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STRENGTHENING SOCIAL AND EMOTIONAL HEALTH

Rochester Early Childhood Assessment Partnership 2009-2010 Thirteenth Annual Report

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OCTOBER 2010

RECAP 2009-2010 Thirteenth Annual Report | October 2010 | Number T10-004

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Acknowledgments

This report was made possible by the contributions of many partners including early education programs, funders, parents, volunteers, and other interested groups. We thank the many individuals who, year after year, give their time, ideas and support to the Rochester Early Childhood Assessment Partnership (RECAP).

Financial support this past year was provided by the Rochester Area Community Foundation, Rochester City School District, Rochester's Child Fund of the Rochester Area Community Foundation, the New York State Department of Education, and from private providers who purchased RECAP services.

Contributing program partners include Action for a Better Community's early education division, Early Childhood Education Quality Council Centers, Family Resource Centers of Crestwood Children's Center, Florence S. Brown Pre-K classrooms, Rochester Preschool-Parent Program, Rochester City School District programs, YMCA programs, and these child care centers: Caring and Sharing, Community Place at Carter Street, Monroe Community College's Richard M. Guon Child Care Center, and Stepping Stones Learning Center.

We thank teachers, parent group leaders, parent coordinators, directors, and administrators who work closely with thousands of students and their parents. Their personal attention to families contributes greatly to RECAP. Not only do these individuals contribute information, but they also share their cooperation and insight with our Assessment Team, which is vital to our continuous improvement system.

We thank the thousands of parents who gave time from their busy schedules to share their thoughts and perceptions about their children and on other topics. Without parents, RECAP would not be as complete or comprehensive.

We thank the RECAP Advisory Council for helping us to keep the needs of children and all our partners foremost in our operations, and for its valuable feedback and insights regarding the current goals and activities of our community's early childhood system.

We thank the communications staff of Children's Institute for contributions to this report.

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Executive Summary

The Thirteenth Annual RECAP Report presents significant policy findings that affect our community's young children, their families, and the providers and policymakers who serve them. This report also affirms the importance of longstanding findings, as trend and replication data are crucial foundations of policy that are often understated.

Rochester, by many accounts, continues to hold a preeminent place within the Pre-K systems in the United States and Western Europe. Once again this year, Rochester's average annual rating of 6.1 on the Early Childhood Environment Rating Scale, Revised (ECERS-R, an internationally-used measure of classroom environment quality) that places the city's Pre-K programs among the highest ranked independently and reliably documented Pre-K systems for the last ten years. The national and international weighted averages remain at the 4.01 level for 2009-10. Rochester continues to stand above the national and Western European averages.

RECAP Major Finding for 2009-10

RCSD/RECAP Partnership growth

For the 2009-10 school year, perhaps the most important overall event was the demonstrable growth in the RCSD/RECAP partnership, and, in particular, the combined institutional agility demonstrated by RECAP's issuing of small but influential policy briefs in areas requested by RCSD. These and other reports, composed over short periods of time, directly impacted RCSD's early childhood policy decisions. The evaluation/policy successes of the year demonstrate the productive, mutually beneficial relationship between RECAP and RCSD.

Students

- In examining the social-emotional adjustment and risk factors of Pre-K pupils in 2009-10, we observed both (1) somewhat less pupils arriving with multiple social-emotional risk factors, but (2) proportionally more pupils making gains and moving out of the risk pool. This may be due to teacher sensitivity in identifying risk, focused professional development in risk remediation, or, possibly, random fluctuations of behavior.

- Over 96% of incoming Pre-K pupils grew at or above their expected developmental levels. This replicates findings observed from previous years. Many children show high rates of growth, especially in the academic areas.

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Classrooms

- RECAP classrooms in 2009-10 continue to hold the gains made, with a mean rating of 6.1 on the ECERS-R, on the one-to-seven scale. This contrasts to averages of 4.3 found in other national studies. RECAP classrooms continue to demonstrate exceptionally strong classroom quality.

- These exceptionally strong ECERS-R scores, in the 6.0 range, have been observed in Rochester since 2001 – for nine years. Since 2001 there have been a handful of studies reporting some programs reaching or exceeding 6.0, but there have been no rigorous, independent evaluations that we can find where a consistent ECERS-R rating 6.0 or higher for a whole system has been reported, except by RECAP in Rochester.

- Moreover, RECAP has devised methods of ensuring reliability through the creation of a Master Observer category that may not be present in other ECERS-R evaluations.

- RECAP continues to recognize teachers with extremely high classroom quality. Twenty teachers have earned scores of 6.50 or higher for five consecutive years. Classrooms in this category are truly superior.

- Over the course of 2009-10, RECAP completed a pilot of the Classroom Assessment Scoring System (CLASS). A stratified random sample of 30 classes was chosen with voluntary participation. Results are being utilized for possible full-scale implementation. While the ECERS-R has effectively served as the standard measure for overall classroom environmental quality, the CLASS holds complementary promise in the areas of curricula and instruction. Furthermore, it serves a broader grade range, from Pre-K through grade 3.

Parents and Families

- This was the fourth consecutive year that RECAP administered the Family Involvement Questionnaire (FIQ), developed by researchers at the University of Pennsylvania and validated by RECAP. For four consecutive years, parents reported greatest involvement in the home environment, with identical reporting rates for the previous two years and a modest increase in 2009-10. The least involvement in 2009-10 was in the classroom, which remains the same as last year; although in 2008-09 there was a modest increase in this participation. Parents reported moderate involvement with parent-teacher communications, the level in 2009-10 was the same as in 2008-09. Overall, Pre-K family involvement can be termed as moderate, with few changes in the past four years.

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Introduction to RECAP

The Rochester Early Childhood Assessment Partnership (RECAP) began in 1992 as a collaboration of the Rochester Area Community Foundation, Rochester City School District, and Children's Institute. Since its inception, RECAP's overall guiding tenet has been to promote and ensure quality prekindergarten classroom experiences with its integrated data system. In addition to providing a data system to enhance children's, teachers' and systems' performance, RECAP works to understand the effectiveness of Pre-K programs. Furthermore, using data to inform and drive policy has been a pivotal force in the RECAP experience. Throughout its history, RECAP has worked with many partners: foundations, local government, public and parochial schools, Head Start, and early education teachers at multiple schools and other community-based organizations.

Each year, RECAP provides important program activities, including:

- Training teachers in the use of child-assessment questionnaires and interpretation of their results
- Efficient and user-friendly data collection and feedback reports, with reports looped back to teachers and directors
- Training teachers and observers on fidelity implementation of the Early Childhood Environment Rating Scale, Revised (ECERS-R) and the Classroom Assessment Scoring System (CLASS)
- Biweekly RECAP review and planning meetings
- Community presentations of RECAP results

These implementation efforts are integrated into a continuous-improvement system that strives to ensure and maintain quality Pre-K classrooms, and thus improve overall student performance and outcomes.

Since 1999, RECAP has employed measures to assess program quality and student outcomes. Throughout RECAP's administration, ECERS-R has been used to study classroom quality, and was again used in the 2009-2010 school year. In addition to the ECERS-R, the CLASS measure also was piloted with 30 randomly selected RECAP classrooms. Future analyses, using CLASS results from approximately 60 classrooms, are planned. First-year results are reported.

To measure student competencies and difficulties, both within academic and social/emotional domains, the Child Observation Record (COR) and the Teacher-Child Rating Scale (T-CRS) were employed. To understand the parent's involvement and satisfaction with his or her child's Pre-K classroom, the Family Involvement Questionnaire (FIQ) was administered to parents.

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The following table highlights the measures collected and the numbers assessed during the 2009-2010 school year.

Table 1. RECAP Outcomes and Measures

RECAP 2009-2010 Outcomes and Measures			
Outcome	**Measures**	**Numbers Assessed* in 2009-2010**	**Method**
Classroom Environment Quality	ECERS-R	105	Classroom Observation
School, Emotional and Behavioral Adjustment	Teacher-Child Rating Scale (T-CRS)	1,991	Teacher Report
Academic, Motor and Social	Child Observation Record (COR)	1,944	Teacher Report
Classroom and Teacher Interactions	Classroom Assessment Scoring System (CLASS)	30	Classroom Observation
Parent Involvement	Family Involvement Questionnaire (FIQ)**	813	Parent Survey

*Numbers assessed are not the number of participants; i.e., there were 155 Classrooms this year but 20 teachers were exempt, and there were 105 classrooms assessed with ECERS-R. Teachers with both a.m. and p.m. classrooms were assessed once.

**First year of pre-post implementation

The table below presents demographic information regarding the students in RECAP classrooms.

Table 2. RECAP Student Demographics

RECAP 2009-2010 Student Demographics		
Gender	Male	50 %
	Female	50 %
Race	Black/African American	61%
	White Caucasian	13%
	Hispanic/Latino	22%
	Asian	3%
	Native American	<1%
	Other	<1%

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As in previous years, this year's Report of the 2009-2010 school year presents the major findings of the teachers' and students' outcomes on the measures. For example, the ECERS-R averages for RECAP classrooms as a whole are presented, while the classroom results are provided in the Statistical Supplement. The detailed constructs of these measures are provided later on in the report.

In prior years, the RECAP reports included many statistical findings, such as inter-rater reliability on the ECERS-R and alpha reliability on the scales of the student outcome measures. As these may not be of general interest, they can now be found in the Statistical Supplement.

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Program Quality – ECERS-R

Since 1998-1999, RECAP has assessed environmental quality in prekindergarten classrooms using the ECERS-R. From the beginning, RECAP has found many classrooms to have demonstrated "good" quality by the ECERS-R. The last ten years' experience has shown an overall average rating on the ECERS-R of "very good" ($\bar{x} \approx 6.0$) for Rochester's prekindergarten classrooms.

The ECERS-R consists of 43 items organized into seven subscales: Space and Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interaction, Program Structure, and Parents and Staff. Together the items and scales are designed to assess a classroom's quality.

As explained in prior years' reports, the RECAP system implemented a program change where a group of RECAP teachers earned the opportunity to be exempt from the annual ECERS-R assessment. To earn this "exempt" designation, teachers had to earn for five consecutive years an average ECERS-R score of at least 6.50. In 2007-2008, there were 21 teachers who achieved this, and for the last two years, five teachers have subsequently earned this designation, and six exempt teachers left the RECAP system. Because of the "exempt" teacher status, some of the tables and charts that follow will have results for the exempt classrooms where the ECERS-R was not collected in the 2007-2008 or 2008-2009 years, so we included the 5-year average score for the exempt group. In 2009-10 there were 20 "exempt" teachers.

In prior years' reports, we have included results on the statistical integrity of ECERS-R in this section, with the results from the tabulation of the inter-rater reliability of observers. This information was collected and computed for the 2009-2010 school year, and will be presented in the Statistical Supplement.

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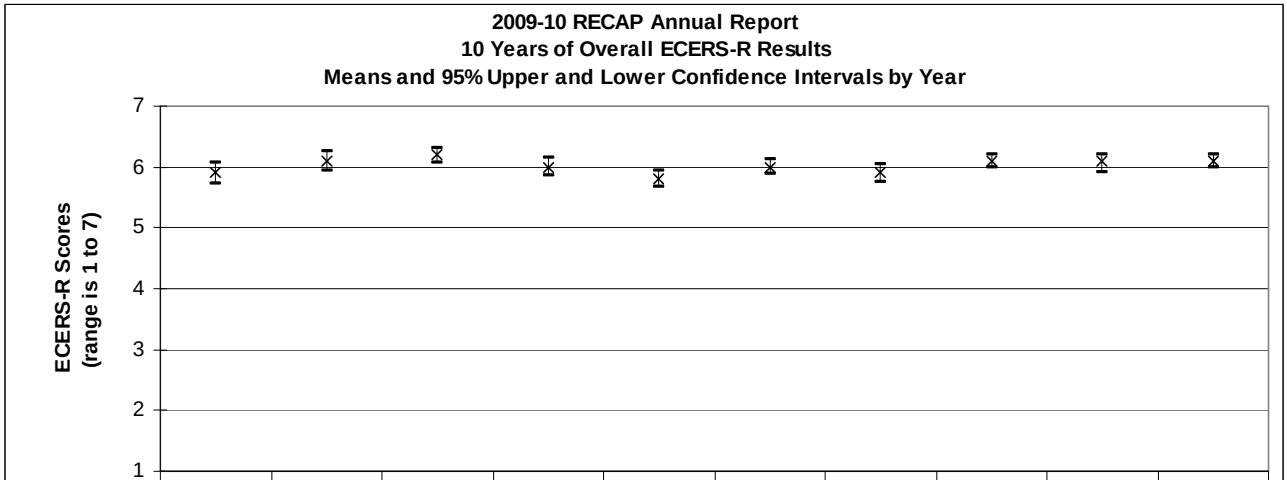
ECERS-R Aggregate Results for 2000-2010

The 10-year aggregate ECERS-R results from RECAP demonstrate how this system has maintained and served as a quality barometer for the prekindergarten program in Rochester. The 10-year mean score on the ECERS-R assessment is 6.0. For the 2009-2010, the mean score was 6.1. Figure 1 depicts the most recent ten years of ECERS-R findings. Classroom quality has been integrated into the Pre-K infrastructure, and classroom quality, as assessed by the ECERS-R, is extremely good to excellent.[1]

Figure 1. Ten Years of Overall ECERS-R Results



	2000-01 (n=116)	2001-02 (n=118)	2002-03 (n=128)	2003-04 (n=137)	2004-05 (n=129)	2005-06 (n=128)	2006-07 (n=127)	2007-08 (n=127)	2008-09 (n=126)	2009-10 (n=125)
– Upper Bound	6.1	6.3	6.3	6.2	5.9	6.1	6.1	6.2	6.2	6.2
× Mean	5.9	6.1	6.2	6.0	5.8	6.0	5.9	6.1	6.1	6.1
– Lower Bound	5.7	5.9	6.1	5.8	5.7	5.9	5.7	6.0	5.9	6.0

Scores: 1 = Inadequate, 3 = Minimal, 5 = Good, 7 = Excellent

[1] In this year's Statistical Supplement, please find the figures in the *Early Childhood Environment Rating Scale, Revised (ECERS-R)* section

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ECERS-R Overall Means by Area, a Five-Year Historical Perspective

For the 2009-2010 school year, the mean ECERS-R score was 6.1, across the 125 classrooms. In this chart we see general stability across the seven areas in the past five years. Starting with the 2007-2008 year, both exempt and non-exempt teachers' performance is included in the grouping. As in prior years, the strongest areas are Parents and Staff and Interaction; new in this program year is a sizable jump in the Language-Reasoning area. Personal Care Routines remains the weakest, though these items still fall within the "good" range.

Table 3. ECERS-R Overall Means by Area for the Last Five Years

2009-10 RECAP Annual Report ECERS-R Overall Means by Area for the Last Five Years									
		Area							
School Year	Year	Space and Furnishings	Personal Care Routines	Language-Reasoning	Activities	Interaction	Program Structure	Parents and Staff	Average
2005-06 (n=128)	1	5.7	5.5	6.1	5.5	6.5	6.0	6.6	6.0
2006-07 (n=127)	2	5.7	5.7	6.0	5.6	6.3	5.9	6.4	5.9
2007-08 (n=127)	3	5.8	5.7	6.1	5.7	6.7	6.0	6.5	6.1
2008-09 (n=126)	4	5.8	5.5	6.1	5.8	6.6	6.1	6.5	6.1
2009-10 (n=125)	5	5.8	5.5	6.4	6.0	6.5	6.0	6.5	6.1

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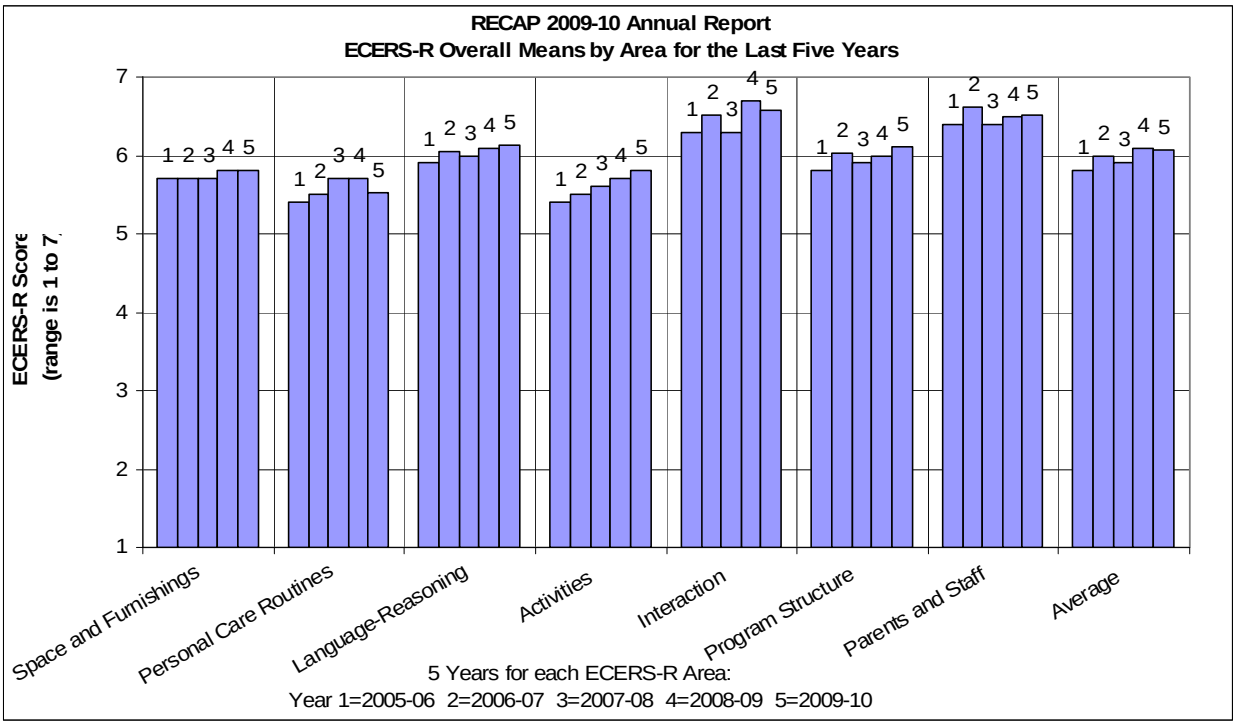
Figure 2, below, illustrates the stability within the seven assessed areas; again, RECAP classrooms are demonstrating consistency and strength across the areas. Indeed, three of the seven areas (Language-Reasoning, Interaction, and Parents and Staff) have mean ratings of at least 6.0, showing consistent strength. The area, Parents and Staff, has a very high overall average. The remaining two, Space and Furnishings and Personal Care Routines, while not as strong, still have scores falling in the "good" range.

Figure 2. ECERS-R Overall Means by Area for the Last Five Years



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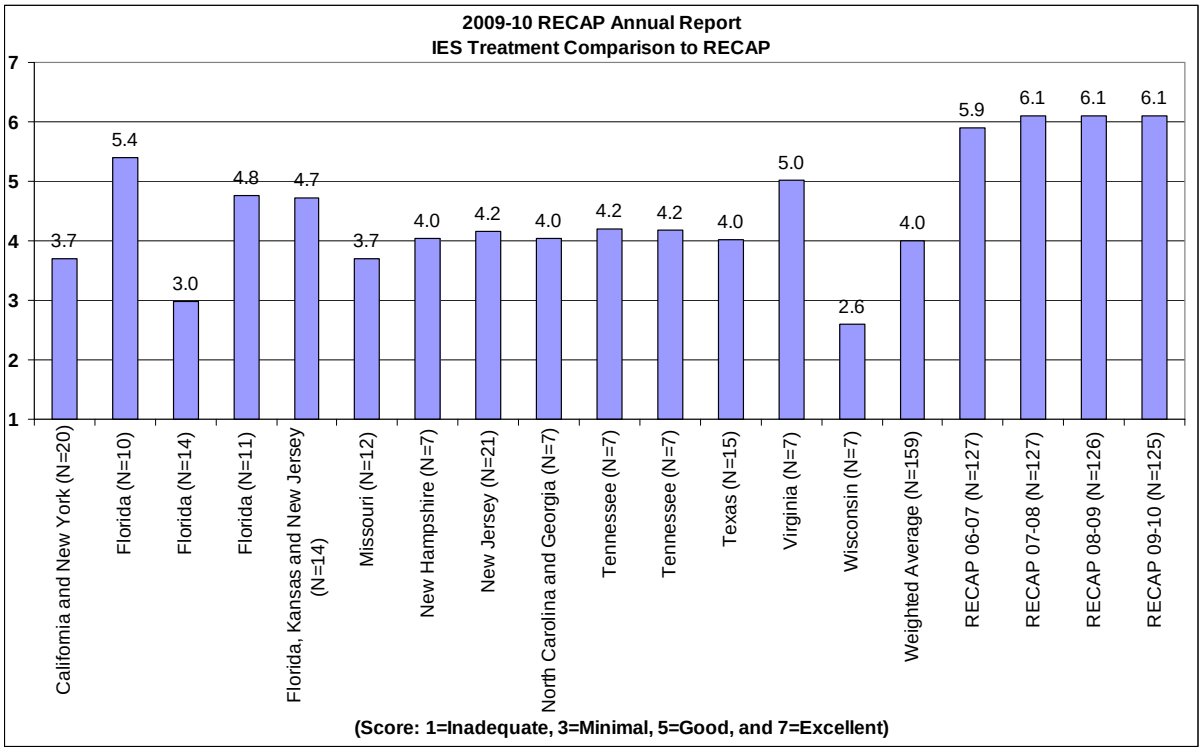
Comparing RECAP to Other Early Childhood Education Assessments Across the United States

RECAP continues to provide the Pre-K programs in Rochester with the required information for Pre-K teachers first to instill, and then to maintain, a range of good to excellent standards of quality. As a comparison with other programs' quality, we report the findings from the U.S. Department of Education Institute of Education Sciences (IES) "*Effects of Preschool Curriculum Programs on School Readiness*." In its report, IES presents the findings from its multi-site, multi-curricula evaluation. Fourteen different prekindergarten curricula were randomly assigned to treatment and control classrooms; ECERS-R assessments were conducted on these preschool classrooms in 13 states in the 2003-2004 school year.

Presented here are the ECERS-R results, showing data collected in the spring, as in the RECAP model, in the treatment classrooms.[2] The findings from this IES report show variability across the treatment programs; the results range from 2.6 to 5.4. The last three years of the RECAP program shows a quality rating mean of 6.1.

Figure 3. IES Treatment Comparison to RECAP



[2] Preschool Curriculum Evaluation Research Consortium (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education. Washington, DC: U.S. Government Printing Office. This report is available for download on the IES website at http://ncer.ed.gov.

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Program Quality – CLASS Pilot

Classroom Assessment Scoring System (CLASS) Pilot

In addition to the ECERS-R assessments collected, the CLASS measure was piloted in 2009-2010 with 30 randomly selected RECAP classrooms. With these data, several statistical methods were employed to replicate results reported in the CLASS manual, with future analyses planned that would include approximately 60 randomly selected classrooms.

CLASS Master Observer Training

In July 2009, six observers successfully completed CLASS Master Observer Training, the first cadre of Master Observers of the CLASS tool to conduct observations in RECAP. Observers participated in a rigorous three-day training program to attain the level of reliability specified by the authors of the CLASS (.80). Training materials provided observers with a clear and comprehensive understanding of the instrument's purpose and procedures. Trainees watched multiple videotaped segments that were consensus coded by at least three master CLASS coders. The consensus ratings established a standard by which to judge the accuracy of ratings made by trainees. At the end of training, trainees took a reliability test in which they watched and coded classroom segments. In addition to in-depth training on the CLASS, logistics of the observation process, observation guidelines, and protocol were carefully studied.

Pilot Status

RECAP implemented an assessment pilot this past school year, with the CLASS measure chosen to be piloted in 30 randomly selected classrooms. The pilot was implemented because school district administrators and teachers were looking for more information to understand the different factors that influence the effectiveness of prekindergarten instruction and learning. In the article, *Ready to learn? Children's pre-academic achievement in pre-Kindergarten programs*, Howes et al. write, "Teacher-child relationships that provide young children with a sense of acceptance and security and through which teachers and children are actively involved with one another are more likely to support engagement in and cooperation with the activities and instruction provided by the teacher."[3] The CLASS assesses the climate provided by the teacher, the nature of the relationships in the classroom, and the quality-of-feedback loop.[4]

[3] Howes, C., Burchinal, M., Pianta, R., Bryant, D., Early, D.M., Clifford, R.M., Barbarin, O. (2008). Ready to learn? Children's pre-academic achievement in pre-Kindergarten programs. Early Childhood Research Quarterly, 23, p. 30.

[4] Pianta, R.C., LaParo, K.M., Hamre, B.K. (2008) Classroom *Assessment Scoring System Manual, Pre-K*. Baltimore, MD: Paul H. Brookes Publishing Co.

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This past school year, these assessments were administered, with six classrooms receiving two assessments for inter-rater reliability results to be calculated. Along with the inter-rater reliability assessments, additional statistical and investigational analyses were conducted, and presented here are the descriptive statistics, correlational findings, and the Krippendorff's alpha reliabilities. With next year's second administration of another pilot of 30 classrooms, there will be a sufficient sample size for factor-analytic results, interpretations, and implications for the RECAP system.

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CLASS First Year Results

The CLASS assesses three empirically derived domains: emotional support, classroom organization, and instructional support. Like the ECERS-R, the CLASS items are measured on a 1-to-7 scale, with 1 indicating minimally characteristic and 7 as highly characteristic.

The descriptive statistics from the pilot analyses are presented below. In both the emotional support and classroom organization domain, the RECAP teachers received mean scores comparable to their ECERS-R scores, with scores falling in the mid-5 range. The RECAP scores in all three of the domains are notably higher than for those preschool and kindergarten programs reported in the Technical Appendix of the CLASS Manual. This is the case for all of the sub-domains. In its Technical Appendix, the CLASS Manual presents the results of the prekindergarten program, MyTeachingPartner (MTP), which was used in 164 Virginia preschool classrooms; these results are used to compare RECAP's experience with its CLASS pilot.

An area which could benefit from increased instruction or even targeted intervention is that of instructional support, where the mean scores are in the mid-three range. The results of this first-year pilot highlight that the area of instructional support, as measured by the CLASS, has potential for increased attention for curriculum advancements for both administrators and teachers.

Table 4 and Figure 4 show CLASS domain and subdomain scores from RECAP and the CLASS MTP preschool program study. The difference between the mean scores for the RECAP pilot and the CLASS MTP study is statistically significant for the Instructional Support domain, although not for the Emotional Support or Classroom Organization domains, or for the subscales overall.

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Table 4. CLASS Means by Subdomain

2009-10 RECAP Annual Report CLASS Means by Subdomain (N=30)					
Domain	**Subdomain**	**Mean**	**Std. Dev.**	**Range**	**CLASS Mean** (N=164)**
Emotional Support	Positive climate	6.0	1.0	3.8 – 7.0	5.2
	Negative climate*	6.8	0.3	5.8 – 7.0	6.4
	Teacher sensitivity	5.7	1.0	3.5 – 7.0	4.3
	Regard for student perspective	5.2	0.9	3.3 – 7.0	4.4
Classroom Organization	Behavior Management	5.8	0.9	3.5 – 7.0	4.9
	Productivity	5.9	0.9	3.8 – 7.0	5.4
	Instructional Learning Formats	5.1	1.0	2.8 – 7.0	4.6
Instructional Support	Concept Development	3.4	1.6	1.0 – 7.0	2.7
	Quality of Feedback	3.5	1.6	1.2 – 6.8	2.9
	Language modeling	3.6	1.7	1.2 – 7.0	2.9
Total	All Subscales	5.1			4.4

* Rekeyed where higher value indicates better functioning

** MyTeachingPartner preschool study, CLASS Technical Appendix, p.93

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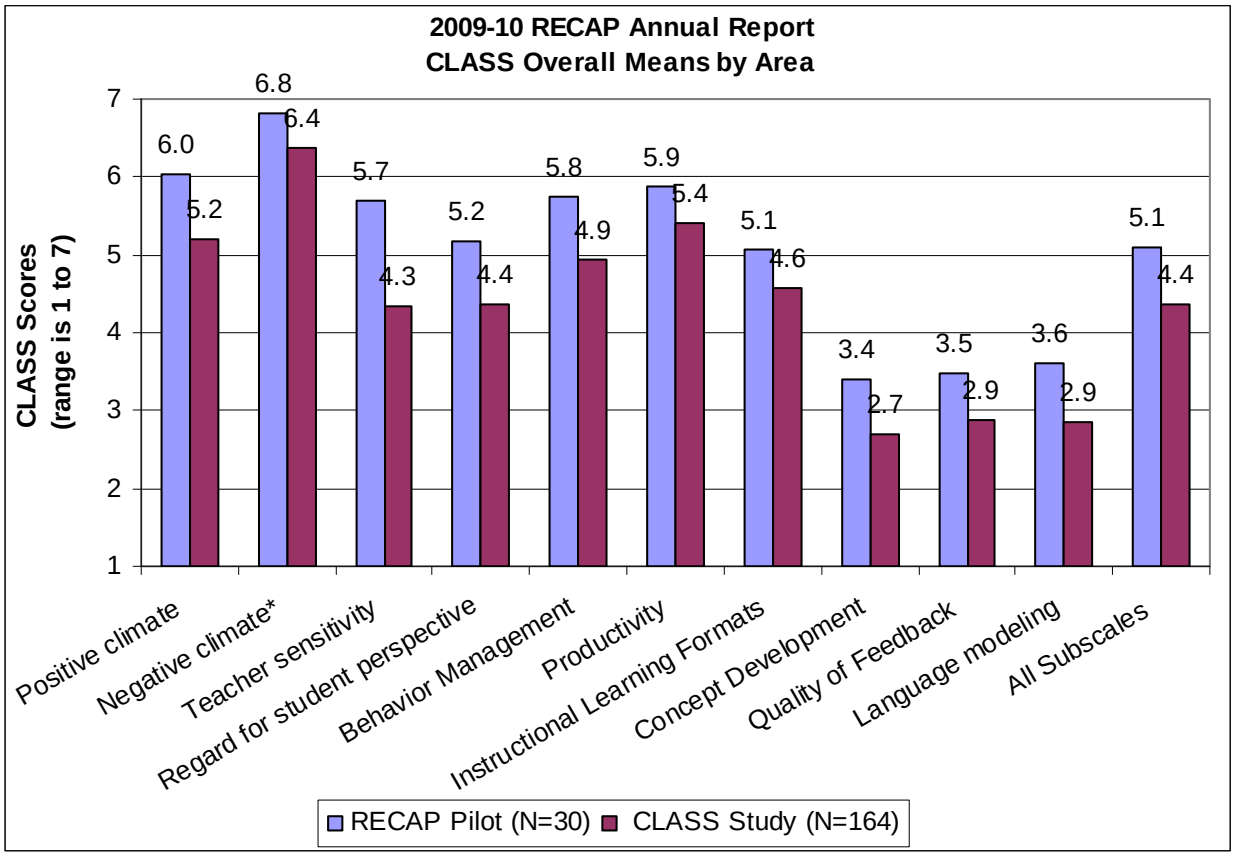
Figure 4. CLASS - Classroom Assessment Scoring System



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CLASS Reliability Results

With the implementation of the CLASS pilot, there were six classrooms in which two CLASS assessments were simultaneously performed so that inter-rater reliability assessments could be calculated. The Krippendorff's alpha statistic was chosen to measure the inter-rater reliability.[5] It was calculated for each of the ten CLASS constructs, as well as the total score. Results are presented in Table 5. The alpha results range from .52 to .96, with the total alpha at .81. The lowest Krippendorff's alphas are in the areas of instructional learning format, regard for student perspective, and productivity. CLASS scale statistics appear in Table 6.

Table 5. CLASS Inter-rater Reliability

2009-10 RECAP Annual Report CLASS Inter-rater Reliability (N=6)			
Domain	**Subdomain**	**Krippendorff's alpha**	**Krippendorff's alpha, average**
Emotional Support	Positive climate	.81	.81
	Negative climate*	.80	
	Teacher sensitivity	.59	
	Regard for student perspective	.52	
Classroom Organization	Behavior Management	.74	
	Productivity	.55	
	Instructional Learning Formats	.53	
Instructional Support	Concept Development	.96	
	Quality of Feedback	.89	
	Language modeling	.90	

Table 6. CLASS Scale Statistics

2009-10 RECAP Annual Report CLASS Scales Statistics (N=30)				
Domain	**Mean**	**Std. Deviation**	**Internal Consistency Cronbach's alpha**	**CLASS Manual Internal Consistency alpha**
Emotional Support	5.9	0.6	.75	0.92
Classroom Organization	5.6	0.8	.80	0.76
Instructional Support	3.5	1.6	.98	0.86

[5] Hayes, A. F., & Krippendorff, K. (2007). Answering the Call for a Standard Reliability Measure for Coding Data. *Communication Methods and Measures, I*(1), 77-89.

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CLASS Correlations with ECERS-R

In general, the ECERS-R subscales of Interactions and Language were hypothesized to correlate positively with the CLASS subscales of Emotional Support and Instructional Support, and the CLASS subscale of Class Organization would correlate positively with the ECERS-R Activities score. A limitation to these analyses is the relatively small sample size (N =30), and therefore these results are presented as merely preliminary. With that limitation in mind, we do see the strongest correlations (in both magnitude and statistical significance) between the Activities of the ECERS-R scale, and all three CLASS subscales (r = .50, p = .01 of Emotional Support; r = .41, p = .02 of Class Organization; r = .41, p = .03 of Instructional Support). These are all moderate correlations, and are statistically significant. We also hypothesized that ECERS-R Interactions would correlate with the three CLASS subdomains; those correlations were low to moderate in size; none was statistically significant. The ECERS-R subscale of Language had fairly low correlations (r = .08 to .26; none showed statistical significance) with the CLASS subdomains.

With the continued administration of the pilot CLASS assessments for the 2010-2011, the combined two-year datasets will provide adequate sample size to assess the correlations between the two measures.

Table 7. CLASS Dimension and ECERS-R Subscale Correlations

2009-10 RECAP Annual Report CLASS Dimension and ECERS-R Subscale Correlations (N=30)									
	ECERS-R	**Space**	**Routines**	**Language**	**Activities**	**Interactions**	**Program Structure**	**Parents**	**Total**
CLASS									
Emotional Support	Corr.	0.11	0.02	0.26	0.50*	0.25	0.35	0.09	0.32
	Sign.	0.57	0.91	0.16	0.01	0.19	0.64	0.09	0.11
Class Organization	Corr.	-0.04	-0.07	0.08	0.41*	0.23	0.21	0.10	0.19
	Sign.	0.83	0.97	0.68	0.02	0.21	0.27	0.59	0.31
Instructional Support	Corr.	0.13	0.14	0.23	0.41*	0.25	0.23	0.14	0.31
	Sign.	0.51	0.47	0.22	0.03	0.18	0.22	0.46	0.10

Note: * Significant at the 0.05 level

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Student Performance

Child Observation Record (COR)

RECAP uses the COR to measure academic (language, literacy, mathematics, science), social, and motor competencies during the child's prekindergarten year. The COR was developed by HighScope, a premier center for developing and evaluating materials to assess young children. Teachers use the COR to record their observations of their students' functioning on 23 items, each on a 5-point developmentally sequenced scale where each point represents a level of children's growth along a development continuum.[6]

Teachers complete the COR in the fall and spring. By administering the COR at these two times, the growth of the individual child is assessed, and where a problem area exists, teachers can address it in the classroom. Furthermore, by aggregating the data, the growth rates can be analyzed by gender, race, and for the entire RECAP system. Growth rates are also studied based on risk factors, as identified by the measure. The COR results presented in this section, as well as in the Technical Summary, are integral to understanding Pre-K program effectiveness.

Teachers complete the COR on their students using an online application that tabulated and processed the data and produced child summary reports. These reports show the average and percentile scores in the four skill areas. The individual items in their respective skill areas are:

- Initiative and social:
  - making choices and plans
  - solving problems with materials
  - initiating play
  - taking care of personal needs
  - relating to adults
  - relating to other children
  - resolving interpersonal conflict
  - understanding and expressing feelings

- Movement and music:
  - moving in various ways
  - moving with objects
  - feeling and expressing steady beat
  - moving to music
  - singing

[6] Hightower, A.D., Gramiak, W., Metzger, A., and Forbes-Jones, E. (2006), *A Factor Analysis of the 32-Item Child Observation Record (COR)*. Children's Institute, Technical Report No. T06-0001.)

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- Language and literacy:
  - showing awareness of sounds in words
  - using letter names and sounds
  - reading
  - writing
  - counting

- Math and science:
  - comparing properties
  - identifying position and direction
  - identifying sequence change and causality
  - identifying materials and properties
  - identifying natural and living things

The following text and accompanying charts depict the COR growth of the RECAP students, as an entire cohort, during the 2009-2010 school year; in the Statistical Supplement additional analyses are presented by gender and by race/ethnicity.

In Table 8, the COR Fall 2009 results are presented, with the means reported for each of the academic subscales. Also shown are the COR growth (change from fall to spring) scores, where we observe that children gained significantly during their time in Pre-K. Overall, at Time 1, the mean scores range from 2.1 to 2.7, and the mean change scores range from 1.2 to 1.4.

Table 8. 2009-10 Time 1 COR and COR Changes

2009-10 RECAP Annual Report
2009-10 Time 1 COR and COR Changes[1]

	Time 1			Change Scores[2]		
Skill Area	**N**	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**
Initiative & Social	1948	2.6	0.8	1651	1.2	0.9
Language & Literacy	1948	2.1	0.8	1651	1.3	0.9
Movement & Music	1948	2.7	0.9	1651	1.3	0.9
Math & Science	1944	2.2	0.9	1649	1.4	1.0

Notes:
[1] These data include children of all ages in RECAP.
[2] Change scores presented here only include students who had complete fall and spring measures from the same classroom/teacher. There were far more pupils who actually attended the RECAP-affiliated programs.

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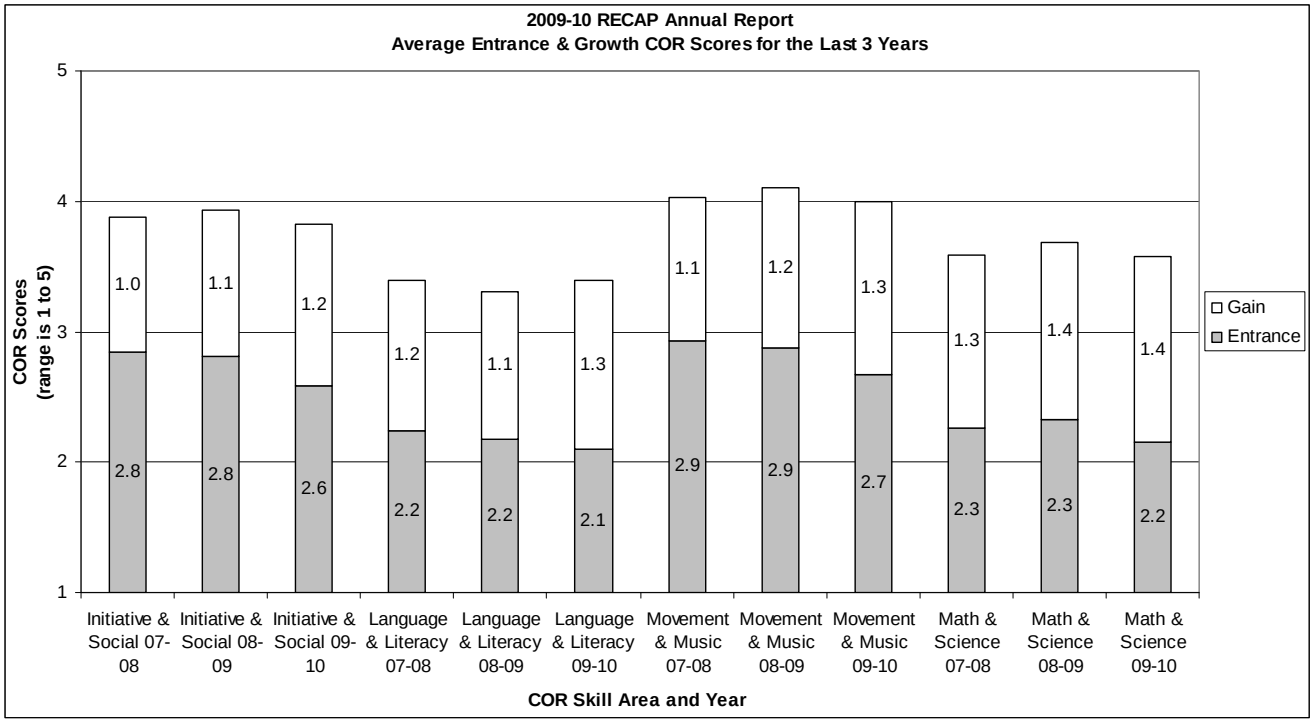
The growth in COR scores for the last three years, by subscale area, is presented in Figure 5 below.

Figure 5. Average Entrance and Growth COR Scores for the Last 3 years



Starting in 2010-2011, RECAP will resume the administration of the 32-item COR. It will be administered in the fall and spring, with the addition of an optional winter data collection point. This change was prompted by teachers and administrators preferring the use of the original COR, and using the instrument as a tracking mechanism on student performance.

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Teacher-Child Rating Scale (T-CRS)

The T-CRS consists of 32 items that assess both positive and negative aspects of a child's socio-emotional adjustment. Items are grouped into four empirically derived: 1) Task Orientation, 2) Behavior Control, 3) Assertiveness, and 4) Peer Social Skills.

The T-CRS has multiple uses, including as a screening measure, as part of an individual assessment battery, and as a pre- and post- research or evaluation measure. With RECAP, it also serves as a tool to track population trends, changes, and effects of Pre-K programs in Rochester. Table 9, below, compares initial at-risk status, as measured by the fall administration of the T-CRS, for the 2008-09 and 2009-10 RECAP program years.

Table 9. Number of students with socio-emotional risk factors at the beginning of the school year, Time 1

2009-10 RECAP Annual Report Number of Students with Socio-Emotional Risk Factors at Time 1				
	2008-09		2009-10	
	Frequency	Percentage*	Frequency	Percentage*
No risk factors	1,172	73.62%	1,539	77.69%
Task Orientation risk only	77	4.84%	71	3.58%
Behavior Control risk only	56	3.52%	67	3.38%
Assertiveness risk only	45	2.83%	57	2.88%
Peer Social risk only	27	1.70%	34	1.72%
Multiple risk factors	215	13.51%	213	10.75%
Number of valid responses	1,592	-	1,981	-
Notes: * Percentage is calculated from number of valid responses				

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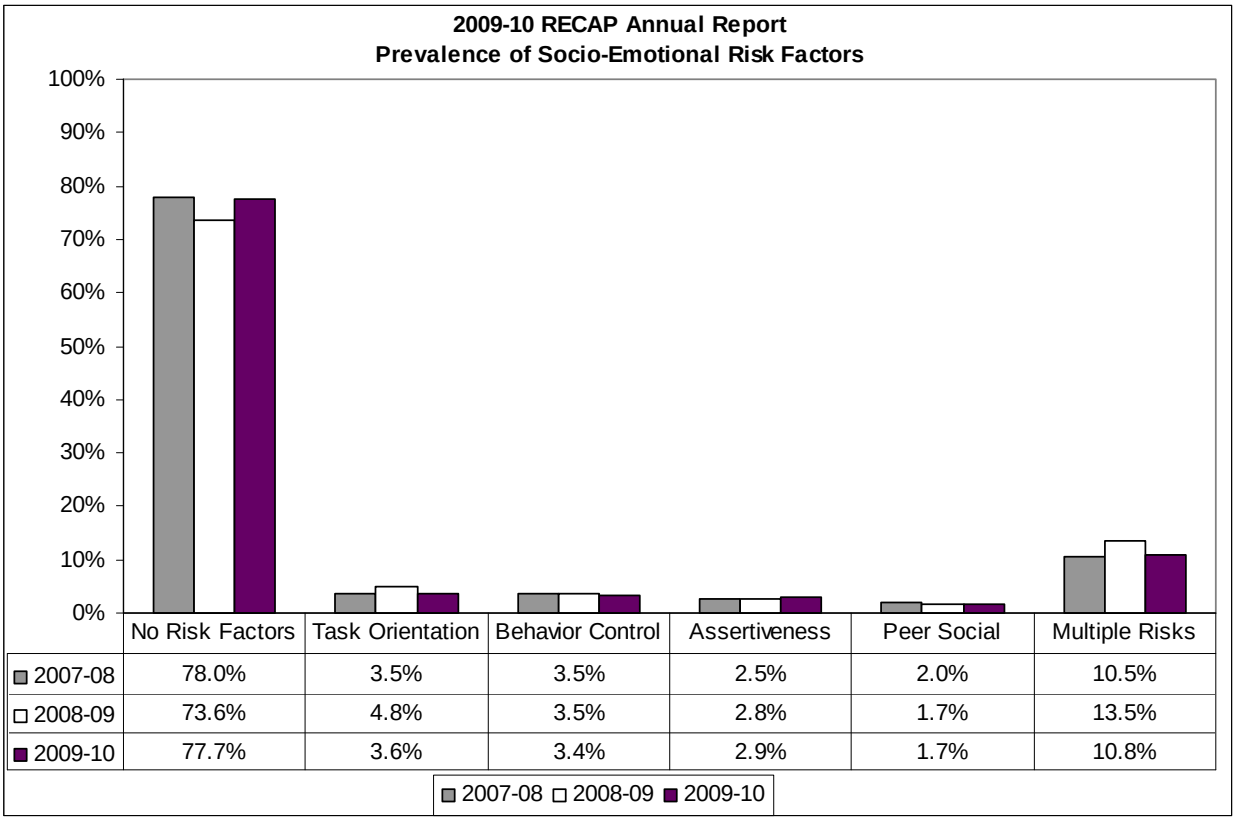
For 2009-2010, the T-CRS was completed on 1,981 students. As shown in Figure 6 below, the rates for all of the groups (no risk factors, and the single or multiple risk factors) have remained consistent for multiple years for the students attending RECAP-affiliated preschool programs.

Combining the single-risk rates from each of the four groups shows that the grouped individual risk factor is approximately 11 to 12 percent, and this has also been consistent for the last three years.

Figure 6. Prevalence of Socio-Emotional Risk Factors



	No Risk Factors	Task Orientation	Behavior Control	Assertiveness	Peer Social	Multiple Risks
2007-08	78.0%	3.5%	3.5%	2.5%	2.0%	10.5%
2008-09	73.6%	4.8%	3.5%	2.8%	1.7%	13.5%
2009-10	77.7%	3.6%	3.4%	2.9%	1.7%	10.8%

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Academic Performance with Social and Emotional Risks

Figures 7 and 8 show initial COR scores presented separately by T-CRS risk factor status. Figures 9 and 10 show the average COR growth, by T-CRS risk factor(s). The findings on these COR/T-CRS analyses parallel prior years. Where no risk factors exist, as measured by the T-CRS, the average COR growth over a 7-month period is 1.2, 1.2, 1.3, 1.4 on the subscales of Initiative & Social, Movement & Music, Language & Literacy, and Math & Science, respectively.

Risk factors exist when a teacher indicates strong agreement on the negative items associated with the respective primary scale. At entrance, children who initially presented with no risk factors scored higher on all four subscales compared to children who initially presented with multiple risk factors. COR growth for children by their initial T-CRS risk factors revealed that children who showed "at-risk" behavior displayed more growth than children who did not present with any risk factors. This year, we also found that students with multiple risk factors (having two or more T-CRS risk factors) demonstrated the strongest growth of all risk factor groups on the Movement & Music subscale.

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Figure 7. 2009-2010 Average Initial COR Scores

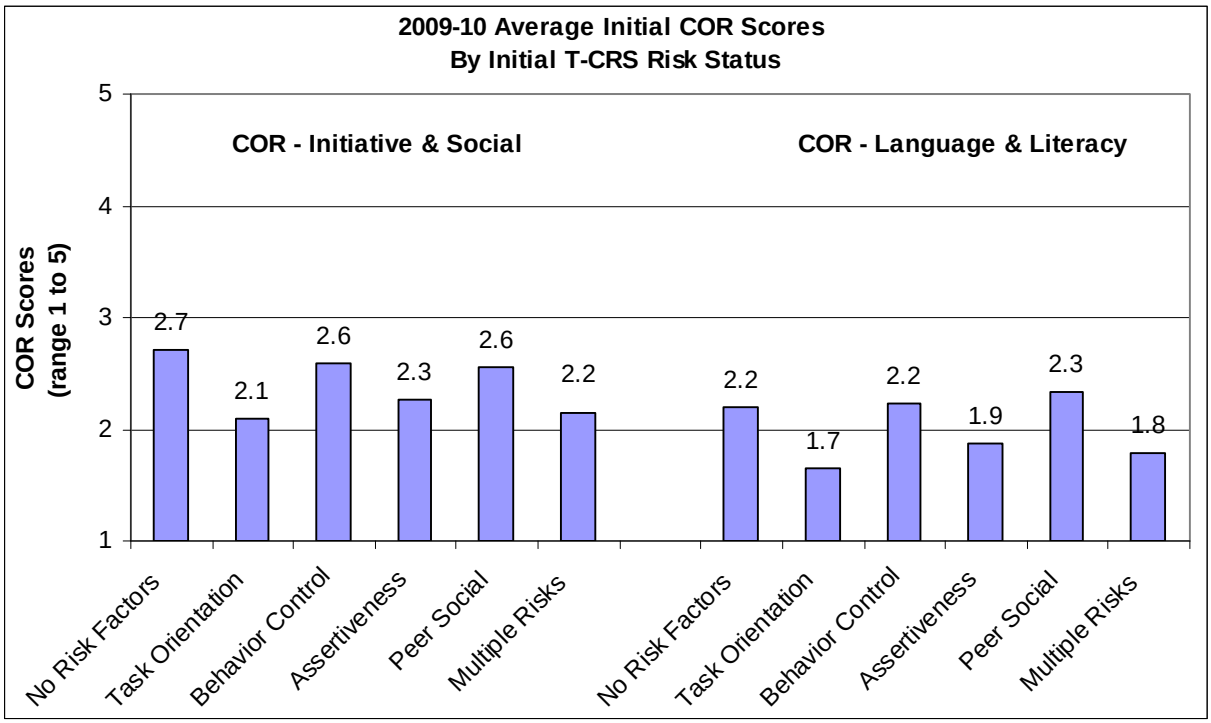

Figure 8. 2009-2010 Average Initial COR Scores

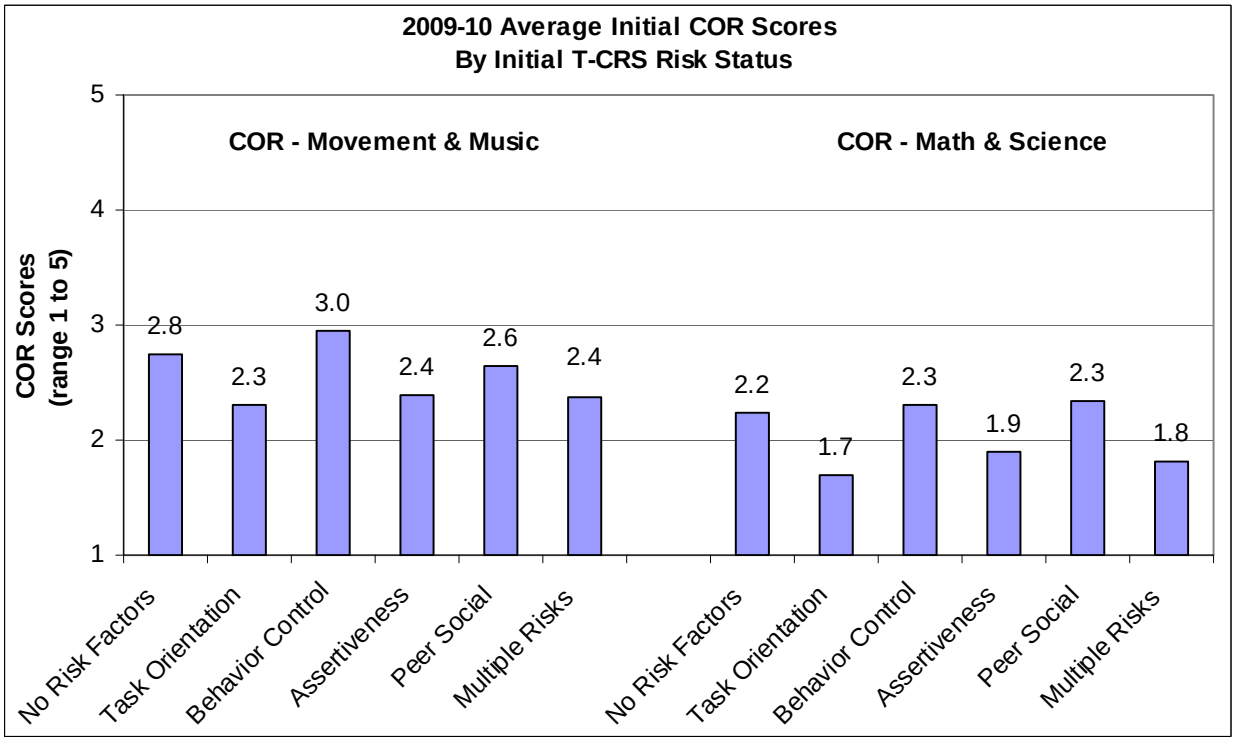

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Figure 9. 2009-2010 Average COR Growth by Initial Risk Status

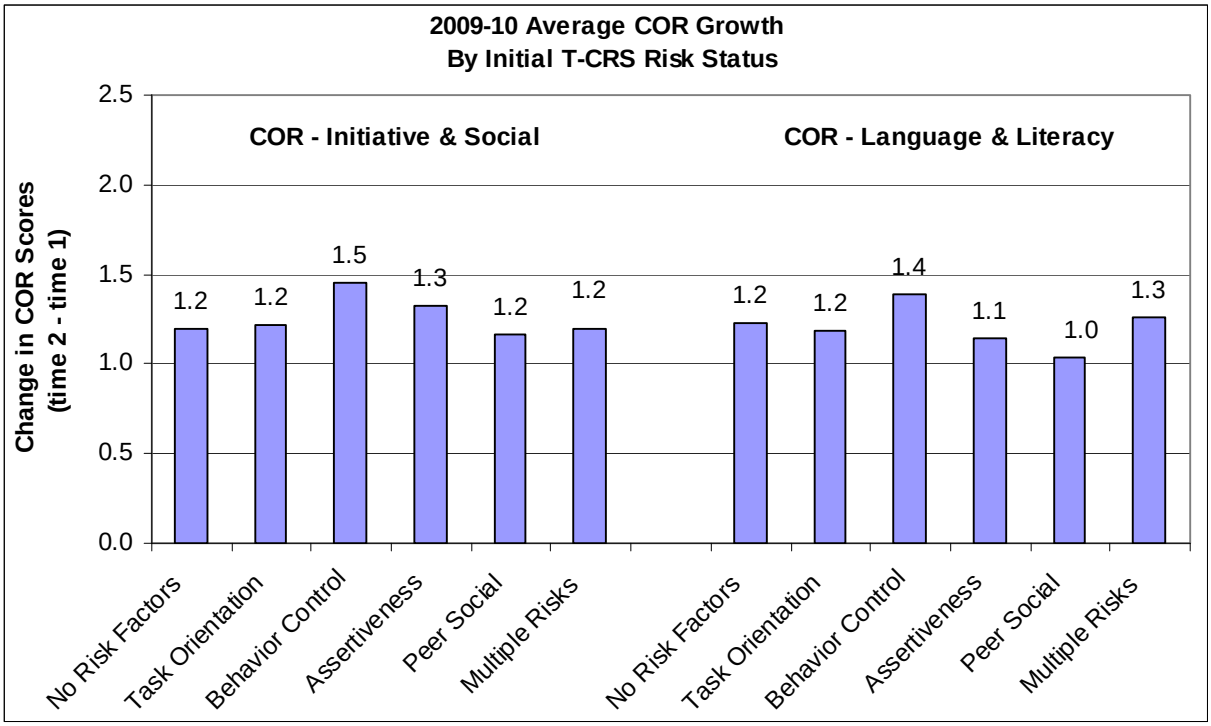
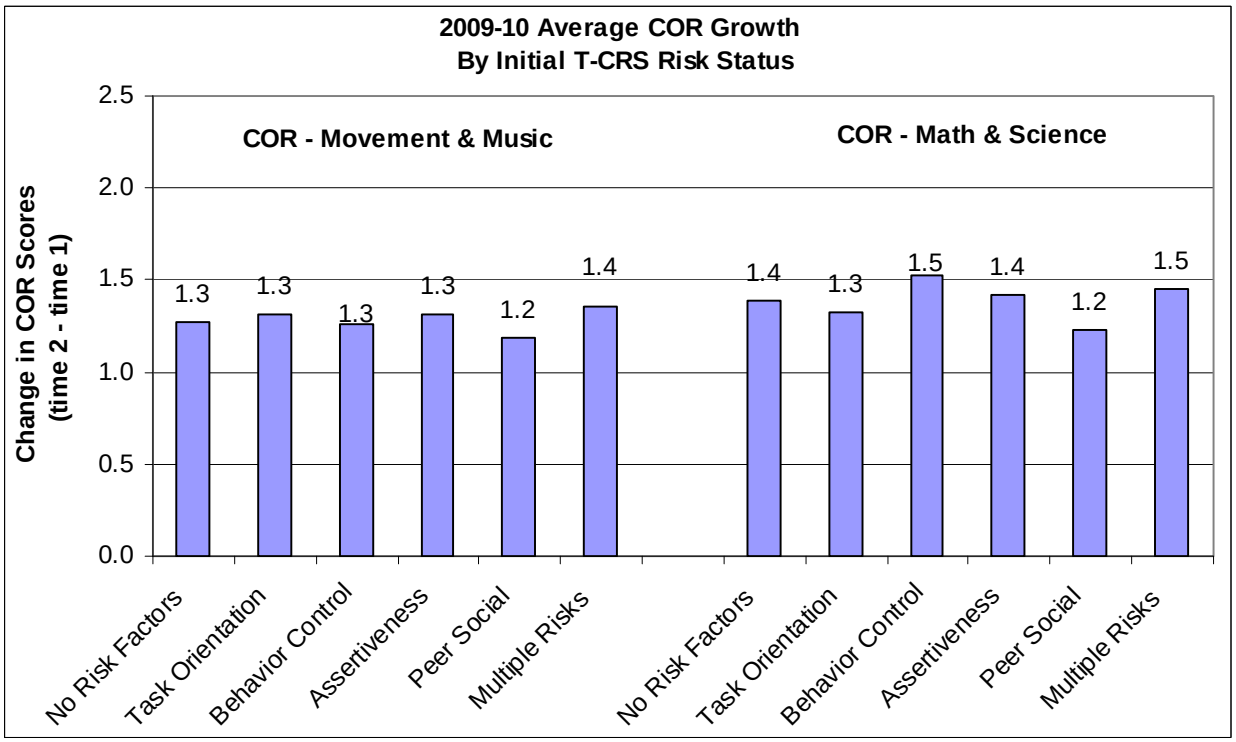


Figure 10. 2009-2010 Average COR Growth by Initial Risk Status



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Rochester UPK Students

Tables 10 and 11 below show risk factors specifically for the Universal Prekindergarten (UPK) program for both the COR and T-CRS between fall and spring data collection points. By the end of the school year, almost 96% of UPK students had no risk factors on the COR and 84% of UPK students had no risk factors on the T-CRS. All UPK students with specific risk factors, as well as UPK students with multiple risk factors, showed a marked improvement with a decrease in the number of risk factors overall, particularly on the COR.

Table 10. 2009-2010 Rochester UPK Students COR

2009-10 RECAP Annual Report Rochester UPK Students COR Risk Factors				
	Time 1 (N=1675)		Time 2 (N=1540)	
	N	%	N	%
No Risks	1204	71.9%	1472	95.6%
Risks				
Initiative & Social	314	18.8%	29	1.9%
Language & Literacy	263	15.7%	38	2.5%
Movement & Music	265	15.8%	23	1.5%
Math & Science	160	9.6%	36	2.3%
Total Score	327	19.5%	34	2.2%
Single Risk	188	11.2%	34	2.2%
Initiative & Social	78	4.7%	5	0.3%
Language & Literacy	46	2.8%	14	0.9%
Movement & Music	48	2.9%	6	0.4%
Math & Science	16	9.6%	9	0.6%
Multiple Risks	283	16.9%	34	2.2%
Two Risks	112	6.7%	16	1.0%
Three Risks	94	5.6%	12	0.8%
Four Risks	77	4.6%	6	0.4%

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Table 11. 2009-2010 Rochester UPK Students T-CRS

2009-10 RECAP Annual Report Rochester UPK Students T-CRS Risk Factors				
	Time 1 (N=1670)		Time 2 (N=1493)	
	N	%	N	%
No Risks	1301	77.9%	1255	84.1%
Risks				
Task Orientation	192	11.5%	125	8.4%
Behavior Control	172	10.3%	99	6.6%
Assertiveness	104	6.2%	51	3.4%
Peer Social	168	10.1%	114	7.6%
Single Risk	192	11.5%	136	9.1%
Task Orientation	58	3.5%	49	3.3%
Behavior Control	57	3.4%	32	2.1%
Assertiveness	46	2.8%	24	1.6%
Peer Social	31	1.9%	31	2.1%
Multiple Risks	177	10.6%	102	6.8%
Two Risks	99	5.9%	58	3.9%
Three Risks	66	4.0%	39	2.6%
Four Risks	12	0.7%	5	0.3%

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Parent Perspectives

Family Involvement Questionnaire

The Family Involvement Questionnaire (FIQ) was administered for the fourth year to RECAP families. This year, the FIQ was administered in both the fall and spring of the school year to measure parent involvement, and whether it changed throughout the course of the preschool year.

This 42-item questionnaire measures parents' involvement and support in their children's education. The measure is psychometrically sound,[7] and has three empirically derived factors: parent-teacher communication, school involvement, and home involvement. These results have been independently validated by research staff at Children's Institute. With this school year's pre- and post- sample collections, we assessed if differences emerged throughout the course of the family's involvement in their child's preschool year. In this report, the pre- and post-comparison on these three established scales are presented, as well as the Cronbach's alpha reliabilities of the fall data collection.

Results assessed at the program level, and FIQ subscale correlations with the ECERS-R, COR, and T-CRS, are reported in the Statistical Supplement.

The FIQ has three main areas that assess parent involvement in their child's education:

Parent involvement in the school: This looks at activities and behaviors that parents engage in at schools/centers with their children. Two item examples are "I go on class trips with my child" and "I talk with other parents about school meetings and events."

Parent involvement at home: This examines behaviors found in the home that promote a learning environment for children, such as providing a place in the home for learning materials and creating learning experiences in the community. Items from this grouping include "I spend time with my child working on reading/writing skills" and "I take my child places in the community to learn special things (e.g. zoo, museum, etc.)."

Parent-teacher communication: This describes communication between parents and the school's personnel about the child's educational experience and progress, including talking with the teacher about multiple facets of the child's classroom experience. Some of those questions are "I talk to my child's teacher about his/her difficulties at school" and "I talk to my child's teacher about my child's accomplishments."

[7] Fantuzzo, J., McWayne, C., Perry, M.A., Childs, S. (2004). Multiple Dimensions of Family Involvement and Their Relations to Behavioral and Learning Competencies for Urban, Low-Income Children. School Psychology Review, 33, 467-480.

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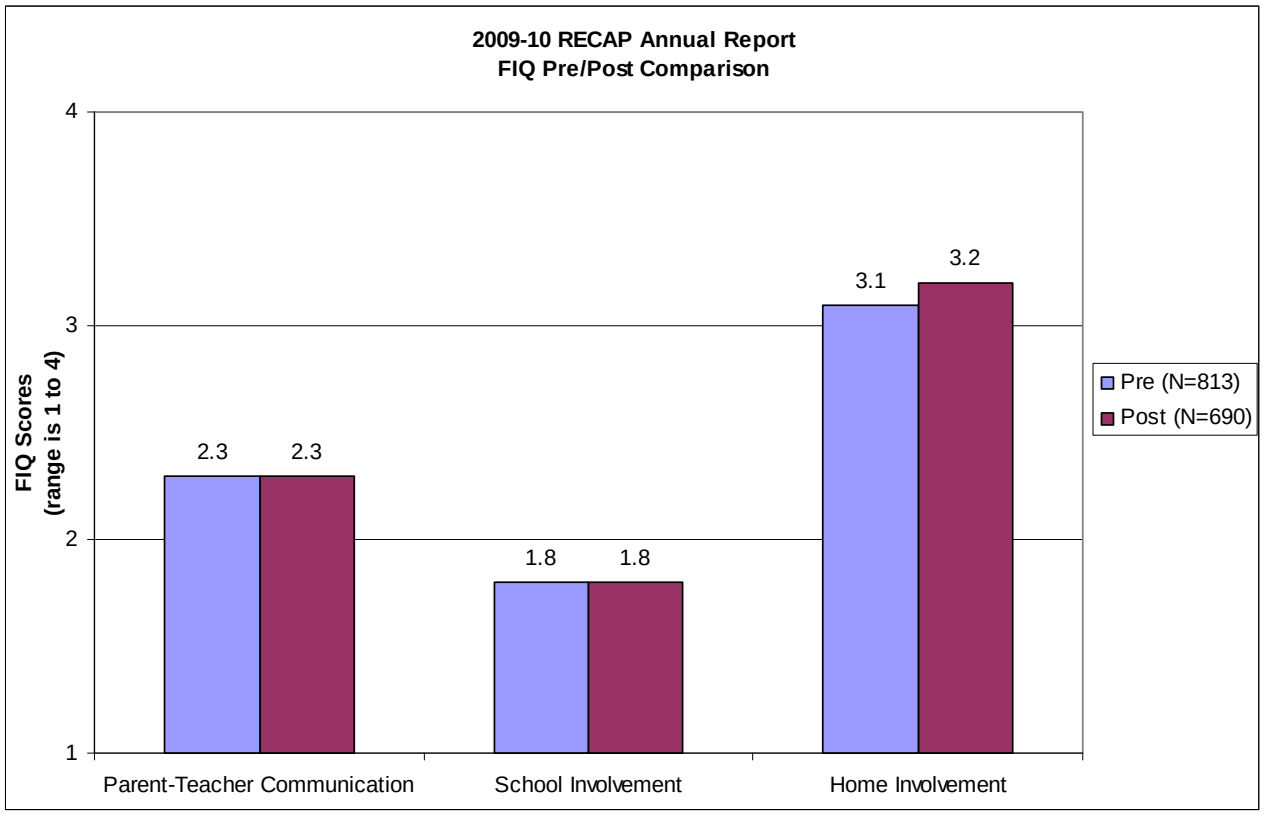
FIQ Pre/Post and Reliability

Figure 11 shows that parents reported greatest involvement in the home environment, followed by moderate involvement with communications with teachers, and the least involvement in the classroom. This parallels the results from prior years, where similar levels of involvement occurred, regardless of time of year that the assessment was conducted, at the system-wide level of RECAP. Further analyses at the program level will inform the parental change at the respective different partnering RECAP programs.

Figure 11. 2009-2010 FIQ Pre/Post Comparison



* Note: Results include all valid responses for both data collection points. The same results were found when comparing matched pre/post responses.

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Cronbach's alpha is a test of a measure's internal consistency. It is sometimes called a "scale reliability coefficient." For any assessment process it is important to know whether the same set of questions measures a similar construct. Measures are declared to be reliable only when they provide reliable responses. Cronbach's alpha assesses the internal reliability of a measure's answers. By measuring and reporting Cronbach's alpha values, we have what is considered a numerical coefficient of reliability.

As seen in Table 12 below, all three areas maintain a high level of reliability. Alphas for both parent-teacher communication and school involvement are .86, and the home involvement alpha is .78.

Table 12. 2009-2010 FIQ Internal Reliability

2009-10 RECAP Annual Report FIQ Internal Reliability for Time 1		
	N	**Cronbach's Alpha**
Parent-Teacher Communication	712	0.86
School Involvement	729	0.86
Home Involvement	739	0.78

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FIQ Factor Analysis

Factor analysis is a statistical technique that allows us to look at patterns of relationships among the items in a measure or survey. Groups of items can cluster together to form a "factor," and this helps us identify underlying constructs in the data. Factor analysis can also be used to identify and eliminate extraneous items that provide relatively useless or redundant information. The factor structure of the FIQ has been examined over three consecutive years of RECAP, beginning with the 2006-2007 cohort.

Exploratory factor analysis of the 42-item 2006-2007 FIQ data revealed three underlying constructs: Parent Involvement in the School, Parent Involvement at Home, and Parent-School Communication. The process of selecting a reduced number of items from the larger set of 42 involved examining the magnitude of an item's correlation with its corresponding factor (factor loading >= .4), consistency of results across several different extraction methods, elimination of cross-loading items, and the numbers of retained items for each subscale.

This procedure was replicated across three cohorts of FIQ data. Multiple iterations yielding similar results over time lent additional empirical support both for the validity of the subscales, or underlying constructs, and for reducing the 42-item form down to 21 items. The first administration of the shortened 21-item version of the FIQ will take place during the 2010-2011 school year. There are a number of advantages to eliminating extraneous items, most notably reducing the amount of time parents need to spend completing the form. In addition, an increase in the number of completed FIQ forms as a result of this significant change may occur.

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Conclusion and Future Directions

Conclusion

This Thirteenth Annual Report on the RECAP system finds that, within the umbrella of RECAP, there is more than a decade's experience of classroom quality being infused annually in more than 120 preschool classrooms. With additional teachers annually earning the ECERS-R exempt status, this further highlights the efficacy of this continuous improvement system, with the feedback reports continuing to inform implementation of quality standards.

High quality practices are being implemented in 155 classrooms serving approximately 2,600 students in Rochester.

Here is a summary of the major findings of the 2009-2010 school year:

- Classroom quality continues to be a hallmark of the RECAP experience. The last ten years' experience has shown an overall average rating on the ECERS-R of "extremely good" ($\bar{x} \approx 6.0$) score for Rochester's prekindergarten classrooms, the highest in the U.S. and Western Europe.

- The RECAP system continues to serve its constituents – students, parents, teachers, administrators, and policymakers – with data to assist in performing annual assessments that in turn permit decision making with trend data. RECAP allows for an in-depth understanding of the educational infrastructure and its working elements.

- The RECAP Assessment Team continues to facilitate both administrative and assessment processes that further strengthen the supports required to sustain quality in its system of classrooms. This is evidenced by the implementation of the full COR 32, now also to be collected at two time points, pre and post, throughout the school year.

- The CLASS pilot was successfully launched in its administration, feedback reports to participating teachers, and research with multiple statistical methods. With the success of the CLASS pilot, and the preliminary findings indicating curriculum support in the area of instructional support, we also wish to reinforce that next year's CLASS pilot and resulting data which will inform further future initiatives.

- We have concluded that the CLASS holds significant promise in advancing state of the art practices in prekindergarten classrooms. Moreover, the CLASS also has potential beyond Pre-K.

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Review of Past Recommendations

Prior reports have offered recommendations to continue research initiatives for further understanding of preschool quality and interactions, and subsequent performance of the students' achievement. In the twelfth Annual Report, we recommended continuing the longitudinal-tracking analyses of the 2007-2008 preschool cohort, where a performance gap had been identified between general education students and students with an IEP. It was originally proposed that this follow up occur on RCSD first-grade standardized tests. Given the constraints of these standardized tests, we recommend that these follow-up analyses occur by studying this cohort's third grade results on standardized tests.

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Future Directions

RECAP continues to take on new research initiatives in several ways, such as assessing fidelity of new curricula, administering revised child-assessment measures, and feeding back information to both administrators and teachers. Teachers continue to use feedback reports on both the student and classroom level, and this year's CLASS pilot again demonstrates the commitment at all levels to understand and strengthen quality practices. The Rochester City School District is implementing a new preschool curriculum in the 2010-2011 school year, and this will inform future practice with RECAP assessment capabilities in place to measure changes in its classrooms and the students.

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Hightower, A.D., Brugger, L., Lehmann, C., Van Wagner, G., MacGowan, A., Saweikis, M. (October 2009). *Rochester Early Childhood Assessment Partnership 2008-09 Twelfth Annual Report*.

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- Corning-Painted Post School District Early Childhood Community Advisory Group and Head Start Leadership, Corning, NY
- The Early Years Institute and Rauch Foundation, Long Island, NY
- Buffalo Public Schools Department of Early Education, Buffalo, NY
- Syracuse City School District, Syracuse, NY
- Peaceful Schools, Syracuse NY
- Gates-Chili Central School District, Gates, NY
- Utica City School District, Universal Prekindergarten and Community Based Organizations Leadership Group, Utica, NY
- Upstate Cerebral Palsy, Utica, NY
- Clyde-Savannah Central School District, Clyde, NY
- Heritage Christian Services, East Rochester, NY
- Nazareth Schools, Rochester, NY
- Brockport Central School District, Brockport, NY
- Monroe County School Districts NYS Universal Prekindergarten Group, Rochester, NY

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