

# Caring to Learn

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*A Report on the Positive Impact  
of a Social Curriculum*

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# Introduction

This is the final report concerning the social behavior and academic functioning of students participating in the Savin Rock Elementary School's Responsive Classroom curriculum during the period November, 1991 to May, 1992. *The Responsive Classroom*<sup>®</sup> curriculum was developed by Northeast Foundation for Children.

An earlier, formative report for this project focused only on the pretest or baseline data collected in late 1991. The present report focuses on teachers' use of *The Responsive Classroom* curriculum and changes in students' behavior which occurred over the six-month period.

## Rating methods

The social behavior of students was assessed with the Social Skills Rating System or SSRS (Gresham & Elliott, 1990), a multirater scale that uses teachers, parents, and students themselves as raters of social and academic functioning.

To facilitate the interpretation of the effects of *The Responsive Classroom* curriculum on students at Savin Rock Elementary School (in West Haven, CT), data was also collected on students' social behavior at two comparison schools.

One of the comparison schools also was in West Haven. However, no social skills or social caring curriculum was actively used at the school.

The other comparison school was the Greenfield Center School (in Greenfield, MA) where *The Responsive Classroom* curriculum was developed and has been actively implemented for several years.

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## Four questions

This evaluation study was designed to answer four questions posed by the leadership of the Greenfield Center School and NEFC:

1. What are the prevalence and change patterns of social skills (i.e., cooperation, assertion, responsibility, empathy, and self-control) over time and across a diverse sample of students exposed to *The Responsive Classroom* curriculum versus students who had not been exposed to the curriculum?
2. What is the relationship between teachers' ratings of students' social skills and academic competence?
3. What is the degree of agreement or correlation between parents' and teachers' perceptions of which social skills are important to develop?
4. What is the influence of *The Responsive Classroom* curriculum on the social behavior of children, especially minority children and children with educational handicaps?

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# Overview of Method

## Sample, Instrumentation, and Data Analyses

To answer the previous questions, researchers collected data on the social behavior of 200 students. Sources for data included teachers, parents, and students themselves.

Data collection occurred on two occasions: first, in November 1991 (Time 1), with all 200 students participating; and again in April/May 1992 (Time 2), with 193 of the same students participating.

**Table 1** provides a summary of the characteristics of the sample. Specifically, the sample is comprised of students from three schools, two in West Haven, Connecticut and one in Greenfield, Massachusetts.

Collectively the sample has several characteristics that make it representative of a large random sample of the United States school children based on the 1990 Census:

- (a) The sample includes nearly equal numbers of males (48%) and females (52%).
- (b) 12% of the sample were classified as having an educational handicap.
- (c) Nearly 24% of the sample members are members of a minority group, including 21 % African American.

The study used the Social Skills Rating System (SSRS) a nationally normed behavior rating scale with excellent psychometric characteristics. The study quantifies students' social skills, problem behaviors, and academic competence. (See Appendix A for copies of the SSRS Teacher, Parent, and Student forms.)

Specifically, the SSRS provides scale scores for total Social Skills, total Problem Behaviors, and Academic Competence. Scores for each of these total scales have been transformed to standard scores to make them easily comparable; they have a mean of 100 and a standard deviation of 15.

High scores (e.g., >115) are desirable on the Social Skills and Academic Competence Scales, whereas low scores (e.g., <100) are desirable on the Problem Behaviors Scale. Both the Social Skills and Problem Behavior Scales are broken down into subscales that provide a more detailed characterization of social behaviors.

Table 1  
Characteristics of Sample

	Savin Rock		West Haven		Greenfield		Totals	
	T1	T2	T1	T2	T1	T2	T1	T2
Number of Students	104	97	40	40	56	56	200	193
Sex:								
Males	51	47	21	22	26	27	98	93
Females	53	50	19	18	30	29	102	100
Race:								
Caucasian	65	58	31	29	48	47	144	143
African American	32	26	5	7	3	2	40	39
Hispanic	4	3	2	3	2	4	6	6
Asian	1	1	1	1	3	3	4	5
Handicap Status:								
Non-handicapped	73	71	34	34	44	45	151	162
Handicapped	31	17	6	6	12	11	49	31

Note: T1 = Time 1 (Fall 1991)  
T2 = Time 2 (Spring 1992)

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There are five Social Skills subscales: Cooperation, Assertion, Responsibility, Empathy, and Self-Control. Each of these subscales has 10 items so raw scores (ranging from 0 to 20) are directly comparable, and transformation of sub scale scores to standard scores is unnecessary.

The Problem Behaviors Scale features three brief subscales: Externalizing Problems, Internalizing Problems, and Hyperactivity. Each of these subscales has 6 items, so raw scores (ranging from 0 to 12) are directly comparable and are used to summarize ratings.

The scale and subscale scores from the SSRS ratings by teachers, parents, and students (only third, fourth, and fifth graders) were analyzed using:

- (a) a doubly repeated measures MANOVA (multivariate analysis of variance) test for differences between groups/subgroups of students at Time 1 and Time 2
- (b) Pearson correlations to determine the degree of agreement between raters and among various categories of behavior
- (c) Pearson correlations to determine the relationship between teachers' use of *The Responsive Classroom* curriculum components and children's social behavior.

Analyses in this final report were designed to:

- compare the Savin Rock students to students in the two comparison schools
- provide a detailed look at the Savin Rock students who differ on the variables of grade level, handicap status, and minority status.

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# Results & Discussion

The major results of this summative evaluation of the Savin Rock Project are displayed in the accompanying data tables. The text describes each table and highlights key findings.

The major focus of this evaluation study is the effect of *The Responsive Classroom* instructional components on the social and academic behaviors of students at Savin Rock Elementary School.

## Integrity of Intervention

Before one can make any conclusions about the effects of an instructional intervention, one must demonstrate that the intervention was used with high integrity.

**Table 2** provides the mean number of days teachers at Savin Rock reported using one or more components of *The Responsive Classroom* curriculum. It was estimated that approximately 100 days of school occurred between Time 1 data collection and Time 2. Thus a mean of 83.3 days use of one or more curriculum components represents a reasonably high level of treatment adherence.

As noted in Table 2, the teachers at the early elementary level (kindergarten – 2<sup>nd</sup> grades) used portions of the curriculum more frequently than their teaching colleagues at the upper elementary level (3<sup>rd</sup> – 5<sup>th</sup> grades).

It is interesting to note that the early elementary teachers used Morning Meeting significantly more than their teaching peers in the upper elementary grades, whereas the upper elementary level teachers used Cooperative Learning significantly more frequently than the early elementary level teachers.


 In summary, it is clear that students with reasonable attendance records at Savin Rock Elementary School were exposed to significant portions of *The Responsive Classroom* curriculum. Thus, the evaluation can be considered a fair test of the impact of the curriculum on students' behavior.

Table 2  
 Mean Number of Days Teachers Used  
 Responsive Classroom Instructional  
 Components at Savin Rock Elementary School

		Any of the Instructional Components	Morning Meeting	Cooperative Learning
All Grades Combined	X	83.3	48.6	11.0
	SD	21.8	34.1	11.1
K – 2 <sup>nd</sup> Grades	X	95.1	34.5	5.0
	SD	6.5	37.3	8.4
3 <sup>rd</sup> – 5 <sup>th</sup> Grades	X	76.6	56.6	14.4
	SD	24.5	29.6	11.0

Note: T1 = Time 1 (Fall 1991), T2 = Time 2 (Spring 1992)

## SSRS Ratings

**Table 3** is the first of several tables documenting the mean (average) SSRS ratings at Time 1 and Time 2 by teachers, parents, and students for the group of students from each of the three schools and the total sample.

Readers should examine this table by:

- (a) comparing scores across schools within a given category of rater, and then
- (b) comparing across raters within a school, especially Savin Rock.

The following trends in the data are prevalent within each school:

- (a) When compared to the national standardization sample for the SSRS, teachers', parents', and students' self-ratings of social skills are in the mid-average range.
- (b) Teachers across all three schools reported only slight changes in the average frequency of social skills, problem behaviors, and academic functioning.
- (c) Parents of students in all three schools reported, on average, only slight increases in the frequency of social skills and in two schools slight decreases in the frequency of problem behaviors.

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(d) SSRS ratings by students across all three schools indicated large increases in social skills.

A close look at the mean SSRS ratings for students at Savin Rock indicates that both teachers and parents perceived small changes (from Time 1 to Time 2) in the desired directions for students' social skills and problem behaviors. The Savin Rock students reported, on average, the largest positive changes in frequency of social skills of all the students.

Table 3  
Means Table for Comparing Students from  
All Schools on SSRS Frequency Ratings

	Savin Rock		West Haven		Greenfield		Total	
	T1	T2	T1	T2	T1	T2	T1	T2
Teachers	N=102	N=88	N=40	N=40	N=56	N=56	N=198	N=184
SS Total	99.1	101.5	99.2	98.1	105.6	105.6	101.0	102.0
Coop	14.5	14.8	15.2	15.6	15.2	15.2	14.9	14.8
Assert	11.4	12.9	12.2	14.0	14.0	14.0	12.3	13.1
S-Cont	13.7	13.9	14.6	13.9	14.8	14.9	14.2	14.1
PB Tot	102.8	102.9	98.8	101.8	101.4	101.4	101.6	101.7
Ext	2.9	3.0	1.3	2.1	2.6	2.5	2.5	2.7
Int	3.9	3.3	3.3	3.4	4.2	4.0	3.9	3.5
Hyp	4.3	3.7	3.0	3.7	3.5	3.4	3.8	3.6
AC	97.1	96.5	98.8	97.7	100.1	100.7	98.3	98.0
Parents	N=80	N=77	N=36	N=35	N=52	N=50	N=168	N=162
SS Total	96.0	97.0	99.0	100.4	105.0	105.2	99.4	100.4
Coop	11.2	11.5	12.0	11.8	12.2	12.3	11.7	11.9
Assert	15.5	15.7	16.3	16.0	16.6	17.0	16.0	16.1
S-Cont	11.0	11.2	11.9	12.4	13.7	13.6	11.9	12.2
Resp	13.3	13.7	12.9	13.3	13.3	14.7	13.3	13.9
PB Tot	106.9	105.3	102.6	103.1	104.0	101.5	105.1	103.7
Ext	4.9	4.9	4.2	4.2	4.5	4.1	4.7	4.5
Int	4.7	4.5	4.8	4.6	4.3	4.2	4.6	4.4
Hyp	5.6	4.9	5.2	4.5	5.1	4.4	5.3	4.7
Students	N=47	N=77	N=18	N=19	N=34	N=33	N=99	N=129
SS Total	90.2	104.5	93.1	104.0	93.8	105.2	92.0	104.6
Coop	14.0	14.9	14.8	14.2	14.9	14.2	14.4	14.5
Assert	13.8	13.6	14.1	13.4	14.4	14.4	14.1	13.8
S-Cont	12.0	11.9	12.2	11.2	11.3	11.3	11.8	11.6
Emp	16.1	16.7	16.5	16.1	16.4	16.4	16.3	16.5

Note: Although 192 students took part in this second phase of the study, only 184 had complete data sets for analyses. Total score ratings on all SSRS forms are provided as standard scores (Mean = 100, SD = 15). Ratings on all subscales are provided in raw score form (range 1 – 20). High Scores on all social skills (SS) scales/subscales are desirable, whereas low scores on problem behavior (PB) scales/subscales are desirable.

## Rating Differences Between Time 1 and Time 2

**Tables 4 and 5** provide the results of two MANOVAs (one for Time 1 data and a second for Time 2 data) that indicate where the differences in ratings for the same category of raters are statistically significant.

The summary information in Table 4 indicates that at Time 1 and Time 2, both teachers' and parents' ratings of social behavior were statistically different (probability of at least  $p < .05$ ) when compared across the three schools.

Table 4  
Overall MANOVAS  
Comparing Schools on SSRS Total Scales

Time 1			
Teachers	Multivariate F, $p < .003$		
	Univariate analyses for SSRS-T	Soc Skills	.005
		Problem Beh	.198 NS
		Acad Comp	.285 NS
Parents	Multivariate F, $p < .01$		
	Univariate Analyses For SSRS-P	Soc Skills	.004
		Problem Beh	.285 NS
Time 2			
Teachers	Multivariate F = 2.61, $p < .017$		
	Univariate analyses for SSRS-T	Soc Skills	F P
		Problem Beh	3.48 .03
		Acad Comp	0.07 .93 NS
			2.78 .07 NS
Parents	Multivariate F = 2.94, $p < .02$		
	Univariate analyses for SSRS-P	Soc Skills	6.04 .003
		Problem Beh	1.29 .278 NS

Note: P or probability values less than .05 are considered significant. In other words, the results are unlikely to have occurred by chance. NS means non-significant.

The majority of the significant differences in overall teachers' and parents' SSRS ratings was found to be due to differences in social skills, as evidenced by the significant univariate analyses. The greatest differences in social skill ratings occurred with the early elementary school students.

As indicated in **Table 5**, at Time 2 teachers observed the greatest differences in students in the area of assertion, whereas parents noted the greatest differences in their children in the areas of assertion, self-control, and responsibility. The data analyses indicate these areas of differences are quite stable over time.

**Table 5**  
**MANOVA Summaries**  
**Comparing Schools on SSRS**

		Time 1	Time 2
Teachers	Multivariate $F = 2.61, p < .017$	<u>p</u> Values	<u>p</u> Values
	Univariate analyses for SSRS-T		
	Coop	NS	NS
	Asst	.001	.05
	S-Cont	NS	NS
	Int	NS	NS
	Ext	.01	NS
	Hyp	.07	NS
Parents	Multivariate $F = 3.02, p < .018$		
	Univariate analyses for SSRS-P		
	Coop	NS	NS
	Asst	.06	.01
	S-Cont	.001	.001
	Resp	NS	.03
	Int	NS	NS
	Ext	NS	NS
	Hyp	NS	NS
Students	Multivariate $F = 1.67, p < .107$		
	Univariate analyses for SSRS-S		
	Coop	NS	NS
	Asst	NS	NS
	S-Cont	NS	NS
	Emp	NS	NS

Note: Although 192 students took part in this second phase of the study, only 184 had complete data sets for analyses. Total score ratings on all SSRS forms are provided as standard scores (Mean = 100, SD = 15). Ratings on all subscales are provided in raw score form (range 1 – 20). High scores on all social skills (SS) scales/subscales are desirable, whereas low scores on problem behavior (PB) scales/subscales are desirable.


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In summary, the analyses to this point indicates that some changes in social behavior occurred for most students in the three schools over the six month period of this investigation.


Many of these changes have led to statistically significant results, but one can legitimately ask whether they are educational or practically meaningful. The data in Table 6 shed more light on this question.

**Table 6** provides data on the percentage of students from each school who showed “noticeable decreases in ratings,” “essentially no change in ratings,” and “noticeable increases in ratings.”

The criterion for rendering a decision of noticeable increase or decrease was a change (Time 2 – Time 1) in scores  $\geq \pm 7$  points. This criterion represents the standard error of measurement for the SSRS or approximately one half a standard deviation.

 The expectations one would hope for if positive effects resulted from *The Responsive Classroom* curriculum among students at Savin Rock would be:

- An increase in Social Skills
- A decrease in Problem Behaviors
- Stable or increased ratings in Academic Competence

 In addition, one would expect greater increases for students at Savin Rock than at the West Haven comparison school. Since all students at the Greenfield Center School are routinely exposed to *The Responsive Classroom* curriculum, one would expect them to function similarly to students at Savin Rock but better than those at the West Haven comparison school.


 The aggregate results of the percentage change data support all of these expectations.

Table 6  
 Percentage of Students Showing Significant Changes  
 In Social and Academic Behaviors at Each of Three Schools

	Noticeable Decrease in Ratings	Essentially No Change in Ratings	Noticeable Increase in Ratings
Savin Rock			
SSRS-T			
Social Skills	21.2	50.6	28.2
Problem Beh	31.8	48.6	19.6
Academic Comp	21.0	58.0	21.0
SSRS-P			
Social Skills	19.7	35.2	45.1
Problem Beh	35.0	53.3	11.7
SSRS-S			
Social Skills	5.1	28.2	66.7
West Haven			
SSRS-T			
Social Skills	27.5	55.0	17.5
Problem Beh	12.5	65.0	22.5
Academic Comp	15.0	80.0	5.0
SSRS-P			
Social Skills	22.9	51.5	28.6
Problem Beh	25.0	46.9	21.9
SSRS-S			
Social Skills	10.5	26.3	63.2
Greenfield			
SSRS-T			
Social Skills	21.4	53.6	25.0
Problem Beh	28.6	44.7	16.1
Academic Comp	14.3	76.8	8.9
SSRS-P			
Social Skills	25.5	44.7	29.8
Problem Beh	29.8	64.8	5.4
SSRS-S			
Social Skills	6.1	27.2	66.7

Note: A change (Time 2 – Time 1)  $\pm 7$  standard score points was used as the criterion for a reliable and significant or noticeable change. The standard error of measure for the various SSRS scales is well represented by  $\pm 7$ .

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Specifically, the data in Table 6 indicate that with regard to the **Teachers' Ratings**:

- (a) The largest percentage of students exhibiting a noticeable increase in social skills occurred at Savin Rock (28% compared to 25% at Greenfield and 17% at West Haven comparison).
- (b) The largest percentage of students exhibiting a noticeable decrease in problem behaviors occurred at Savin Rock (32% compared to 29% at Greenfield and 12% at West Haven comparison).
- (c) The largest percentage increase of students exhibiting improved academic competence also occurred overwhelmingly at Savin Rock (21% compared to 9% at Greenfield and 5% at West Haven comparison).

The same trends are evident in the parents' and students' ratings. The **Parents' Ratings** indicated:

- (a) The largest percentage of students exhibiting a noticeable increase in social skills occurred at Savin Rock (45% compared to 30% at Greenfield and 29% at West Haven comparison).
- (b) The largest percentage of students exhibiting a noticeable decrease in problem behavior occurred at Savin Rock (35% compared to 30% at Greenfield and 25% at West Haven comparison).

The **Students' Self-ratings** characterized a large percentage of students at each of the schools as exhibiting noticeable increases in social skills over the 5 month test-retest period. Specifically,

- (a) 67% of the students at both Savin Rock and Greenfield increased their social skills ratings by 7 or more points.
- (b) 63% at the West Haven comparison school accomplished this large of an increase in social skills.

An examination of the Savin Rock sample by early elementary versus upper elementary level subgroups indicated that the students in the upper elementary level subgroups experienced larger positive changes than did the younger students, as shown in **Table 7**.

Table 7  
Average Change in Scores over Time at Savin Rock  
Compared to West Haven and Greenfield Schools


	Total Sample Mean Change	Grades K - 2 Mean Change			Grades 3 - 5 Mean Change		
		SR	WH	G	SR	WH	G
<b>SSRS – Teacher</b>							
Soc Skills	+ .73	-.2	-.6	+4.6**	+4.3**	-.5	-5.6**
Prob Beh	-.01	+1.2	+1.1	-5.5**	-2.8	+3.6	+6.8**
Acad Comp	-.1	-.1	-1.6	+.8	-.7	-1.3	+.3
<b>SSRS - Parent</b>							
Soc Skills	+2.5*	+1.3		+3.2*			
Prob Beh	-1.8	-1.7		-3.4*			
<b>SSRS - Self</b>							
Soc Skills	+13.0***	--		+14.6**			

Note: Mean or average change is based on Time 2 ratings minus Time 1 ratings. Thus, increases are indicated by “+” scores and decreases by “-“ scores. In general, change scores of  $\pm 2.5$  are statistically significant for samples like those in this study. Positive changes are desirable for Social Skills, while negative changes are desirable for Problem Behavior.

SR = Savin Rock, WH = West Haven, and G = Greenfield.


\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

It should be noted that previous research on the stability of SSRS scores with untreated (i.e., no instructional or behavioral interventions in place) samples of students have indicated only minimal changes ( $\pm 3$  points) over periods of 1 to 2 months.

 Thus, changes of the type and magnitude observed with the Savin Rock Project cannot be accounted for by error or unreliable measurements alone. It is reasonable to conclude that exposure to *The Responsive Classroom* curriculum does influence elementary students' social behavior in measurable and practically meaningful ways.

The "strength" of the curriculum can be deduced by examining the difference in the average percentage of students at Savin Rock who improved compared to the West Haven comparison school. Across all three types of raters, the average percentage difference was nearly 13%.

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 Thus, the additive effect of the curriculum, as implemented at Savin Rock, resulted in improvements for at least 13% of the students above what one would expect if no social curriculum was in place.

## Effect of The Responsive Classroom on Social and Academic Functioning

**Table 8** provides additional evidence about the relationship between *The Responsive Classroom* curriculum and students' social and academic functioning. Specifically, this table displays correlations between teachers' reported use of curriculum components and their ratings of students' Social Skills, Problem Behaviors, and Academic Competence on the SSRS.

As indicated by the data concerning the Savin Rock students exposed to the multicomponent Responsive Classroom curriculum, there is:

- (a) a moderate and statistically significant positive correlation ( $r = .31$ ) between social skills and the use of the curriculum
- (b) a low but still statistically significant negative correlation ( $r = -.18$ ) between problem behaviors and the use of the curriculum
- (c) a low to moderate and statistically significant positive correlation ( $r = .23$ ) between academic competence ratings and the frequent use of the curriculum.


This same basic pattern of relationships holds for students at both the early and upper elementary levels at Savin Rock.

Table 8  
Correlations Among the Use (Number of Days) of Responsive Classroom Instructional Components and Rated Social Functioning on the SSRS at Savin Rock Elementary School


	Any of the Instructional Components	Morning Meeting	Cooperative Learning
All Students (N=100)			
Social Skills	.31**	.32**	-.04
Problem Behaviors	-.18*	.08	.28**
Academic Comp	.23**	-.01	-.07
K-2nd Graders (N=37)			
Social Skills	.24	.24	-.25
Problem Behaviors	-.07	-.09	.25
Academic Comp	.22	.03	-.03
3rd-5th Graders (N=63)			
Social Skills	.18	.23*	-.05
Problem Behaviors	-.16	.14	.24*
Academic Comp	.42**	-.05	-.12

\*  $p < .05$

\*\*  $p < .01$

 A further examination of **Table 8** indicates the Morning Meeting component of the curriculum correlated strongest with social skills ratings. That is, in classes where the Morning Meeting component was used more, there was a higher percentage of students with above average ratings of social skills.

Conversely, where the Morning Meeting component was used very little, the social skills of the students were more frequently reported to be lower than the average student in the Savin Rock subsample.

 Interestingly, the Cooperative Learning component of the curriculum correlated strongest with the problem behavior ratings. It was found that in classrooms where a teacher frequently used the Cooperative Learning component, a higher percentage of students were reported to have below average problem behavior ratings (which is good).

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It should be noted this correlational data does not provide definitive evidence that *The Responsive Classroom* curriculum caused social skills to increase or problem behaviors to decrease. In this evaluation design, as in most studies, correlations can only be interpreted to show a relationship not causation. Confidence that the curriculum has a causal effect can be gained by replication of this finding with other samples over time.

## Special Interest Subgroups (i.e., minority students and students with educational handicaps)


A consideration of the changes over time in social behavior and academic functioning of special subgroups -- such as students with educational handicaps or minority students -- is of interest to many educators and parents. The present sample allows for meaningful analyses of handicapped elementary students and for African American students.

The mean ratings on the SSRS for handicapped and non-handicapped students are provided in **Table 9**, and a comparison of the average change scores for handicapped and non-handicapped students at Savin Rock is summarized in **Table 10**.

The mean ratings on the SSRS for African American and Caucasian students are provided in **Table 11**, along with their average change in scores over time listed in **Table 12**.

*Handicapped students.* An examination of **Tables 9** and **10** indicates that the 17 handicapped students for whom data existed for both Time 1 and Time 2, improved more over the six-month period, on average, than their nonhandicapped peers.

Specifically, handicapped students showed average gains in all areas assessed according to all three raters (i.e., teachers, parents, and students themselves). Among handicapped students, this translated to statistically significant increases in social skills and academic functioning, and to statistically significant decreases in problem behaviors.

 It appears that *The Responsive Classroom* curriculum has positive effects for both handicapped and non-handicapped elementary school students and these effects are visible to teachers, parents, and the students themselves.

*African American students.* Turning to the rating data for the two racial groups, please keep in mind only the Savin Rock subsample of African Americans is large enough to offer reliable information. The West Haven comparison school data, however, is provided for local interpretative purposes.

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Based on the Time 1 data for the African American subsample, no clear trends in social behavior functioning could be discerned. Recall that teachers rated white students, on average, significantly higher on social skills and significantly lower on problem behaviors. Parents' ratings for the same two domains of behavior were just the opposite, while students' self-ratings were nearly equivalent.

When one examines the Time 2 ratings (see **Table 11**), especially the change scores (see **Table 12**) for the period, a clearer picture emerges. Specifically, teachers, parents, and students still rate the African American students slightly lower on the Social Skills and Academic Competence scales and slightly higher on the Problem Behavior scale when compared to Caucasian peers at Savin Rock.

Table 9  
Means Table for Comparing Handicapped and  
Non-handicapped  
Student at Savin Rock on SSRS

	Handicapped		Non-handicapped	
	Time 1	Time 2	Time 1	Time 2
Teacher	N = 28	N = 17	N = 73	N = 71
SS Total	98.6	102.3	99.15	101.3
Coop	11.3	13.2	15.7	15.2
Assert	11.4	12.1	11.4	13.1
S-Cont	11.8	11.1	14.4	14.4
PB Tot	104.7	104.6	101.8	101.3
Ext	4.4	4.9	2.3	2.5
Int	5.3	5	3.4	2.9
Hyp	6.1	5.3	3.6	3.3
AC	96.3	98.8	97.7	95.9
Parent				
SS Total	96.6	98.6	95.8	96.7
Coop	11.1	10.7	11.2	11.7
Assert	15.6	14.8	15.5	15.8
S-Cont	10.7	11.5	11.1	11.2
Resp	13.8	15.1	13.1	13.4
PB Tot	115.9	108.3	104.7	104.8
Ext	6.2	4.6	4.6	5.0
Int	6.0	5.6	4.4	4.3
Hyp	7.2	5.2	5.1	4.9
Student (Gr 3-5)				
Coop	13.0	14.5	14.2	14.9
Assert	12.3	11.5	14.2	13.8
S-Cont	11.3	11.8	12.1	11.9
Emp	15.4	15.7	16.2	16.8

Table 10  
Average Change Scores at Savin Rock  
(Time 1 – Time 2)

	Handicapped	Non-handicapped
Teacher		
Social Skills	+3.4	+2.2
Problem Behaviors	-0.1	-0.5
Academic Competence	+2.5	-1.8
Parent		
Social Skills	+2.0	+0.9
Problem Behaviors	-7.6	+0.1
Student		
Social Skills	+12.7	+14.0

Table 11 (page 1 of 2)  
Means Table for Comparing African American and  
Caucasian Students on SSRS Frequency Ratings

	Savin Rock African American		Savin Rock Caucasian		West Haven African American		West Haven Caucasian	
	T1	T2	T1	T2	T1	T2	T1	T2
Teacher	N=32	N=29	N=64	N=63	N=5	N=7	N=31	N=29
SS Tot	93.4	96.3	102.4	103.7	91.2	99.1	101.2	97.6
Coop	12.8	13.9	15.4	15.2	13.0	13.9	15.5	14.1
Assert	10.3	11.7	12.1	13.3	8.6	11.4	12.6	12.4
S-Cont	12.0	12.1	14.7	14.6	13.4	14.6	14.7	13.8
PB Tot	109.8	104.5	99.0	100.9	107.8	102.6	97.4	101.1
Ext	4.6	3.9	1.9	2.5	1.8	2.6	1.3	1.9
Int	4.5	3.4	3.7	3.3	5.4	4.0	3.0	3.2
Hyp	5.7	4.2	3.6	3.5	4.2	3.4	2.8	3.7
AC	92.6	94.0	99.5	98.2	93.0	94.1	99.5	97.8
Parent								
SS Tot	99.5	94.4	95.2	97.4	90.0	89.4	99.2	101.7
Coop	11.0	10.5	11.3	11.8	10.8	10.4	12.0	11.9
Assert	16.4	15.4	15.5	15.7	14.6	13.0	16.6	16.5
S-Cont	12.3	11.8	10.4	11.0	12.4	13.4	12.0	13.7
PB Tot	102.0	105.4	109.4	105.4	110.0	103.0	102.2	103.3
Ext	3.9	4.4	5.4	5.2	4.0	4.0	4.4	4.4
Int	3.9	4.9	5.2	4.4	6.2	4.8	4.7	4.6
Hyp	4.6	4.9	5.9	4.9	5.8	4.4	5.4	4.5
Student								
SS Tot	90.2	107.4	89.7	103.6	88.7	109.3	93.4	101.8
Coop	13.6	15.4	14.2	14.7	13.7	14.3	14.3	13.9
Assert	14.5	14.0	13.5	13.4	13.3	13.8	13.9	12.7
S-Cont	12.9	13.0	11.7	11.5	12.0	12.0	12.1	11.1
Emp	16.0	17.1	16.3	16.6	16.7	18.0	16.2	15.6

Note: Student Self-ratings were only completed in grades 3-5

Table 11 (page 2 of 2)  
Means Table for Comparing African American and  
Caucasian Students on SSRS Frequency Ratings

	Greenfield African American		Greenfield Caucasian	
	T1	T2	T1	T2
Teacher	N=3	N=2	N=48	N=47
SS Tot	91.0	99.0	107.4	106.8
Coop	9.7	14.5	15.8	15.3
Assert	11.0	14.5	14.6	14.5
S-Cont	11.3	12.5	15.0	15.0
PB Tot	123.0	105.5	99.3	100.4
Ext	5.3	2.5	2.4	2.5
Int	7.0	1.5	3.9	3.9
Hyp	8.7	7.0	3.0	3.2
AC	86.3	93.0	100.1	100.7
Parent				
SS Tot	92.0	104.0	107.0	107.9
Coop	8.0	12.0	12.4	12.5
Assert	15.3	18.0	17.1	17.5
S-Cont	13.0	14.0	13.7	13.8
Resp	12.0	17.0	14.0	15.1
PB Tot	108.3	99.0	102.8	100.8
Ext	3.7	2.0	4.5	4.1
Int	5.0	2.0	4.1	4.1
Hyp	7.3	7.0	4.8	4.2
Self				
SS Tot	75.0	-	95.0	106.6
Coop	14.0	-	15.0	14.5
Assert	11.0	-	14.8	14.7
S-Cont	10.0	-	11.3	11.6
Emp	12.0	-	16.6	16.5

Note: Student Self-ratings were only completed in grades 3-5

Table 12  
Change Scores for African American  
And Caucasian Students

	Savin Rock		West Haven	
	African American	Caucasian	African American	Caucasian
<b>Teacher</b>				
Soc Skills	+1.9	+1.3	+6.9	-3.6
Prob Beh	-5.3	+1.9	-5.2	+3.7
Acad Comp	+1.4	-1.3	+1.1	-1.7
<b>Parent</b>				
Soc Skills	-5.1	+2.2	-0.6	+2.5
Prob Beh	+3.4	-4.0	-7.0	+1.1
<b>Student</b>				
Soc Skills	+17.2	+13.6	+20.6	+8.4

Note: Change scores were calculated by subtracting T1 from T2 ratings. Thus, positive social skills and academic competence scores and negative problem behavior scores indicate improvement.

\*small n (n=7)

The same relative trend in the rating data generally was replicated in the West Haven comparison school. The mean rating data is not particularly positive for the African American students, which is not likely due to bias in ratings, given that minority parents consistently offered the lowest ratings of their own children.

Mean ratings of subgroups of students, however, do not tell the whole story. Note the change scores for the two racial subgroups. These scores show that, according to teachers and the students themselves, when compared to their Caucasian peers, the African American students actually exhibited:

- greater increases in social skills
- greater increases in academic functioning
- greater decreases in problem behaviors.

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These later perceptions, unfortunately, were not shared by the parents of the African American students. The discrepancies between parents and teachers, and parents and the students cannot be confidently explained given the design of the present evaluation.

One hypothesis is that *The Responsive Classroom* curriculum effects did not generalize to the home setting of the minority students. Another is that the behaviors taught and valued at school may not be those that are valued or attended to in the homes of many of the minority students.

## Importance Ratings

**Table 13** summarized teachers' and parents' mean Importance ratings on the SSRS Social Skills items. Average ratings of 10 or more indicate the behaviors sampled by a particular scale were considered "important."

An examination of **Table 13** reveals that:

- (a) Both teachers' and parents' values for social behavior were relatively stable over the period of the evaluation.
- (b) On average, teachers and parents rated the majority of behaviors characterized by items on the SSRS as important to children's social functioning.

Specifically, teachers from all three schools tended to value cooperation and self-control skills more than assertion skills. This is very typical of elementary school teachers. Note that parents value self-control behaviors slightly more than behaviors in each of the other domains.

Table 13  
Means Table for Comparing Schools on  
SSRS Importance Ratings

	Savin Rock		West Haven		Greenfield		Total	Total
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Teacher								
Coop	14.9	13.6	15.2	14.3	14.1	12.5	14.7	13.4
Assert	12.5	11.1	10.8	10.7	13.3	12.8	12.4	11.5
S-Cont	15.7	15.5	13.1	13.5	15.4	16.0	15.1	15.3
Parent								
Coop	11.1	11.0	10.9	11.3	11.6	11.0	11.2	11.1
Assert	11.9	11.6	11.9	12.1	13.3	13.0	12.3	12.2
S-Cont	13.7	13.3	12.9	13.1	14.1	13.8	13.6	13.4
Resp	12.4	12.3	11.5	12.1	11.6	11.9	11.9	12.1

Note: Raw score ratings on SSRS subscales. Scores range from a 1 to 20. Scores of 10 to 15 indicate the item subdomain is perceived as “Important.” Scores > 15 indicate the behavior subdomain is perceived as “Critical” to functioning.

**Table 14** provides correlations between parents’ and teachers’ Importance ratings for the common SSRS subscale domains of Cooperation, Assertion, and Self-Control. As indicated by these low, and in several cases, negative correlations, parents and teachers do not agree strongly about what specific behaviors from the SSRS are most important.

Interestingly, parents and teachers agree most about the importance of specific social skills at Savin Rock Elementary School. It may be that the implementation phase of *The Responsive Classroom* curriculum, along with the home-school communication about the curriculum, has resulted in more shared values between parents and teachers.

Table 14  
Correlations Between Parent and Teacher  
Importance Ratings on SSRS

	All Schools		Savin Rock		West Haven		Greenfield	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Coop	.20	.05	.08	.13	-.09	.07	.07	-.01
Assert	.10	.06	.14	.23	-.13	-.18	.07	-.14
Self-Control	.07	.14	.22	.21	.22	-.06	.10	.12

## Domains of Behavior vs. Raters

**Tables 15 through 17** show correlational data concerning the relationship between domains of behavior and between various raters.

Recall that a coefficient of correlations  $r$  is a single number ranging between  $+1.00$  and  $-1.00$  that indicates to what extent two items are related and to what extent variations in one behavior or rating go with variations in another behavior or rating.

Correlations ranging between  $.00$  and  $\pm.29$  are considered low, correlations ranging between  $\pm.30$  and  $\pm.59$  are considered moderate, and correlations ranging between  $\pm.60$  and  $\pm 1.00$  are considered high.

Based on numerous investigations concerning children's behavior and rating scale data, it is expected that intra-rater evaluations (e.g., ratings of social skills and academic competence) will be higher than between-rater evaluations (e.g., teacher's ratings of social skills and parent's ratings of social skills).

**Table 15** provides Pearson correlations among the three SSRS total scale scores (i.e., Social Skills and Problem Behaviors, Social Skills and Academic Competence, and Problem Behaviors and Academic Competence) of students as rated by teachers.

The expectation was for moderate to high positive correlations between Social Skills and Academic Competence and high negative correlations between Social Skills and Problem Behaviors.

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The r values in **Table 15** are consistent or relatively stable over the six-month evaluation period. They are generally equal to or larger than the same correlations for the SSRS's national standardization sample.

These r values demonstrate that the expected relationships between teachers' SSRS ratings were observed when all students and sex/racial subgroups of students in the sample were examined.

**Table 16** extends the examination of the relationship between ratings of social skills and academic competence by documenting the correlations between parents' and students' ratings of social skills to the teachers' ratings of academic competence.

Table 15  
Intercorrelations of Teachers' ratings on SSRS

Sample		Problem Behaviors		Academic Competence		Ethnicity
		Time 1	Time 2	Time 1	Time 2	
All Schools	Social Skills	-.61**	-.69**	.56**	.50**	All Students
Savin Rock	Social Skills	-.61**	-.65**	.83**	.47*	Caucasian Males
		-.46*	-.63**	.74**	.63**	Caucasian Females
		-.60*	-.83**	.36	.47	African American Males
		-.71*	-.72**	.19	.67*	African American Females
West Haven	Social Skills	-.49	-.59*	.37	.46*	Caucasian Males
		-.68	-.66*	.56	.66*	Caucasian Females
Greenfield	Social Skills	-.81**	-.75**	.42	.53*	Caucasian Males
		-.56	-.72**	.30	.31	Caucasian Females
SSRS Standardization Sample	Social Skills	-.50		.65		All Students

Note: Samples of African American and other minority students were too small to compute reliable correlations for the West Haven control and Greenfield Center Schools.

\* .01 significance  
\*\* .001 significance

Table 16  
Correlations Between Ratings of Social Skills and  
Teachers' Ratings of Academic Competence

	All Schools		Savin Rock		West Haven		Greenfield	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Teacher	.56	.50	.53	.55	.47	.53	.36	.34
Parent	.15	.19	.10	.13	.22	.18	.28	.17
Student	.15	.07	.15	.22	.06	.01	.15	.10

An examination of the r values indicates that:

- (a) Teachers' ratings of social skills correlated significantly higher with academic competence ratings than either the ratings of parents or students.
- (b) The correlations between the two constructs as rated by parents and students were low.
- (c) The correlations for all three raters from all three schools were very stable over time.

This pattern of relationships is consistent with the existing literature concerning multiple informants and school and home behavior.

**Table 17** concludes that data summary for the project by documenting the intercorrelations among the major SSRS domains and each of the three raters (teachers, parents, and students) for the entire sample.

Some of the correlations reported in this table are redundant with those in previous tables. The correlations of greatest interest may be those for the same domain (i.e., social skills) across raters.

For example, the correlation between teacher rated social skills and student rated social skills was .33 at Time 1 and .30 at Time 2. This is considered a moderate correlation at best, yet it is highly statistically significant and consistent with previous research on the agreement between cross-informant ratings.

Another correlation of interest is the one representing the agreement between teachers' and parents' ratings of problem behaviors. This correlation was .25 for both Time 1 and Time 2; relatively low, yet again statistically significant.

In sum, this table documents a general pattern of convergent validity (across raters) for the assessment of common behavior domains and discriminate validity (across behavior domains) for ratings by the same rater.

Table 17  
Intercorrelations Among SSRS Total Scale Ratings of  
Teachers, Parents, and Students from  
All Schools for Time 1 and Time 2

		TSS	TPB	TAC	SSS	PSS	PPB
TSS	Time 1	1.00	-.61**	.56**	.33**	.18	-.22
	Time 2	1.00	-.69**	.50**	.30**	.20*	-.21
TPB	Time 1	-	1.00	-.38**	-.24	-.09	.25*
	Time 2	-	1.00	-.39**	-.29*	-.14	.25**
TAC	Time 1	-	-	1.00	.17	.08	-.13
	Time 2	-	-	1.00	.15	.16*	-.16*
SSS	Time 1	-	-	-	1.00	.24	-.08
	Time 2	-	-	-	1.00	.23*	-.08
PSS	Time 1	-	-	-	-	1.00	-.33*
	Time 2	-	-	-	-	1.00	-.36**
PPB	Time 1	-	-	-	-	-	1.00
	Time 2	-	-	-	-	-	1.00

Note: For purposes of comparison with SSRS standardization sample, the correlations between TSS-PSS are .36, TSS-SSS are .22, and PSS-SSS are .12. The correlations between TPB-PPB are .36.

\* .01  
\*\* .001

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# Summary & Conclusions

The information summarized in this report features behavior rating data for students at Savin Rock Elementary School and two comparison schools. This data was purposely collected and analyzed to:

- (a) obtain answers to questions about the nature of relationships among social behaviors and changes in social behavior for a diverse sample of students
- (b) gain insights into the effectiveness of *The Responsive Classroom* curriculum as implemented at Savin Rock.

A multirater or multisource assessment approach was used to gather student data from teachers, parents, and students at two points, six months apart during the 1991-1992 school year. The final sample of students was representative of the 1990 U.S. Census with regard to male/female, handicapped/non-handicapped status, and Caucasian/African American percentages.

Multirater behavior data for students from two other schools, one in West Haven, Connecticut and the second in Greenfield, Massachusetts, provided useful interpretive comparisons for understanding the relative effects of *The Responsive Classroom* curriculum and for establishing the reliability of behavior change patterns observed at Savin Rock.

The body of this report has provided a rather detailed account of results, starting with general findings about the entire sample's average performances and ending with specific technical information about subgroups and behavioral interrelationships.

At this point, it is appropriate to step back and deduce major conclusions from the investigation with a focus on *The Responsive Classroom* curriculum.

## Gains in Social and Academic Functioning

*The Responsive Classroom* was used regularly at Savin Rock with a representative sample of students and was found to be associated with significantly greater gains in students' social and academic functioning than in students from a comparison school where no social problem-solving or social skills curriculum was operating.

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## Impact of Morning Meeting and Cooperative Learning

*The Responsive Classroom* components of Morning Meeting and Cooperative Learning were found to be differentially effective. That is, Morning Meeting was associated with increases in social skills, whereas Cooperative Learning was most strongly associated with decreases in problem behaviors. Thus, these two curricular components are both important and complementary.

## Impact on Handicapped and African American Students

*The Responsive Classroom* components were associated with greater gains in positive behavior, on average, for students with educational handicaps than students without handicaps. Based on ratings of teachers and students, the curriculum also was associated with greater gains for African American students than the comparison group of Caucasian students at Savin Rock.

## Agreement Between Parents and Teachers

Nationally, samples of parents and teachers do not routinely agree strongly on what the most important social skills are. This finding generally was replicated in the present study. However, it should be noted that the degree of agreement between parents and teachers about which social skills are most important was significantly greater where *The Responsive Classroom* curriculum was in the process of being implemented. The implementation process apparently facilitates home-school communication and understanding about social skills.

## Value of Teaching Social Skills

Findings in this study concerning the strong and statistically significant interrelationships among social skills, problem behaviors, and academic competence, replicate previous investigations where the Social Skills Rating System was used. Therefore:

There is an empirical and practical rationale for educators to invest time in teaching children prosocial behaviors such as cooperation, assertion, self-control, responsibility, and empathy. Increases in these behaviors clearly result in decreases in problem behaviors and increases in academic performances for most students.

Readers are reminded that the data for this project has been largely treated as group data. That is, the means for groups of students from three schools as rated by teachers, parents, and students themselves have formed the basis for the conclusions rendered.

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Mean scores are usually the single most representative score for a group of individuals. However, some individuals in the group will differ significantly from the mean. Therefore, one must be careful about generalizations made about individuals based on their group membership alone.

Additional research of social problem-solving and skill-building curricula like *The Responsive Classroom* are needed, given the importance of social competence to an individual's and society's success.

Research refines teaching. And teaching children to care, to share, and to listen to others is one of the most important outcomes of education. The results of the present evaluation study have identified that methods exist for accomplishing this outcome with many more students than we are presently affecting.

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*This report was prepared for Northeast Foundation for Children, Inc. and the teaching staffs of the Greenfield Center School and Savin Rock Elementary School. Stephen N. Elliott, PhD was the sole author of the report and was assisted with data analysis by Patrick Nolten.*

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