Figure 5).

With respect to English language learners, at pretest (2011), a $2 \times 2$ ANOVA across mediator and ELL status revealed a significant difference in CST language arts scores (2011) with a main effect for English language learners: $F(1,193) = 21.911, p < .001, \text{partial } \eta^2 = .091$. Overall, English language learners scored significantly lower on CST scores than native English-speaking students. This is to be expected. However, growth in language development may be a process sensitive to peer mediation training and activity. A $2 \times 2$ ANOVA across ELL and pre- to postassessment revealed a reportable near effect for English language learner status: $F(1,65) = 3.752, p = .057$. In addition, for ELL mediators, there was a significant increase in language arts scores from pre- to postassessment [(M = 308.88, SD = 34.2) to (M = 330.41, SD = 42.7), $t(16) = 3.092, p = .007$]. Anecdotally, our mentors have seen students with little English blossom with the rapid development of vocabulary and public voice.

**Measures of School Climate and California Healthy Kids Surveys**

Students in our study regularly reply to surveys that assess their perception of their learning environment on many dimensions. Together the School

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**Figure 5. Social-Emotional Learning (Mediation Curriculum) and Academic Achievement (CSTLA Scores)**

![Figure 5. Social-Emotional Learning (Mediation Curriculum) and Academic Achievement (CSTLA Scores)](image-url)
Climate Surveys and the California Healthy Kids Surveys (West Ed 2010, 2011, 2013) supply valuable information about the student experience. During the period of our Mediator Mentors project implementation, we found the following student perceptions particularly relevant to our conflict resolution education work in the area.

**Safety**
Student perceptions of safety translate to psychologically healthy learning environments. Psychological and physical safety is equally important in productive schools. In our seven Mediator Mentors schools, student reports of feeling safe increased during the period of the study (Lantieri and Patti 1996; Figure 6).

**Belonging**
In addition to feeling safe at school, research has identified a factor preventative of violence. The extent to which the student feels he or she belongs and contributes significantly is essential to psychological health and promotes student engagement with positive school activity (Figure 7).

**Bullying**
National awareness has brought us to consensus on the importance of addressing bullying in our schools with prevention and intervention programs. Together with Olweus, Safe and Civil, and other programs, it appears that in our seven sample schools, mentored peer mediation

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Figure 6. Sense of Safety

![Graph showing sense of safety from 2010 to 2012 with data points: 2010 - 68.35, 2011 - 63.69, 2012 - 73.27]

*Note: Student response to “I feel safe at school.”*
addressed potential bullying. The student reports of bullying in these seven schools decreased during the study period (Figure 8).

**Suspensions and Expulsions**

Of the seven schools participating in our study, referrals decreased in four of them from 2010–11 to 2011–12 during the period of our project implementation (Table 1). However, there is debate about which numbers should be used for this purpose. It is also useful to remember that although
Table 1. Total Expulsion Referrals, 2010–11 and 2011–12

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<thead>
<tr>
<th></th>
<th>2010–11</th>
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<tbody>
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<td>Mayfair</td>
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<td>1</td>
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<tr>
<td>Leavenworth</td>
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<td>Lowell</td>
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<td>Jackson</td>
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</tr>
<tr>
<td>Southeast</td>
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<td>Yosemite</td>
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... mentored peer mediation certainly reduces discipline referrals, mediators do not handle threats or physical danger to self or others. Therefore, there is not a one-to-one correspondence between the number of mediations and the number of referrals.

**Conclusion**

The explicit goal in training peer mediators is to assist their schoolmates in interest-based discussions and potential resolutions when they encounter interpersonal conflict. However, the mediators themselves can experience superior social-emotional growth because of direct instruction in training and guided practice when learning the skills needed to do their jobs. Peer mediators develop in social-emotional domains, showing statistically significant gains over nonmediators in ability to consider the thoughts and feelings of others, empathize, and choose productive problem-solving strategies. Student mediators also demonstrate better attendance than nonmediators and report feeling safer and more connected in positive ways to their school, with a sense of belonging. They also report fewer incidents of bullying. The mediation connection to suspension and expulsion data is inconclusive. We hope that subsequent researchers will find new ways to measure this relationship. Since mediation often is offered for disputes that do not constitute discipline code severe events, the relationship between mediations and expulsions is complex and perhaps nonexistent. Finally, in our sample, student mediators experienced academic achievement gains in language arts. This was especially true for students learning English as a second language. We certainly do not claim a cause-and-effect relationship, but we find it easy to accept that a language-based intervention with elaborate vocabulary, such as mentored peer mediation, might result in...
more and enhanced language for English language learners serving their schoolmates in the meaningful context of dispute resolution facilitator.

As a footnote to this study, it is exciting that the school district that served as the context of this study is now embracing a further step away from zero tolerance to restorative practices, which includes reliance on peer mediation, not in 7, but in all 102 schools.

References


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