Social and Academic Learning Study on the Contribution of the *Responsive Classroom*® Approach

Sara E. Rimm-Kaufman

Associate Professor of Education

CURRY SCHOOL OF EDUCATION AND CENTER FOR ADVANCED STUDY OF TEACHING AND LEARNING

UNIVERSITY OF VIRGINIA

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The elementary school years are critically important for children. During those years, the stage is set for later learning and future success as contributing members of adult society. As an educational researcher, I am keenly interested in how teachers' classroom practices influence children's learning during those important first years of school. Intuitively, many educators know that the practices that teachers use are important for fostering children's academic and social growth. But knowing intuitively that an educational intervention should work is different from pointing to scientific data showing that it does work.

Wanting to contribute to such data, I turned my attention to the *Responsive Classroom* approach. This educational intervention uses developmentally appropriate teaching practices along with many techniques to integrate social and academic learning in the classroom. Thus, the approach includes elements that intuition tells us help children learn at their best. The question was whether this intuition could be backed up by scientific research.

In 1999, Northeast Foundation for Children, the developer of the approach, received sponsorship from the DuBarry Foundation for a scientific study looking at how the *Responsive Classroom* approach affects children's academic and social skills. The research proposal I wrote with my colleagues was accepted by an independent research-review board. In school year 2001–02, my team and I began our three-year Social and Academic Learning Study.

Our research found a link between the *Responsive Classroom* approach and improved student learning. Children whose teachers and schools used the approach had higher scores on math and reading tests. Further, teachers using the approach felt more effective, had a greater sense of closeness with their students, and used more high-quality instructional practices than other teachers. These findings should help districts make a more informed choice when evaluating educational initiatives for their students.

Collecting research data on the effectiveness of educational approaches has always been important, but it is particularly critical in the age of *No Child Left Behind*. In addition to requiring teacher and school accountability in the form of improved student scores on standardized tests, this law strongly recommends that school districts select educational programs for which claims of effectiveness are substantiated by rigorous scientific research. Regardless, then, of how educators feel about *No Child Left Behind*—and I am aware of the constraints and stresses teachers and

students are feeling under this legislation—the fact is that research data are more vital than ever to school districts in their process of choosing appropriate programs for their students.

For myself personally, after analyzing the substantial data from our study, I have come to appreciate the value of the *Responsive Classroom* approach for nurturing children's academic and social growth. More research is needed before we can say conclusively that the approach works. But the evidence looks highly promising so far.

In the following pages, I give some background on the *Responsive Classroom* approach and then describe our research methods and findings.

About the Responsive Classroom Approach

The *Responsive Classroom* approach is a practical way of teaching that integrates social and academic learning. The goal is to help children thrive academically, socially, and emotionally.

The approach got its start in 1981, when several classroom teachers formed Northeast Foundation for Children (NEFC) to explore ideas for teaching academic and social skills in an integrated way throughout the school day. Not only do children learn better through social interaction than alone, but social skills, these teachers believed, are essential to academic learning: Only when children know how to manage themselves and their interactions with others are they free to focus on the academic challenges that lie ahead of them. School then becomes a safe and productive learning community in which children willingly invest their trust and their energies.

The ideas developed by NEFC became the *Responsive Classroom* approach. Over the years, the approach has been refined on the basis of further collaboration with classroom teachers, continuous learning about children, and the evolving landscape of U.S. education.

The *Responsive Classroom* approach rests on several principles (Northeast Foundation for Children 2006) grounded in education theory and developmental science (see, for example, Zins, Bloodworth, Weissberg, and Walberg 2004)

* The social and academic curricula are equally important.
* How children learn is as important as what they learn.
* Social interaction facilitates cognitive growth.
* Children need to learn cooperation, assertion, responsibility, empathy, and self-control if they are to be successful socially and academically.
* Knowing children individually, culturally, and developmentally is essential to good teaching.
* Knowing children's families is essential to good teaching.
* The working relationships among adults in school are critically important to how well children learn.

These *Responsive Classroom* principles give rise to several specific teaching practices, including these (Northeast Foundation for Children 2006):

* Holding a daily Morning Meeting to create a sense of community and provide children with opportunities to practice academic and prosocial skills
* Using an approach to devising and reinforcing rules that is developmentally and individually relevant to the child and teaches responsibility and self-control
* Organizing classrooms in ways that foster social interaction, independence, and productive learning
* Forming school/home partnerships in which teachers invite parents to share their knowledge of their child, keep them informed about what's happening in school, and welcome their presence in the classroom
* Introducing classroom materials through Guided Discovery, a format that encourages children's excitement about learning and teaches care of materials
* Using Academic Choice, an instructional approach that motivates children and encourages autonomy by letting them select from among several teacher-offered ways to meet learning goals; children learn a three-stage process of planning, working, and reflecting
* During the first six weeks of school, taking specific steps to create a climate of warmth and safety, teach school routines and behavioral expectations for each of them, introduce school and classroom learning materials and teach students how to use and care for them, and establish expectations for how children will learn together in the days ahead

Early Research on the Responsive Classroom Approach

The first research studies on the contributions of the *Responsive Classroom* approach were conducted in the 1990s by Dr. Stephen Elliott, now a Professor of Special Education at Vanderbilt University's Peabody College of Education.

While a professor in the Educational Psychology Department at the University of Wisconsin, Elliott conducted two one-year studies and a two-year study looking at the contribution of the *Responsive Classroom* approach. All three studies involved children at economically and racially diverse schools.

In the first one-year study, conducted in West Haven, Connecticut (school year 1991–92), Elliott found that students exposed to *Responsive Classroom* practices over the course of a school year generally were perceived to exhibit higher levels of social skills and fewer problem behaviors than those with limited or no exposure (Elliott 1993).

The second one-year study was conducted in Washington, DC, and analyzed information from school year 1993–94. The findings were essentially the same as the West Haven findings: Students who were taught according to *Responsive Classroom* practices did better socially and behaviorally than those who were not (Elliott 1995).

In Springfield, Massachusetts, Elliott conducted a two-year study spanning school years 1996–97 and 1997–98. That study found that students with strong social skills are likely to have strong scores on evaluations such as the Iowa Test of Basic Skills (ITBS). The study also found a correlation over time between social skills improvement and improved ITBS scores.

Elliott concluded that children in a classroom that promotes the development of social skills will have higher ITBS scores than those in classrooms that do not promote those skills (Elliott 1999).

In all three of these studies, use of *Responsive Classroom* practices was linked to stronger social skills.

Latest Research on the Responsive Classroom Approach: The Social and Academic Learning Study

Funded by a grant from the DuBarry Foundation, the Social and Academic Learning Study involved six schools in a single urban district in Connecticut during the school years from 2001–02 through 2003–04. My colleagues and students (including Brook Sawyer, Robert Pianta, Iris Chiu, Lauren Decker, Karen La Paro, and Laura Brock) and I collaborated to conduct this research. In this section, I describe how my colleagues and I set up and carried out the study and also talk about our findings.

Study Design

One of the major strengths of the Social and Academic Learning Study is that we used a longitudinal design—one in which we studied children and teachers over several complete school years. Built into the *Responsive Classroom* approach is the recognition that social and academic skills typically improve only over time as children are given many opportunities to learn and practice these skills. A longitudinal design, therefore, is the best way for researchers to fully and accurately evaluate the way in which *Responsive Classroom* practices change the classroom environment.

In our study, the teachers were not selected randomly to implement the *Responsive Classroom* approach. Instead, their schools decided on their own to try the approach. This quasi-experimental study design, as it is known, is frequently used in educational research. It is one of the two types of research designs considered appropriate for educational research by *No Child Left Behind*.

Although the findings of properly conducted quasi-experimental studies are considered scientifically rigorous, this type of study design does have important implications for the types of assertions we can make on the basis of our research. Specifically, we can talk about the association between use of the *Responsive Classroom* approach and children's educational outcomes, but we cannot claim for certain that the *Responsive Classroom* approach was the cause of the results we found. Such claims can be made only on the basis of positive findings from randomized, controlled studies—a research design we hope to use in the future to further our evaluation of the *Responsive Classroom* approach.

Study Participants

We selected six schools in the same district to participate in the research. Three schools were considered our intervention schools. They began implementation of the *Responsive Classroom* approach during the first year of our study. Three schools were comparison schools, meaning they were conducting "business as usual" and had not adopted the *Responsive Classroom* approach. On average, the student body of the six schools consisted of approximately 50% minority children, 30% children who spoke English as a second language, and 30% children from poor families. The intervention and comparison schools were comparable in their demographic composition.

Study Method

Between 2001 and 2004, virtually all teachers at the three schools implementing the *Responsive Classroom* approach attended two week-long institutes (RCI and RCII) taught by certified *Responsive Classroom* trainers. RCI is designed for educators new to the *Responsive Classroom* approach (or who are using some of the strategies) and who have not participated in extensive training at their school. Participants learn basic information about the *Responsive Classroom* principles and practices listed above and about understanding children's developmental stages.

In RCII, educators further their understanding of how to use the basic *Responsive Classroom* components to connect social and academic learning. They also learn new strategies for implementing Academic Choice and helping children solve common classroom problems.

After teachers at the three schools attended the institutes, certified coaches followed up with the teachers to facilitate their classroom implementation of the *Responsive Classroom* approach, and principals committed themselves to the process of implementing *Responsive Classroom* practices throughout their schools.

Teachers at the three comparison schools received no training in the *Responsive Classroom* approach.

We collected our data through standardized test scores, teacher questionnaires, classroom observations, student questionnaires, and teacher and principal interviews.

Findings

The findings from our study offer promising support for the usefulness of the *Responsive Classroom* approach in helping children learn and teachers teach. Here are six key findings, along with brief descriptions of the supporting evidence for each.

Finding 1: Children showed greater increases in reading and math test scores

As measured by test scores, children at schools where the *Responsive Classroom* approach was used showed greater increases in reading and math performance than children at comparison schools. These findings were evident for children exposed to the *Responsive Classroom* approach for two or three years, but not for only one year. Math test scores showed greater gains than reading test scores.

My colleagues and I analyzed test score data (Degree of Reading Power and Math test from the Connecticut Mastery Test) for all the children at the six schools. In that analysis, we examined the contribution of the *Responsive Classroom* approach on three distinct cohorts, or groups, of children. Cohort 1 consisted of children whose performance we tracked for three years spanning third, fourth, and fifth grades. Cohort 2 consisted of children whom we tracked for two years spanning fourth and fifth grades. Cohort 3 consisted of children whom we tracked for one year, the year they attended fifth grade.

Each cohort included between 380 and 520 children. We had baseline data for all of these cohorts from the spring before the school year in which they were taught for the first time by a teacher using the *Responsive Classroom* approach. As we analyzed our data, we used standard

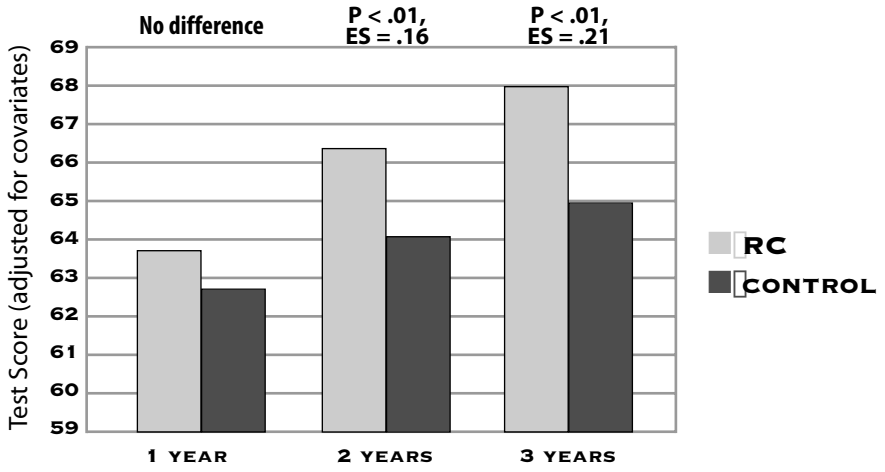

FIGURE 1. *Gains in reading (as measured by the Degrees of Reading Power Test)*

statistical methods to control for (that is, take into account) the effects of children's previous test scores. Controls such as these are commonly used in research because they enhance the predictive power of the analyses. Just as knowing yesterday's weather is the best way to predict today's, knowing children's test scores from the previous year is the best way to accurately predict their test scores for the current year. Controlling for previous test scores, therefore, enables researchers to see if a new teaching method may have contributed to boosting children's test performance beyond what one would have expected.

We also used statistical procedures to take into account whether children were receiving free or reduced-price lunch. Receiving free or reduced-price lunch typically means a family is living in poverty, and a large body of educational research suggests that children living in poverty typically show lower achievement than those who are not. Factoring this into the analysis helped us understand the inclusiveness of the *Responsive Classroom* approach—its ability to improve educational outcomes for all children, regardless of the circumstances governing their home lives.

In relation to reading, our findings showed that children at the schools using the *Responsive Classroom* approach outperformed children at comparison schools on reading tests (see Figure 1). The contribution of the *Responsive Classroom* approach was evident over two- and three-year periods, but not over one year. It's important to note that the size of this effect was small but statistically significant (equal to approximately one-fifth of one standard deviation).

As for mathematics, children at schools where teachers used the *Responsive Classroom* approach showed greater gains over two- and three-year periods than children at comparison schools (see Figure 2). The contribution of the *Responsive Classroom* approach was small to moderate, resulting in gains of between one- and two-fifths of a standard deviation. As with reading, there appeared to be no association between teachers' use of the *Responsive Classroom* approach over a single year and improved academic performance in math.

Many school districts are understandably very concerned about reaching the reading and math goals set by their state. We conducted analyses specifically to see if the *Responsive Classroom* ap-

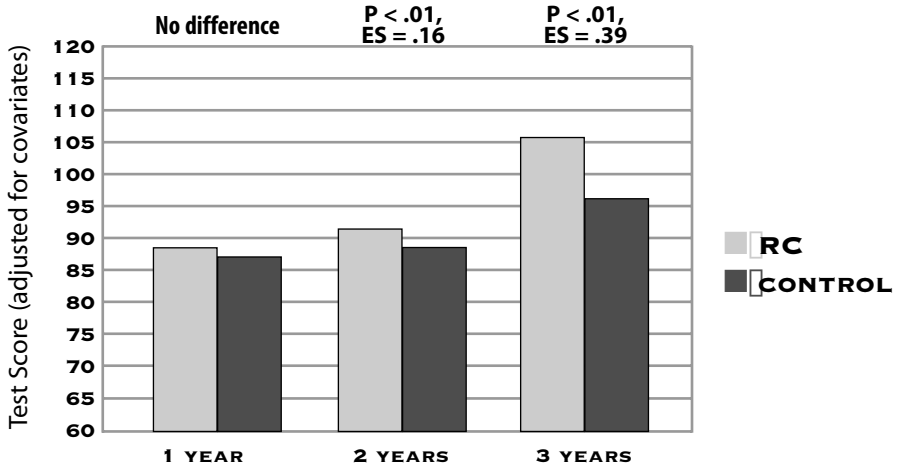

FIGURE 2. *Gains in math (as measured by the Connecticut Mastery Test)*

proach was associated with higher numbers of children reaching state academic goals for reading and math. In Connecticut, the state divides scores into three categories from lowest to highest: remedial, proficient, and goal. The objective is to get as many children achieving at goal levels as possible. For reading, as Figure 3 shows, a greater proportion of children who were taught using the *Responsive Classroom* approach for three years (corresponding to the third, fourth, and fifth grade years) achieved goal levels of performance than did children at comparison schools. Again, these analyses controlled for children's earlier test scores and whether they were receiving free or reduced-price lunch.

For mathematics also, as Figure 4 shows, a greater proportion of children who were taught

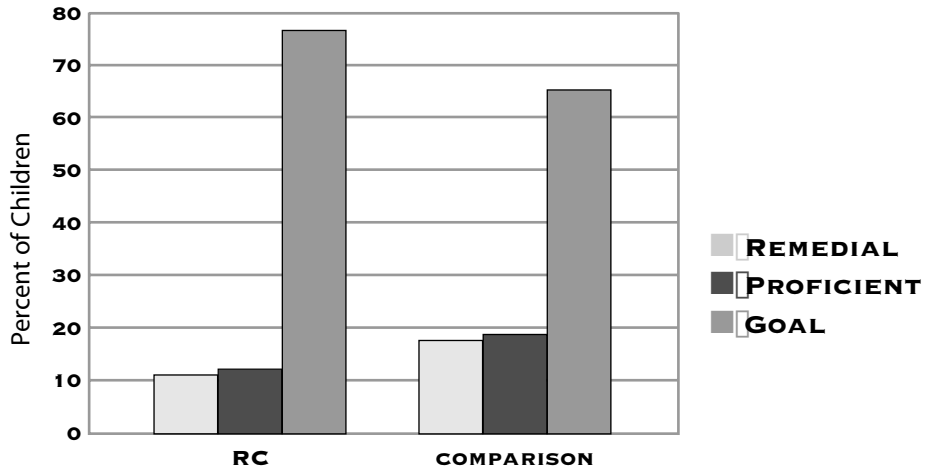

FIGURE 3. *Percent of children reaching remedial, proficient, and goal levels in reading*

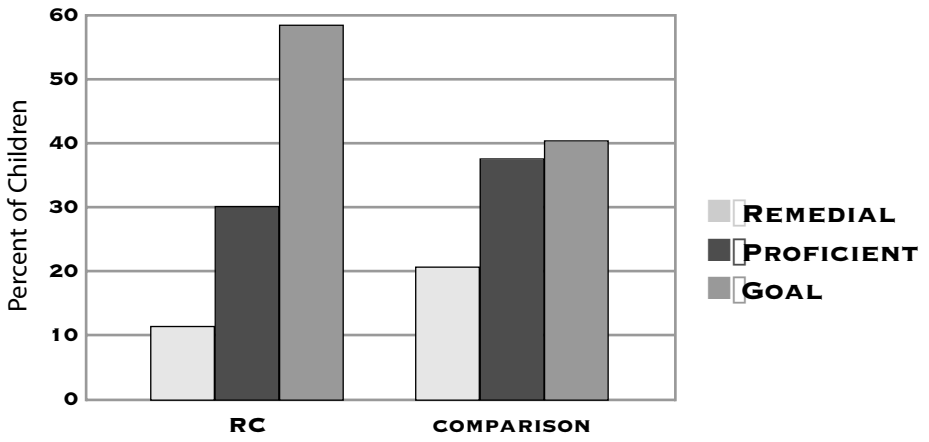

FIGURE 4. *Percent of children reaching remedial, proficient, and goal levels in mathematics*

using the *Responsive Classroom* approach for three years (corresponding to the third, fourth, and fifth grade years) achieved goal levels of performance than did children at comparison schools.

In interpreting these findings, it's important to keep in mind the primary goal of the *Responsive Classroom* approach—to integrate social and academic learning so that children function as respectful members of a community and learn at their best. The contribution of the *Responsive Classroom* approach on academic performance may seem small. However, the magnitude of these findings is exactly comparable to what would be expected from effective interventions designed to target both social and emotional performance (Borman et. al. 2003; Weissberg 2005). Educators often hesitate to use interventions such as the *Responsive Classroom* approach because they feel that such interventions are "at odds" with the need to boost academic performance. Our findings may partially ameliorate this concern. Consistent with theory and research in child development, offering teachers strategies that engage children in learning and developing social and emotional skills appears to be a critical stepping stone on the path toward improving their academic performance.

Taken together, these findings are quite promising. We can say that children taught with the *Responsive Classroom* approach showed greater improvements than those taught with other approaches. That is, the *Responsive Classroom* approach was associated with improved academic performance. In the research world, having data to support such an association is very important as a first step. Because we used a quasi-experimental design, we cannot say for certain that the *Responsive Classroom* approach caused these performance improvements.

Summing Up

Children at schools widely using the *Responsive Classroom* approach performed better in reading and math than children at the comparison schools. The gains were greater over three-year periods than over two-year periods, and greater in math than in reading. We saw no difference in students' test score performance between schools using the *Responsive Classroom* and comparison schools when children had been exposed to *Responsive Classroom* practices for only one year.

Finding 2: Teachers felt more effective and more positive about teaching

During the first year of the study, almost 70 teachers in kindergarten through third grade completed custom-designed questionnaires about the practices they used in their classrooms.

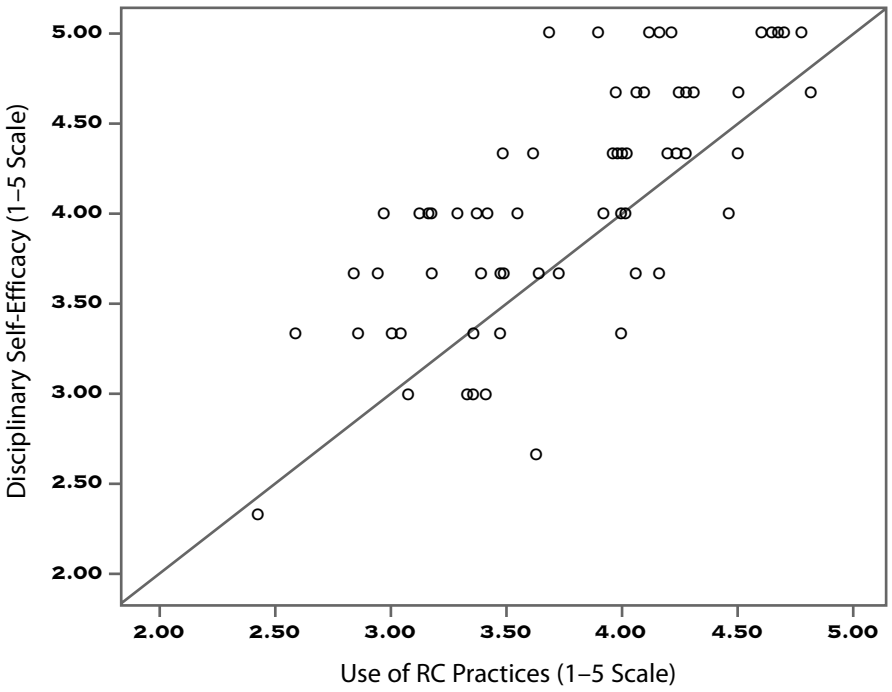

Figure 5. *The* Responsive Classroom *approach and disciplinary self-efficacy*

They also completed conventional questionnaires focusing on their beliefs and attitudes about teaching. Further, the teachers completed an exercise to describe their beliefs about discipline, classroom management, and teaching practices.

We learned several things from this part of our research:

Teachers who reported using more *Responsive Classroom* practices felt more effective with respect to discipline. As shown in Figure 5, this was a very strong relationship. Each data point in the graph represents a single teacher. The graph shows the strong pattern of association between use of *Responsive Classroom* practices and disciplinary self-efficacy. In statistical terms, 55% of the variance in disciplinary efficacy can be explained by knowing the degree to which a teacher is using *Responsive Classroom* practices.

Teachers who used more *Responsive Classroom* practices also felt more able to create a positive school climate and influence decision making at their school.

Finally, teachers at schools using the *Responsive Classroom* approach held more positive attitudes toward teaching during their first year of *Responsive Classroom* implementation than those in comparison schools. Also worth noting, *Responsive Classroom* teachers held perceptions about classroom management and teaching practices that were more similar to those generally espoused by Northeast Foundation for Children.

Summing Up

These findings are important because teachers' beliefs about teaching often forecast the kinds of behaviors they exhibit in the classroom as well as the academic experiences of their students. Our quasi-experimental study design prevents us from saying that the *Responsive Classroom* ap-

proach caused these differences in beliefs and attitudes, but this finding does suggest a strong association between use of the *Responsive Classroom* approach and those differences.

Finding 3: Children had better prosocial skills, felt closer to teachers, and were less fearful

One question we were curious about was whether changes would be evident in children's behavior after only a single year of exposure to the *Responsive Classroom* approach. To answer our question, we asked teachers at all six schools to fill out questionnaires about children's social skills in the first and second years of the study.

In analyzing the questionnaires, we considered (statistically controlled for) children's earlier levels of these same social skills as well as socio-demographic factors (for example, family poverty and low educational attainment among mothers) that have often been linked to problems in social adjustment. Once we knew what level of social skills the children would likely have reached without any intervention, we could measure any improvements in social skills that occurred as a result of the children's exposure to *Responsive Classroom* practices.

We discovered several small but consistently positive effects of the *Responsive Classroom* approach. First, children whose teachers used more *Responsive Classroom* practices had greater growth in prosocial skills and assertiveness over a single year. For example, such children appeared to help other children, comfort other children when they seemed upset, introduce themselves to new people, and initiate conversations with peers more frequently than children whose teachers were not using the *Responsive Classroom* approach.

Second, children exposed to more *Responsive Classroom* practices appeared to be less fearful and anxious than their counterparts who were not so exposed. Specifically, children taught according to the *Responsive Classroom* approach appeared to be less worried or nervous about trying new things.

Third, teachers who reported using more *Responsive Classroom* practices also reported greater feelings of closeness to their students. Specifically, such teachers were more likely to report having affectionate relationships with children or feeling that children were likely to turn to them when upset.

Fourth, the *Responsive Classroom* approach worked as well for children "at risk" for school failure (based on socio-demographic factors) as for those children who were not at risk.

Summing Up

Children taught according to *Responsive Classroom* practices did better socially and were more comfortable trying new things in school. Teachers using the practices felt closer to the children they were teaching.

Finding 4: Teachers offered more high-quality instruction

During the third year of the Social and Academic Learning Study, after teachers in the intervention schools were implementing the *Responsive Classroom* approach with a high degree of integrity, a trained research assistant observed over 90 teachers in grades one through five at intervention and comparison schools. Each teacher was observed for over two hours. The observer knew nothing

about the *Responsive Classroom* approach; nor did she know that her work was part of a study of the approach.

The observer collected data on teachers' use of certain practices (without knowing that these were *Responsive Classroom* practices); the degree to which teachers offered high-quality instructional and emotional support for learning, as assessed by the Classroom Assessment Scoring System, or CLASS (Pianta et. al. 2004); and the amount of time teachers spent using various teaching practices, including instruction in basic skills and instruction that required students to analyze and make inferences.

As is commonly done in educational research, we analyzed a subset of the observational records: those of 31 intervention teachers who were implementing the *Responsive Classroom* approach in the manner intended, and 32 comparison teachers. This helped us understand what differences occurred inside their classrooms.

Teachers using the *Responsive Classroom* approach appeared to offer more emotional support for learning (for example, they were more sensitive to children's needs, and the classroom climate was more positive) than comparison teachers. These teachers also offered more instructional support for learning (for example, they offered better feedback, and the instruction involved more concept development). Further, teachers using the *Responsive Classroom* approach spent more time offering instruction that required students to analyze and make inferences and less time teaching basic skills than comparison teachers.

To further test these findings, we statistically controlled for the percentage of children in the classroom receiving free or reduced-price lunch. After applying this control, we found that teachers using the *Responsive Classroom* approach appeared to offer more instructional support for learning than comparison teachers. Specifically, the teachers using the *Responsive Classroom* approach offered better-quality feedback to children and provided more opportunities for concept development than comparison teachers.

Summing Up

The *Responsive Classroom* approach appeared to contribute to both the instructional and emotional support teachers offer children. Surprisingly, the findings were stronger for instructional quality than emotional quality. It is important to note here the growing body of research showing that the types of instructional practices used more often by teachers using the *Responsive Classroom* approach actually do enhance children's learning.

Finding 5: Children felt more positive about schools, teachers, and peers

We asked almost 500 students in grades three through five to complete questionnaires on their feelings about school. Specifically, we asked the children about their liking for school and their feelings about learning, teachers, and their classmates. Then we analyzed data to look at the ways in which their perception of school varied as a function of their teachers' use of the *Responsive Classroom* approach. We also looked at whether the children's perception of school was the vehicle by which the *Responsive Classroom* approach improved their achievement and social skills.

Consistent with our expectations, the analysis showed that in classrooms where teachers were using more *Responsive Classroom* practices, children held more positive attitudes about school. Further, these analyses reconfirmed earlier findings that children whose teachers were using the

Responsive Classroom approach showed better social skills and performed better on standardized reading and math assessments than children in comparison schools.

One surprising finding emerged. We expected that children who perceived school more positively would perform better in school. We thought this relationship between liking school and doing well in school would be an important mechanism explaining the influence of the *Responsive Classroom* approach on academic performance. In fact, this expectation did not bear out. Children in classrooms using many *Responsive Classroom* practices did appear to hold more positive perceptions of school. And children in these classrooms did appear to do better academically. But these two circumstances were independent of each other; that is, children who reported feeling good about school were not always the ones who showed high academic performance.

If helping children like school more is not the mechanism by which the *Responsive Classroom* approach links to better academic performance, what is the mechanism? We are intrigued by this question. We expect that teacher practices play a major role and hope to examine the question in detail in future research, most likely on a different set of schools.

Summing Up

Children taught with the *Responsive Classroom* approach like school more, have better social skills, and enjoy their peers and teachers more. Children taught with this approach also do better at school work, but our research did not find an association between liking school more and better academic performance.

Finding 6: Teachers more frequently engaged in and placed higher value on collaboration

Almost 120 teachers completed questionnaires about the type of collaboration they engaged in with their colleagues, their use of *Responsive Classroom* practices, and their perceptions toward teaching. Using their responses, we analyzed differences in the amount of collaboration at the schools that were using the *Responsive Classroom* approach and the comparison schools. We also looked at how the *Responsive Classroom* approach affected different types of teacher collaboration, particularly formal versus informal collaboration.

Our most notable finding was that teachers using the *Responsive Classroom* approach reported more frequent formal collaboration than comparison teachers. This was not true, however, for informal collaboration.

In addition, teachers using more *Responsive Classroom* practices felt that they were more involved in decision making at their schools. These teachers also reported placing greater value on collaboration than teachers using fewer *Responsive Classroom* practices.

Worth noting is teachers' perception that the two main barriers to collaboration were lack of time and lack of administrative priority. For administrators who do see building the adult community within their schools as a priority, the *Responsive Classroom* approach appears to be associated with an environment that can help make that happen.

Summing Up

Teachers using the *Responsive Classroom* approach are more likely to collaborate formally with their colleagues and to value collaboration more than teachers not using the approach.

Reflecting on Our Findings

Does the *Responsive Classroom* approach work?

The simple answer—on the basis of analyses of standardized test scores, teacher questionnaires, classroom observations, student questionnaires, and teacher and principal interviews—is *yes, most likely*. Children appear to perform better in schools that use the *Responsive Classroom* approach. It's important, however, not to oversimplify. As we have noted throughout, our findings show association, not causation. We cannot say that using the *Responsive Classroom* approach caused the changes that we saw during our study.

What do these findings say about the *Responsive Classroom* approach and children who are "at risk" for school failure?

Taken together, our findings show that the *Responsive Classroom* approach is equally beneficial for children considered "at risk" for school failure on the basis of socio-demographic indicators (such as poverty) and children considered not at risk. This finding is very important in light of criticisms frequently raised by practitioners and policy makers about socio-emotional programs. One such criticism is that such interventions are more effective in schools serving children with ample economic and social resources at home because such programs use social resources as a springboard to effectiveness.

A second criticism is that socio-emotional interventions may actually harm children deemed "at risk" because such programs decrease the amount of instructional time in the classroom.

Our results suggest that these criticisms are not well-founded. First, children at risk and children not at risk appear to profit equally from the benefits associated with the *Responsive Classroom* approach. Second, the *Responsive Classroom* approach does not appear to harm children who are exposed to difficult environments outside school. Comparable findings have emerged from studies of other programs resembling the *Responsive Classroom* approach (see O'Donnell et. al. 1995 and Solomon et. al. 1997).

Is our research consistent with federal recommendations for choosing interventions?

As a means of ensuring that all children benefit from a high-quality education, the federal government's *No Child Left Behind* law strongly recommends that school districts select educational programs and interventions supported by evidence derived from sound scientific research (U.S. Department of Education 2003). Here, we discuss our study in the context of the government's main concerns about such research.

Sound research design

According to the Institute for Educational Sciences (the research arm of the U.S. Department of Education), sound research—research providing evidence that an educational approach actually works—uses one of two kinds of study designs: randomized controlled or quasi-experimental. Other designs, such as descriptive studies, do not provide valid evidence of effectiveness.

Randomized controlled trials are those in which schools are assigned randomly to a treatment group (a group receiving an intervention or program of some sort) or comparison group (a group

receiving no intervention or program). For example, researchers would choose at random which teachers in which schools would receive *Responsive Classroom* training and use the approach in their classrooms. Such studies offer the best evidence for the effectiveness of a program or intervention.

Quasi-experimental designs, studies in which schools select themselves into a treatment group or comparison group, offer important insight into the relation between teachers' use of certain practices and children's outcomes, although they do not offer causal evidence. This was the type of design used for the Social and Academic Learning Study.

By these criteria, the Social and Academic Learning Study offers far more support for the *Responsive Classroom* approach than has been established in prior studies. However, we cannot say that the *Responsive Classroom* approach caused gains in test scores, children's social competence, and teachers' positive feelings about teaching and children.

Quantity as well as quality of evidence

The U. S. Department of Education recommends that districts make decisions about a program or intervention on the basis of the quantity of evidence available, as well as its quality. The Social and Academic Learning Study is therefore an important first step in the process of amassing a body of evidential support for the *Responsive Classroom* approach. We expect that additional studies will be conducted on *Responsive Classroom* practices in the future. This is necessary to see if our findings replicate elsewhere.

Comparable demographics

The U.S. Department of Education recommends that districts make decisions about interventions by examining the existing research and asking, "Is the district that was studied comparable to my district?" In practical terms, this means that if an upper middle class, suburban district with all white children adopts the *Responsive Classroom* approach, it cannot assume that it will get the same results as those observed by the district that participated in the Social and Academic Learning Study.

Conclusion

The Social and Academic Learning study offers clear support for the contribution of the *Responsive Classroom* approach to better social and academic outcomes for elementary school children. Teachers' use of the *Responsive Classroom* approach was linked to gains in test scores, particularly in math; greater teacher self-efficacy and more positive attitudes toward teaching; better social competence among children; better classroom quality; children's more positive perception of school; and increased formal collaboration among teachers.

Our findings are consistent with a body of research-based theory in education and developmental psychology suggesting that caring school environments produce classroom environments that are conducive to learning, and ultimately, higher-achieving children with better social skills. Future research studies that employ a randomized design, examine the mechanisms underlying the contribution of the *Responsive Classroom* approach, and consider the age at which children are most likely to benefit from the *Responsive Classroom* approach will be a critical next step.

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Papers Based On the Social and Academic Learning Study

Brock, L. L., Nishida, T. K., Rimm-Kaufman, S. E., Chiong, C., and Grimm, K. Under review. Children's perceptions of the classroom environment and social and academic performance: A longitudinal analysis of the contribution of the *Responsive Classroom* approach.

Rimm-Kaufman, S. E., and Chiu, Y. I. In press. Promoting social and academic competence in the classroom: An intervention study examining the contribution of the *Responsive Classroom* approach. *Psychology in the Schools.*

Rimm-Kaufman, S. E., Fan, X., Chiu, Y. I., and You, W. In press. The contribution of the *Responsive Classroom* approach on children's academic achievement: Results from a three year longitudinal study. *Journal of School Psychology*.

Rimm-Kaufman, S. E., and Sawyer, B. E. 2004. Primary-grade teachers' self-efficacy beliefs, attitudes toward teaching, and discipline and teaching practice priorities in relation to the *Responsive Classroom* approach. *Elementary School Journal*, 104, 321-341.

Rimm-Kaufman, S. E., Skibbe, L., Decker, L., La Paro, K., and Pianta, R. C. Under review. Use of the *Responsive Classroom* approach: Implications for classroom quality and teaching practices.

Rimm-Kaufman, S. E., Storm, M., Sawyer, B., Pianta, R. C., and La Paro, K. 2006. The Teacher Belief Q-Sort: A measure of teachers' priorities and beliefs in relation to disciplinary practices, teaching practices, and beliefs about children. *Journal of School Psychology*, 44, 141-165.

Sawyer, B. E. and Rimm-Kaufman, S. E. In press. Teacher collaboration in the context of the *Responsive Classroom* approach. *Teachers and Teaching: Theory and Practice.*

For more information about the Social and Academic Learning Study or for copies of any of these papers, contact Sara Rimm-Kaufman at serk@viginia.edu.

SALS Team

Dr. Sara E. Rimm-Kaufman, associate professor, University of Virginia, Curry School of Education and Center for the Advanced Study of Teaching and Learning, was the principal investigator for the Social and Academic Learning Study (SALS), conducted in school years 2001-02 through 2003-04. She directs the University of Virginia Social Development Laboratory at the Center for the Advanced Study of Teaching and Learning and also teaches undergraduate and graduate courses on learning and development, classroom social issues, and social development. Sara's research focus is on classroom social processes and their influence on children's social and academic growth in the early years of school. Her research is interdisciplinary, drawing from the fields of psychology and education.

Contact Dr. Rimm-Kaufman: 434-982-2863, serk@virginia.edu, University of Virginia, Center for the Advanced Study of Teaching and Learning, 350 Old Ivy Way, Suite 300, Charlottesville, VA 22904.

Laura Brock, a doctoral student in risk and prevention in education sciences, was a research assistant for the SALS project. A former middle school special education teacher, she returned to graduate school to study early and middle childhood. Laura has conducted research on children's perceptions of their school environment and is pursuing a series of questions about how children develop self-control.

Dr. Karen La Paro, assistant professor in the Department of Human Development and Family Studies at University of North Carolina, Greensboro, conducts research on classroom quality and teacher preparation. She played an instrumental role in designing and applying observational measures of classroom quality as described in SALS.

Dr. Iris Chiu, a post-doctoral fellow in teacher development at the Center for Teaching and Learning Development at National Taiwan University, was a research assistant for the SALS project from 2002 through 2006. Iris has a strong interest in the effectiveness of interventions and the way in which teachers' belief systems are critical for understanding their behaviors in the classroom. She played an important role in SALS data collection and analysis.

Dr. Robert Pianta, Novartis Professor of Education, professor of psychology, and director of the Center for Advanced Study of Teaching and Learning at the University of Virginia, played an advisory role for the SALS project. Robert is the author of more than 200 articles and numerous books on classroom quality, teacher-child relationships, transition to kindergarten, and professional development of teachers.

Lauren Decker, a doctoral student in risk and prevention in education sciences, was a research assistant for the SALS project from 2004-2006. She pursues work on social stratification and classroom and teacher factors that have potential to decrease the achievement gap. Lauren assisted with data analysis and writing on classroom quality.

Dr. Brook Sawyer, researcher at Thomas Jefferson University, was a research associate with the SALS project from 2000-2003 while a graduate student at the University of Virginia. A former middle school English teacher, Brook undertook graduate studies to pursue her interest in teacher collaboration.

Other Contributors

This research was truly a collaborative effort. In addition to the SALS team, other contributors included Cynthia Chiong, Xitao Fan, Kevin Grimm, Ellen Hench, Valerie Lee, Patrick McQuillan, Tracy Nishida, Lori Skibbe, and Wenyi You. Findings on teacher collaboration are based on a dissertation conducted by Brook Sawyer, and the results on children's perception of school are based on a paper written by Laura Brock.

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