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STRENGTHENING SOCIAL AND EMOTIONAL HEALTH

Rochester Early Childhood Assessment Partnership 2013-2014 Seventeenth Annual Report

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RECAP 2013-2014 Seventeenth Annual Report | December 2014 | Number T14-006

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

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 the following independent 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 the 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. These individuals unselfishly contribute information and share their insight with the Assessment Team, which is vital to our continuous improvement system. We would especially like to recognize and thank the teachers who have continued to help us improve the process of collecting and sharing information about the children in RECAP. Their comments and feedback, especially regarding new software and data collection and management technology, have been invaluable.

We thank the thousands of parents who gave time from their busy schedules to share their thoughts and perceptions about their children and 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.

Executive Summary

The 2013-2014 school year proved to be an exciting year for Universal Pre-K (UPK) and was possibly the most eventful year for Rochester's pre-kindergarten programs since its inception in 1998. Rochester enjoys a long and distinguished history of high quality pre-k programs, and yet this past year still stands as significant. This momentous school year included: (1) the expansion of many classrooms to all-day pre-k, (2) the new, if limited, availability of transportation for pre-k students, (3) the full operationalization of the Classroom Assessment Scoring System (CLASS), and (4) the continued full implementation of the HighScope curriculum (which began in 2010).

The *RECAP 2013-2014 Seventeenth Annual Report* gives us a clear picture of the conditions, achievement levels, and performances of our Rochester City School District's Universal Pre-K students, classrooms, and parents. RECAP serves more than just UPK with 2,224 total students taking part last year (nearly 71% of the city's four year-olds). Many of the significant trends we witnessed in recent school years continued in 2013-2014, including student learning and academic growth (which continued to accelerate), concerns about the social-emotional areas of children's development, and program quality improvement as revealed on the classroom assessments used by RECAP.

Our classrooms' scores on the Early Childhood Environmental Rating Scale – Revised (ECERS-R) remain at the top of known scores throughout the rest of the United States and Western Europe. The progress made in teacher-student interactions and the instructional program as revealed by the Classroom Assessment Scoring System (CLASS) demonstrated significant growth overall. Rochester's UPK teachers are clearly above the national trends, if not as exceptionally high as we have seen on the ECERS-R over the past 14 years.

Last year we observed incredible academic growth of pre-k students at some of the highest rates we have witnessed since UPK's inception. During the school year, students grew tremendously with especially high rates of growth in ***Math & Science*** and ***Language & Literacy***, although they arrived at lower developmental levels than we have seen before. We saw lower, though still extraordinary rates of growth in ***Initiative & Social*** and ***Movement & Music***. However, this encouraging news must be tempered by concerns revealed by the general trend of *continuing deterioration* our incoming four year-olds. Pre-k students arrived with greater needs than ever before, and their entry developmental levels, as revealed by the Child Observation Record (COR), show a substantial drop over recent years. Teacher-Child Rating Scale (T-CRS) data show that the social-emotional growth of our pre-k pupils is now a fraction of what it was a few years ago even though the students are not arriving in any worse condition. Never before have we seen such little social-emotional growth. This deterioration is concurrent with Rochester now ranking second in per capita child poverty with an average of 84% of children eligible for a Free or Reduced-Price Lunch (from eleventh in 2000, based on 2010 U.S. Census data).

With the growth of pre-k students and high program quality, in contrast to general trends within the City of Rochester, it is arguable the work conducted by RECAP is as vital as ever.

RECAP's Major Findings for 2013-2014

Students:

- *We are seeing among the highest rates of academic growth that we have seen since 1998, as much as two years' gains – but arriving farther behind and leaving still behind.* Students grew on average 1.8 years' worth of growth on the Child Observation Record overall, with over two years of growth within ***Math & Science***. We are somewhat concerned over less growth in ***Initiative & Social.***

- Students entered pre-k at very low functioning levels and made significant growth, but did not improve enough to be "ready" for the new kindergarten curriculum. Overall, our pre-k pupils *exited below the accepted benchmark* for "ready for kindergarten," although approximately 42% of these students did attain these levels. This does *not* account for any summer losses.

- Over 88% of students grew at or above their expected developmental level. Approximately 3.1% experienced "absolute loss," the second consecutive year below the overall 17 year trend of 5% - 6%. Previous analyses have tied "absolute loss" with family tragedy or personal crisis.

- While in 2012-13 a RECAP analysis revealed all-day pre-k provided students with an 8.5% advantage over half-day students, we did not see gains as a result of the February, 2014 all-day pre-k implementation. We attribute this to the large transition experienced by students and teachers.

- Student growth within the social-emotional realm, as revealed by the T-CRS and the ***Initiative & Social*** subscale of the COR, remains a concern. Last year we saw 11% - one student in nine – arrive with multiple social-emotional problems. In previous years we saw as many as 48% leave the risk pool entirely by the following spring. Last year only 0.8% grew out of this multiple risk pool – the lowest since the inception of UPK.

- We observed students in the half-day setting making greater gains than full-day students. Students in full-day settings also lost ground in ***Behavior Control***. This may be the result of this transitional year but it bears watching.

- RECAP conducted a brief analysis of the 2013-14 third graders and compared their NY State Test scores with non-RECAP students. We found *small but statistically significant differences,* with RECAP students scoring higher in both English Language Arts (ELA) and Mathematics. The amount of time spent in RECAP pre-k programs was not taken into account in this analysis, making these very conservative figures. Still, these results are tantalizing and are another demonstration of the value of high-quality pre-k.

- The *RECAP Special Report: 2014 UPK Summer Program Outcome Summary* was released in September of 2014. The report details the results of an evaluation of a 30-day summer program that was offered to pre-kindergarten students in the summer of 2014 (Lotyczewski, Story & Hightower, 2014). Forty-eight pre-kindergarten children

participated. The COR was used in August, near the conclusion of these summer programs, and analyses were run for all students who enrolled, as well as for those students who attended 80% or more of the time these programs were offered. The results of this summer program were statistically significant and encouraging, with students showing clear gains during their time in these programs and, furthermore, the students' rate of growth remained consistent with the rate of growth they exhibited during their pre-k year.

Classrooms

- Classroom quality has reached an all-time high level of quality based on the ECERS-R and the CLASS. Where national and international scoring of ECERS-R has remained in the 4.0 – 4.3 range (on a 1 – 7 scale), Rochester's classrooms now score an average of 6.2, with the majority above this score. Rochester classrooms have met or surpassed a 6.1 overall score for five consecutive years. Rochester's ECERS-R scores remain 1.7 standard deviations above the national averages.

- RECAP teachers showed dramatic growth on all three subscales of the CLASS. In the past four years scores have increased one full point. Last year alone the CLASS scores grew overall one-half point, nearly unprecedented in the evaluations we have reviewed. Our overall CLASS scores have reached a 5.6. Rochester teachers appear to be the highest performers on the CLASS in comparison to the currently published reports around the U.S, where the national averages hover in the 4.5 range.

- RECAP continues to invest a substantial amount of time and resources into professional development. In 2013-2014, the professional development activities included a variety of trainings and workshops that were offered to UPK teachers and administrators. The training topics included, but were not limited to: an orientation to the RECAP system of assessment; use of the COMET attendance system; how to use and score the COR; how to interpret assessment results; an introduction to the ECERS-R; an introduction to the CLASS and refresher training in both the ECERS-R and the CLASS. These activities are fundamental to ensuring high quality classrooms.

Parents and Families

- In 2013-2014, parent participation remained stubbornly low. The latest instrument used in parent participation, the Family Involvement Questionnaire (FIQ), continues to confirm the low levels of parent participation. While a variety of approaches to engage families have been deployed over the years, none seem to have produced the level of parental participation necessary for sustained involvement over the course of their children's schooling. Evidently, new approaches to family engagement must be developed and tested.

- This was the eighth consecutive year that RECAP administered the FIQ. Parent involvement has remained consistent across all of the FIQ dimensions since the first year it was used in Rochester. Parents continued to be most involved in their child's education at home and least involved in the school environment.

- The Parent-Child Rating Scale (P-CRS) again showed that parents do not perceive changes in their child's social emotional functioning within a single year. Given the unchanging nature of the parent responses on the P-CRS, over the course of nearly a decade, the RECAP team concluded that suspending the use of this instrument at this time is the prudent course of action.

- For the first time since the creation of the ***Teacher-Parent Communication Data system,*** via the COMET web-based system, we began to analyze the communication patterns between teachers and parents. Last year teachers recorded 23,663 instances of communication with 1,796 parents; a total of 1,412,737 minutes, or 23,546 hours of communication. These figures represent an increase of approximately 28% over the previous year. However, reporting is not consistent and varies widely over schools and programs. We know considerably more communication takes place but is simply not recorded.

- Rates of communication decrease over the course of the school year in 2013-2014, even with the introduction of all-day pre-k. Nevertheless, this system shows great promise in helping us understand how better to communicate with parents and families and promote greater engagement with families.

The areas of need should not distract us from the many positive results from a program that has demonstrated across-the-board excellence dating back to 1998. Most important, the *RECAP 2013-2014 Seventeenth Annual Report* provides a detailed, accurate road map in continuously improving on an already solid program. Lastly, these processes might be worth considering for kindergarten through grade 2. The results of the third grade State Tests, versus the reliable indicators of growth at pre-k, speak to this need.

Introduction to RECAP

RECAP began in 1992 as a collaboration of the United Way of New York State, the Rochester Area Community Foundation, the Rochester City School District, the Center for Governmental Research (CGR), Action for a Better Community (ABC) and Children's Institute. Since its inception, one of RECAP's overall guiding tenets has been to continuously promote, ensure, and improve the quality of pre-k classroom experiences through the use of an integrated and comprehensive information system. In addition to providing information to enhance children's, teachers', and systems' performance, RECAP works to translate collected data into usable information for parents, providers, and policy makers. This has resulted in informed and targeted interventions for children, professional development activities for providers, and changes in policy by funders and governments. Throughout its history, RECAP has collaborated with many partners, including area foundations, local governments, public and parochial schools, Head Start programs, and early education teachers at multiple schools and community-based organizations.

Each year, RECAP provides important services – primarily to providers and policy makers – which include:

- Professional development for teachers and program administrators in the use of child screening measures, assessments, and rating scales and in the interpretation of these tools' results.
- Efficient and user-friendly data collection and feedback reports, with reports looped back to teachers and directors. Primarily this is accomplished using web-based COMET® system[1] reports, which provide instant feedback, and paper reports at the child, classroom, program, and system levels.
- Training teachers and observers on fidelity implementation and quality indicators of the standards assessed with the Early Childhood Environment Rating Scale, Revised (ECERS-R) and the Classroom Assessment Scoring System (CLASS).
- Twice monthly review and planning meetings with community-based organizations, ABC Head Start, RCSD, and other early education community leaders and evaluators to analyze and synthesize available information, recommend changes, and monitor the systematic quality of early education in Rochester.
- Quarterly Community Advisory Group meetings to facilitate support and direction from and to the community.

[1] COMET is a web-based data collection and management system initially created by Children's Institute, Inc. and SophiTEC, Inc. for the early education community.

- Community presentations of RECAP results to stimulate understanding of where we are and where we could be heading in order to improve community outcomes for pre-kindergarten children.

In sum, these information-based decisions are integrated into a continuous improvement system that strives to ensure and maintain high quality pre-k classrooms and programs and improve students' overall performance and outcomes.

Consistently, RECAP has tried to employ the best available measures to assess program quality and student outcomes. Throughout RECAP's 21-year history, the ECERS (or its revised version, the ECERS-R) has been used to study classroom quality. Starting four years ago, the CLASS, a relatively "new" measure at that time, was piloted with random subsamples of RECAP classrooms. The pilot lasted from 2009 to 2012; approximately 30 classrooms per year, 95 classrooms overall, were randomly selected to receive CLASS training and observations. During the pilot phase, analyses repeatedly showed that, while both measures assess classroom quality, the quality indicators assessed by CLASS and the ECERS-R are different. Therefore, for the 2012-2013 school year, all RECAP classrooms were observed with the CLASS instrument as well as the ECERS-R. The 2013-2014 school year marks the second year that the CLASS instrument was used to assess all RECAP classrooms.

To measure levels of students' competencies and needs within academic, motoric, and social/emotional domains, the Child Observation Record (COR), the Teacher-Child Rating Scale (T-CRS) and the Brigance Early Childhood Screen III (Brigance III) were completed in the fall and again in the spring. In keeping with national trends and local needs with program quality assessments, the Brigance III was used for the first time this year in RECAP. The introduction of the Brigance to RECAP's battery of assessments allows for comparisons between the performance of Rochester's pre-k students and national samples; also, the Brigance III meets new state quality and assessment guidelines. Children's attendance and parental participation were also recorded by school staff, primarily teachers, each school day.

The level of parents' perceived involvement with multiple facets of their children's education was evaluated using the Family Involvement Questionnaire (FIQ). On the FIQ, parental involvement is assessed based on parents' reports of their time spent in their children's pre-k classroom, with their children's teacher, and participating in educational activities with their children. Additionally, parents were asked to provide their perspective on their children's cognitive, social-emotional, and motor skill development using the Parent-Child Rating Scale (P-CRS). Both of these assessment tools were completed by parents at the beginning and at the end of the school year. Teacher-parent communications were record by pre-k programs via the COMET online data management system.

The following table summarizes the screening and assessment measures collected and the total numbers assessed during the 2013-2014 school year.

Table 1. RECAP Variables, Measures, Numbers Assessed, and Method of Assessment

RECAP 2013-2014 Variables, Measures, Number Assessed and Methods			
Variables	**Measures**	**Completed Assessments in 2013-14[a]**	**Method**
Classroom Environment Quality	ECERS-R	79	Classroom Observation by Independent Observer
Quality Teacher and Student Interactions	Classroom Assessment Scoring System (CLASS)[b]	122	Classroom Observation by Independent Observer
Academic, Motor, and Social	Child Observation Record (COR)	2,224	Teacher Observation
School, Emotional, and Behavioral Adjustment	Teacher-Child Rating Scale (T-CRS)	2,226	Teacher Observation
Academic Skills, Physical Development, and Health	Brigance Early Childhood Screen III[b]	1,978	Child Performance
Parent Involvement	Family Involvement Questionnaire (FIQ)	1,049	Parent Survey
Social, Emotional, and Behavioral Adjustment	Parent-Child Rating Scale (P-CRS)	1,073	Parent Survey

[a] Numbers assessed are not the number of participants; e.g., there were 145 classrooms this year and 124 classrooms assessed with ECERS-R. Teachers with both a.m. and p.m. classrooms were assessed once. 45 teachers were "exempt," as they had performed at the 6.2 level or above for 3 consecutive years.
[b] First year tool was used for full sample in RECAP.

RECAP classrooms are comprised of both male and female students from a variety of ethnic backgrounds. Table 2 presents demographic information regarding the students in RECAP classrooms.

Table 2. RECAP Student Demographics

RECAP 2013-2014 Student Demographics		
Gender	Male	52.2%
	Female	47.8%
Race/Ethnicity	Black/African American	61.1%
	White Caucasian	10.9%
	Hispanic/Latino	25.5%
	Asian	2.4%
	Native American	<1%
	Other	<1%

As in previous years, this RECAP Report presents the major findings of classroom quality and students' outcomes for the 2013-2014 school year. For example, the ECERS-R averages for RECAP classrooms are presented here, while individual classroom results and detailed descriptions of the assessment instruments and analyses are provided in the Statistical Supplement.

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. In this report, they are located the Statistical Supplement.

Additionally, some of the results for the parent-completed measures have been moved to the Statistical Supplement due to the stable nature of the results over the past three school years. The reliability of the P-CRS and the FIQ, as well as the correlations of the parent involvement measures and the student outcomes assessments, have been transferred to the Statistical Supplement.

Program Quality – ECERS-R

For 18 years, RECAP has documented the quality of pre-kindergarten classroom environments in the Rochester area using the Early Childhood Environmental Rating Scale (ECERS). In 2005, nearly a decade ago, the developers of the ECERS released a revised edition of the instrument, the ECERS-R (Harms, Clifford, & Cryer, 2005). Upon its release, the ECERS-R was immediately incorporated into RECAP's pre-kindergarten program evaluation process and has been used ever since. The ECERS-R is nationally recognized as a leading observation-based instrument for assessing and evaluating the early childhood classroom environment.

The ECERS-R consists of 43 items that are scored by independent observers on a 7-point scale, where a 1 indicates "Inadequate" quality and a 7 represents "Excellent" quality. Scores for these items are 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 assess a classroom's overall environmental quality.

From the beginning of its use in RECAP the ECERS and, subsequently, the ECERS-R have consistently shown that almost all four-year-old classrooms in Rochester have achieved at least "good" ($\geq$ 5.0) quality, as measured by the ECERS-R, with many performing in the superior range (6.25-7.0) for 3 or more years in a row. The continual focus on, and support of, the professional development of classroom teachers by RECAP and its participating programs has resulted in an average rating ranging from "very good" to "excellent" (5.8-6.2 out of 7) on the ECERS-R for the past ten years, see Figure 1 below. For each of the past 7 years the average ECERS-R score was 6.1 or higher.

The consistently high ECERS-R scores of the classrooms participating in RECAP prompted a change to the evaluation procedures used to assess classrooms' quality. In the 2007-2008 school year, teachers were allowed to earn exemption from the annual ECERS-R assessment by achieving overall scores of at least 6.5 for five consecutive years. Teachers who earned this "exempt" status were then no longer obligated to have an ECERS-R observation for the following three consecutive years. After additional analyses and observations were conducted on teachers' ECERS-R scores, it was found that teachers who had obtained scores of 6.2 or higher over the course of three consecutive years had mastered the ECERS-R standards. Therefore, it was decided in 2012-2013 to change the "exempt" criterion to require teachers to achieve an average total ECERS-R score of at least 6.2 for three consecutive years. This is the current exemption criterion that teachers must meet to earn the "exempt" designation. Similar to earlier "exempt" status procedures, teachers retain their exemption status for three years, at which time they are observed and if their observation is 6.2 or higher they are "exempt" for an additional 3 years. If classrooms do not meet the 6.2 threshold, they must be observed annually until they meet the exemption criteria again. To date, no teacher who has received the present exempt status has ever lost this status upon re-observation.

This year, there were 45 exempt teachers/classrooms in RECAP. Because of the "exempt" teacher status, some of the tables and charts that follow will have results for the exempt

classrooms for which the ECERS-R was not collected in 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, or 2013-2014. In these instances, while the program transitions to the new exempt criteria, we will provide either the five-year average score or the three-year average score for the exempt group.

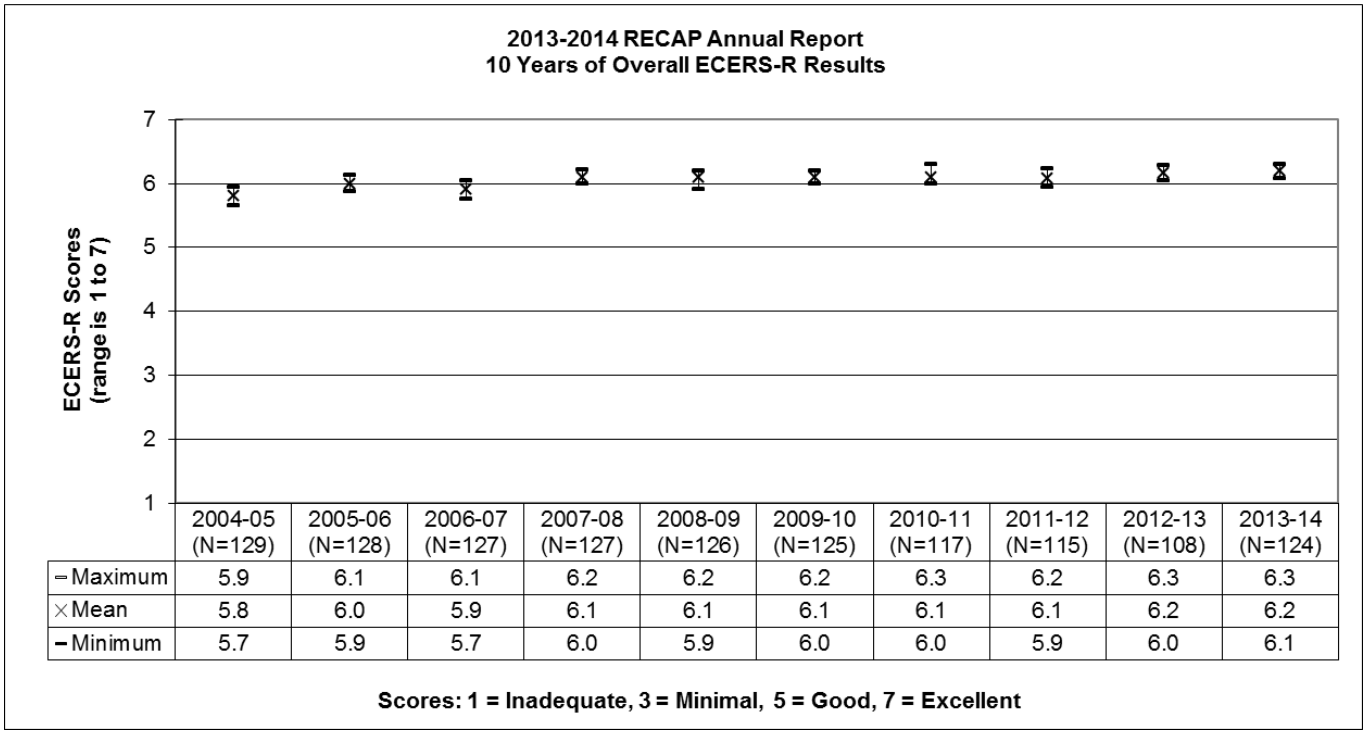
In prior years' reports, we included results on the alpha reliability of the scales and inter-rater reliability of observers of the ECERS-R. This information was collected and computed for the 2013-2014 school year, and, as in prior years, high alpha's and inter-rater reliabilities (>87%) were noted. These results are reported in further detail in the Statistical Supplement.

ECERS-R Aggregate Results for 2004-2014

For well over ten-years, the ECERS-R aggregate results for RECAP have demonstrated the high quality of pre-kindergarten classrooms in Rochester. The ECERS-R has been fully incorporated into the RECAP assessment and continuous improvement system and serves as both a local and a national barometer of the overall quality of Rochester's early childhood classrooms. As noted above, Rochester's pre-kindergarten classrooms have performed within the "very good" to "excellent" range for the past decade. This high level of quality has become an expectation within the Rochester community.

Figure 1 depicts the most recent ten years of ECERS-R performance within Rochester. The 10-year average score is 6.1 for all classrooms participating in RECAP. For 2013-2014, the mean score was, again, 6.2. This ties last year's score as the highest average score achieved by RECAP classrooms on the ECERS-R in the past 10 years. This not only exemplifies the high quality environment of RECAP classrooms when compared to early childhood national standards and indices, but also indicates that teachers and programs are striving to continue improving on or maintaining their already exceptional scores. This trend is especially noteworthy as it showed that the aggregate ECERS-R scores for RECAP were maintained regardless of the influx of new teachers and classrooms that were added as part of RECAP in February of 2014 due to the Priority Pre-Kindergarten expansion grant.

Figure 1. Ten Years of Overall ECERS-R Results



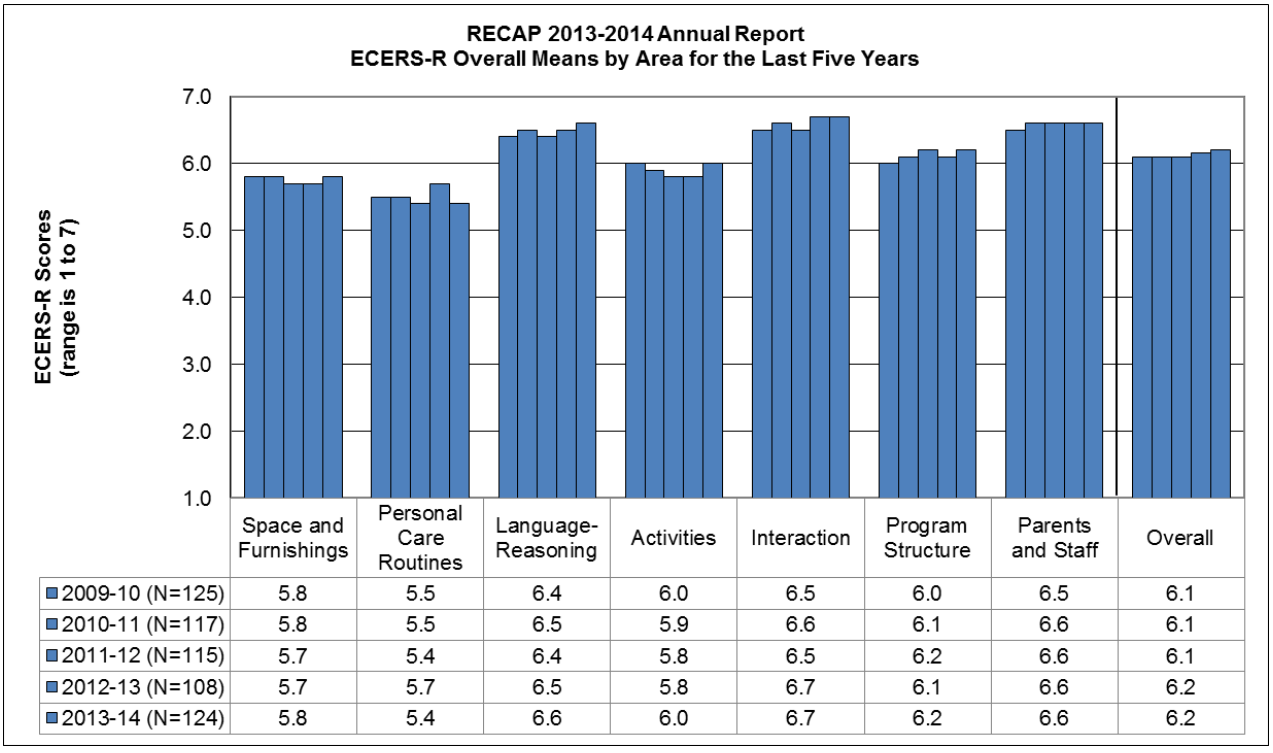
	2004-05 (N=129)	2005-06 (N=128)	2006-07 (N=127)	2007-08 (N=127)	2008-09 (N=126)	2009-10 (N=125)	2010-11 (N=117)	2011-12 (N=115)	2012-13 (N=108)	2013-14 (N=124)
Maximum	5.9	6.1	6.1	6.2	6.2	6.2	6.3	6.2	6.3	6.3
Mean	5.8	6.0	5.9	6.1	6.1	6.1	6.1	6.1	6.2	6.2
Minimum	5.7	5.9	5.7	6.0	5.9	6.0	6.0	5.9	6.0	6.1

ECERS-R Means by Area: A Five-Year Historical Perspective

Consistent quality has been the hallmark of ECERS-R scores for RECAP classrooms. Across the seven areas assessed, scores have varied 0.4 points or less over the past five years. Both exempt and non-exempt teachers' performances are included in the scores for each of the five years displayed in Figure 2.

Many of the subscales showed slight increases this year, including ***Space and Furnishings, Language-Reasoning, Activities,*** and ***Program Structure.*** The ***Interaction*** and ***Parents and Staff*** subscales remained consistent from last year while ***Personal Care Routines*** saw a decrease from 5.7 to 5.4, matching its previous lowest score from the past five years (2011-2012). It should be noted that all of subscale scores, even the lowest scores for ***Space and Furnishings*** and ***Personal Care Routines,*** are still performing at a "good" or "very good" level, indicating a high quality classroom environment. Historically, the areas of ***Language-Reasoning***, ***Interaction***, ***Program Structure***, and ***Parents and Staff*** have been areas of strength for RECAP classrooms. That trend continues with each of the four subscales maintaining mean ratings of at least 6.0 over the past five years. ***Parents and Staff, Interaction,*** and ***Language-Reasoning*** continue to achieve very good scores of 6.5 or more. ***Activities*** and ***Program Structure*** have maintained performance levels that fall within the "good" to "very good" range and are neither the strongest nor the weakest areas assessed by the ECERS-R.

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

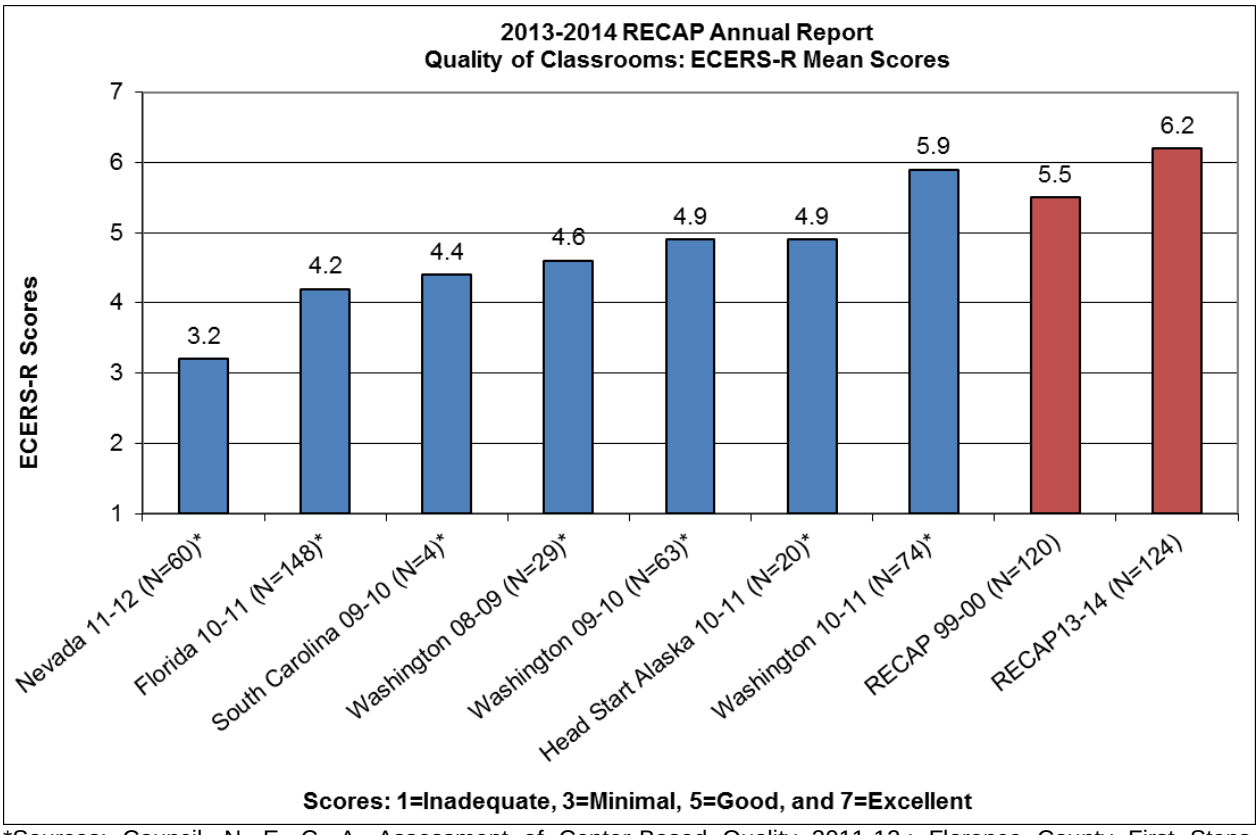


	Space and Furnishings	Personal Care Routines	Language-Reasoning	Activities	Interaction	Program Structure	Parents and Staff	Overall
2009-10 (N=125)	5.8	5.5	6.4	6.0	6.5	6.0	6.5	6.1
2010-11 (N=117)	5.8	5.5	6.5	5.9	6.6	6.1	6.6	6.1
2011-12 (N=115)	5.7	5.4	6.4	5.8	6.5	6.2	6.6	6.1
2012-13 (N=108)	5.7	5.7	6.5	5.8	6.7	6.1	6.6	6.2
2013-14 (N=124)	5.8	5.4	6.6	6.0	6.7	6.2	6.6	6.2

Comparing Rochester's Quality on the ECERS-R to Other Early Childhood Education Programs Across the United States

One of the basic tenets of RECAP is to use data to make program and policy decisions for the pre-kindergarten community in Rochester. Teachers are given the feedback that they need in order to continue achieving "very good" to "excellent" standards of quality. Included in Figure 3 below are the results of several studies across different years that provide ECERS-R scores for pre-kindergarten programs in Nevada, Florida, South Carolina, Washington, and Alaska. These scores are provided as a context to understand how RECAP classrooms compare with other programs across the nation. Additionally, Figure 3 shows the ECERS score that was obtained by all of the RECAP classrooms in 1999-2000, its first full year of implementation, as well as the results of this past year's ECERS-R results. With the exception of Seattle, Washington (2010-2011), ECERS-R ratings for the classrooms in RECAP were substantially higher than ratings for other programs around the nation. RECAP classrooms have consistently provided a high quality learning environment for pre-kindergarten children.

Figure 3. ECERS-R Comparisons to RECAP



*Sources: Council, N. E. C. A. Assessment of Center-Based Quality 2011-12.; Florence County First Steps Partnership. Fiscal Year 2010 Annual Report.; Kids Corps, Inc. Early Childhood Environment Rating Scale-Revised Edition.; Early Learning Coalition of Duval. (2011). Quality connections. [PowerPoint slides]. Retrieved from The Early Learning Coalition of Duval website: http://elcofduval.org/Uploads/reports/QC%20Report%20-%202010-11%20-%20board%20presentation%20-%20083111.pdf; Jamero, C. S. (2011), Early education and program improvement: Using data to increase results and success [PowerPoint slides]. Retrieved from City of Seattle website: http://www.seattle.gov/neighborhoods/education/documents/UsingDataCDSA.pdf

Summary and Recommendations:

Figures 1, 2, and 3 provide strong evidence that RECAP classrooms continue to operate at a very high level of quality as assessed by the ECERS-R. For the past decade, classrooms have demonstrated consistently high performance. As such, there are no specific recommendations regarding the ECERS-R at this time other than to keep the existing monitoring and improvement systems in place that foster the high performance expectations held for RECAP classrooms, which includes the incentive for remaining exempt.

Program Quality – CLASS

Classroom Assessment Scoring System (CLASS)

The **Cl**assroom **A**ssessment **S**coring **S**ystem – Pre-k (CLASS) (Pianta, et al., 2008) is an observation-based tool that is used to illuminate the complex ways in which the relationships between pre-kindergarten children, their peers, their teachers, and the classroom environment can affect students' instruction and learning. The quality-of-feedback loop is also assessed by the CLASS and is, along with the relationships formed in the classroom, a critical part of the process for supporting and encouraging continuous academic growth in young children. As Howes, Burchinal, Pianta, Bryant, Early, Clifford & Barbarin (2008) state:

> 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.

To be more specific, highly trained and reliable independent observers use the CLASS to assess program quality by rating classrooms on 10 dimensions from which three domains are empirically derived: ***Emotional Support***, ***Classroom Organization***, and ***Instructional Support*** (Pianta et al., 2008). Like other observational tools used in early childhood, CLASS items are rated on a 1-to-7 scale, with 1 indicating the item being rated is minimally characteristic or low quality, and 7 as highly characteristic or excellent quality. It should be noted that for this report the ***Negative Climate*** dimension was reverse scored so that a higher value is indicative of a higher quality program, thus aligning it with the other 10 dimensions.

Beginning in the 2009-2010 school year, RECAP conducted a 3-year pilot study (N=95) of the CLASS across pre-kindergarten programs in Rochester (Story, et al., 2013). This study showed that RECAP classroom performance in all three domains was notably and statistically higher than those of the My Teaching Partner (MTP) study, which was comprised of 164 Virginia preschool classrooms, reported in the Technical Appendix of the CLASS Manual (Pianta, et al., 2008).

In essence, the CLASS provides the standards needed to enhance the overall understanding of what high quality pre-kindergarten classrooms should look like while also providing teachers, school district administrators, and others in early childhood education with additional information regarding the interactive climate of pre-kindergarten classrooms. The use of the CLASS enhances RECAP's understanding of the classroom quality domains that are not rigorously assessed as part of the ECERS-R (Story, Hightower, Van Wagner, Brugger, Lotyczewski, Montes, MacGowan, Smith, Dangler, Hooper, & Lubecki (2013). As a result of the pilot study, the CLASS has become fully integrated within RECAP and has been used to assess classroom quality across all RECAP programs for the past two consecutive years. By using both the CLASS and the ECERS-R a more comprehensive picture of the classroom quality has

emerged, making it easier for RECAP to identify and address areas of classroom quality that need improvement.

Since 2011-2012, the National Head Start Association has included the CLASS as part of its own quality assessment system. That decision lead to CLASS use in Rochester ABC Head Start classrooms as well. Nineteen of the Rochester ABC Head Start teachers were part of RECAP and were observed by ABC Head Start's own independently trained and certified "Master Observers". Domain and dimension scores from these observations were provided to RECAP for the purposes of analysis and comparison to the other teachers participating in RECAP (n=107). All other RECAP teachers were observed and assessed by trained and certified CLASS observers hired by Children's Institute. Of the non-ABC Head Start teachers, 21 (~10%) were selected to receive two observations from two independent Master Observers. RECAP used these paired observations to calculate the inter-rater reliability of CLASS as 96.0% (Agreement/(Agreement+Disagreement) x 100). Further information on the inter-rater reliability assessments is provided in the Statistical Supplement.

CLASS Master Observer Training

In November 2013, three additional observers successfully completed the time-intensive CLASS Master Observer Training. These Master Observers participated in a rigorous three-day training program to attain or exceed the level of inter-rater reliability specified by the authors, r=0.80. Training materials provided observers with a clear and comprehensive understanding of the instrument's purpose and observation 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 trainees' ratings. At the end of training, trainees took and passed an online test in which they watched and coded classroom segments. Master Observers were also trained in classroom observation guidelines and protocols.

CLASS Results

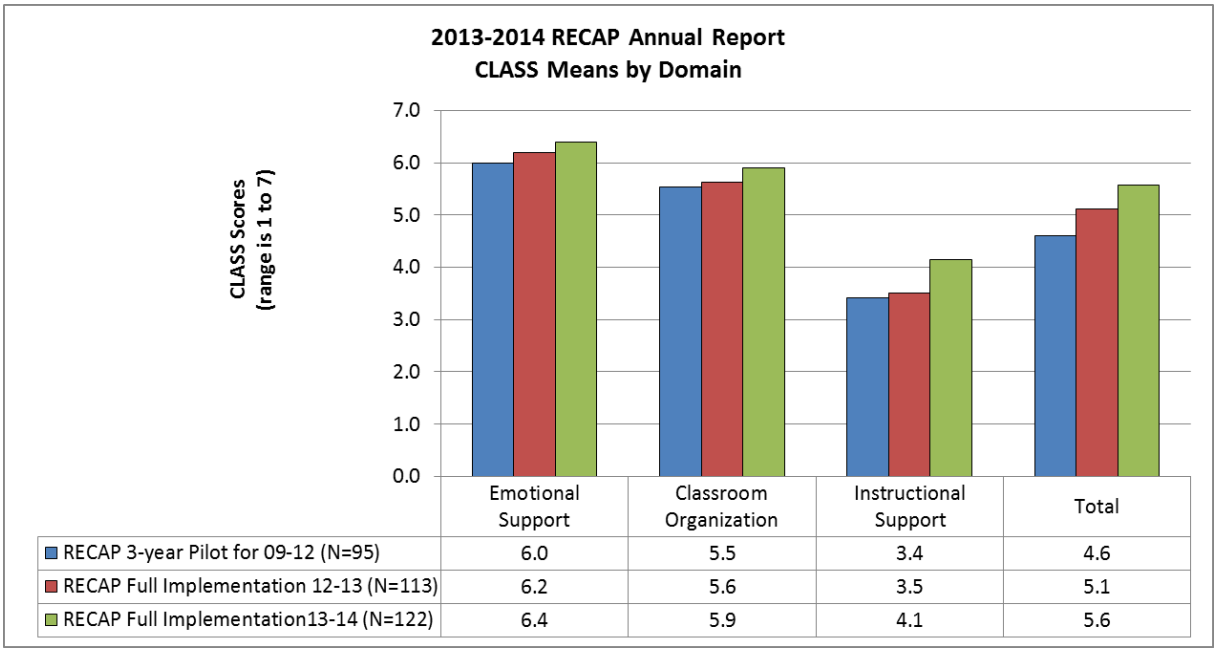
As stated previously, this is the second year the CLASS was used in all classrooms. With each passing year, the average (mean) scores in the three domains have consistently improved. As can be seen in Table 3 and Figure 4, the strongest domain continues to be ***Emotional Support***. From the baseline study until the year ending in 2014 there was an increase from 6.0 to 6.4.

For the second year, dimension scores within the ***Emotional Support*** domain remained at or above a 6.0. Again, the ***Negative Climate*** dimension remained the highest scoring dimension by maintaining its score of a near perfect 6.9. RECAP classrooms have almost no aspects of negativity during the times observations were conducted.

During the pilot study, mean scores for ***Classroom Organization*** were in the mid-5 range but over the past two years have risen by ~0.4 to 5.9. Both the ***Behavior Management*** and the ***Productivity*** subscales achieved mean scores above 6.0. Scores for the third dimension, ***Instructional Learning Formats,*** remain the lowest for this domain. They have shown improvement, increasing from 5.0 to 5.4. CLASS scores above 5.0 are considered to be indices of acceptable performance.

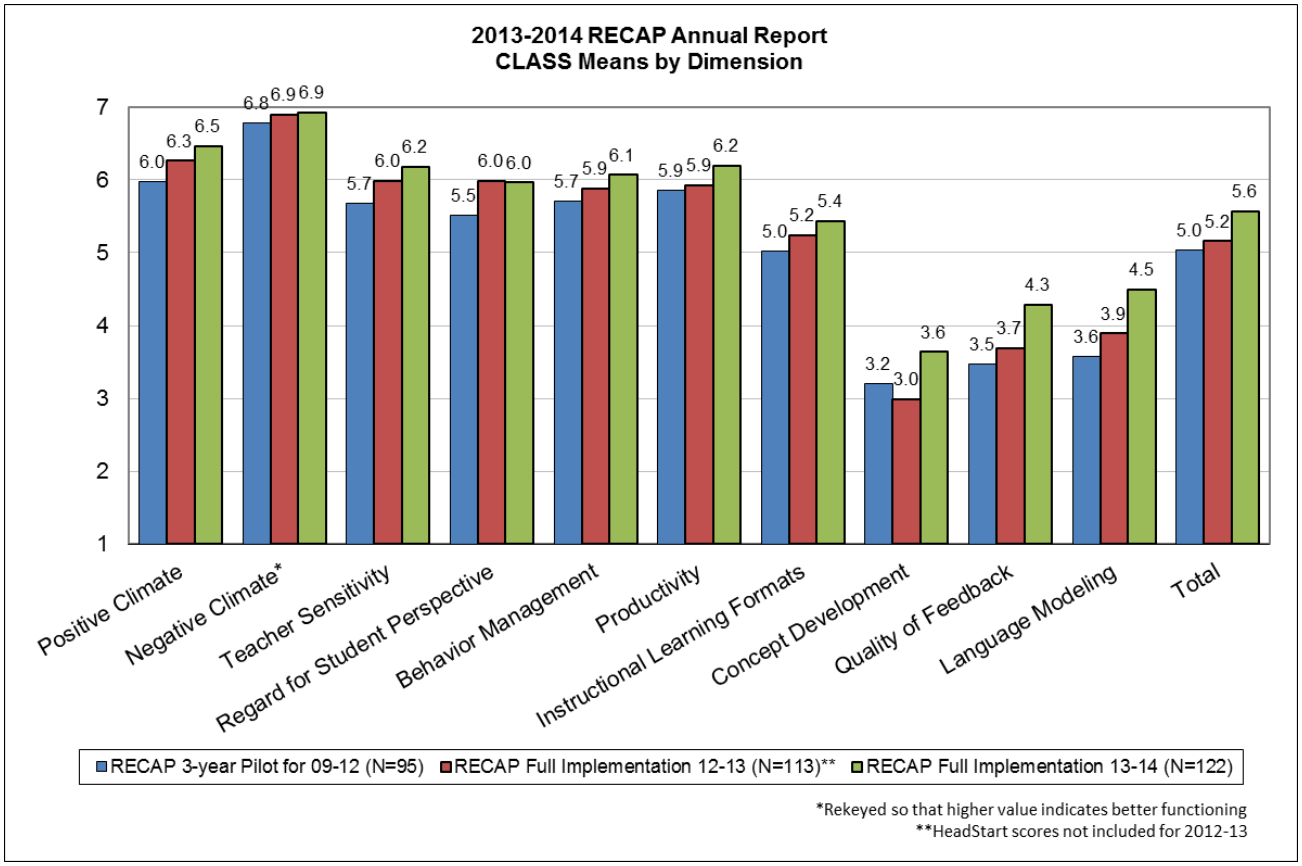
Instructional Support continues to be weakest domain for RECAP classrooms. From the pilot study, this domain has been a focal point for professional development and training. Even though this domain was the weakest, it is evident that great strides in improving the dimensions in this area occurred. From last year to this year, scores on all dimensions (***Concept Development, Quality of Feedback,*** and ***Language Modeling***) made significant gains of 0.6 pts each (see Figure 5).

Figure 4. CLASS Means by Domain for RECAP



	Emotional Support	Classroom Organization	Instructional Support	Total
RECAP 3-year Pilot for 09-12 (N=95)	6.0	5.5	3.4	4.6
RECAP Full Implementation 12-13 (N=113)	6.2	5.6	3.5	5.1
RECAP Full Implementation13-14 (N=122)	6.4	5.9	4.1	5.6

Figure 5. CLASS Means by Dimension for RECAP



A total score for the CLASS was calculated by averaging the 10 dimension scores. For the 3-year pilot phase, the average (mean) total score was 4.6. By 2013-2014, RECAP classrooms had improved their total scores a full point to 5.6. While there are still opportunities for growth and improvement, an increase of 1.0 points in such a short period of time is significant and noteworthy. It shows an upward trend of scores, indicating a steady improvement in classroom climate and environmental quality. Table 3 shows CLASS domain scores from RECAP classrooms for the 3-year pilot study, an average of those 3 years, and the average scores for the last 2 years of full implementation.

Table 3. CLASS Means by Domain for RECAP

2013-2014 RECAP Annual Report CLASS Means by Domain						
Domains	RECAP Pilot* 09-10 (N=30)	RECAP Pilot* 10-11 (N=30)	RECAP Pilot* 11-12 (N=35)	RECAP 3-year Pilot 09-12 (N=95)	RECAP Full Implementation 12-13 (N=113)	RECAP Full Implementation 13-14 (N=122)
Emotional Support	5.9	5.9	6.2	6.0	6.2	6.4
Classroom Organization	5.6	5.4	5.7	5.5	5.6	5.9
Instructional Support	3.5	3.5	3.3	3.4	3.5	4.1
Total	4.4	4.4	5.0	4.6	5.1	5.6

* The scores for these 3 years were averaged to get a single score for the entire "RECAP 3-year Pilot 09-12" sample.

Student t-tests were used to test for changes in CLASS domains and overall classroom environment for RECAP classrooms from 2012-2013 to 2013-2014. These results are presented in Table 4. Each domain and the total showed statistically significant increases with moderate to large effect sizes from last year to this year. Year after year, RECAP programs have improved the quality of their classroom environments, as measured by the CLASS, substantially, which reflects well the continuous improvement culture within the pre-kindergarten programs in the Rochester area.

Table 4. CLASS Results by Domain for the Past Two Years

2013-2014 RECAP Annual Report CLASS Results by Domain for Past 2 Years						
N=96[1]	**2012-2013**		**2013-2014**		***t value****	***Effect Size (d)***
Domains	**Mean**	**SD**	**Mean**	**SD**		
Emotional Support	6.2	0.56	6.4	0.59	3.49	0.36
Classroom Organization	5.6	0.76	5.9	0.82	3.37	0.39
Instructional Support	3.6	1.31	4.2	1.15	4.36	0.51
Total	5.1	0.75	5.6	0.72	6.29	0.64

*All results significant at the $p<.01$ level.
[1] Only classrooms with CLASS scores for both 2012-13 and 2013-14 were included in these analyses.

Summary and Recommendations:

RECAP classrooms have continued to demonstrate "very good" to "excellent" quality on ***Emotional Support****, and "very good" quality on the* ***Classroom Organization*** *domain, as*

*measured by the CLASS. The results for the **Instructional Support** domain again provided evidence that this is an area to focus efforts for improvement.*

*It is encouraging and important to note that all three domains have improved steadily since the integration of the CLASS within RECAP, with large growth being demonstrated particularly on the **Instructional Support** domain. These results support the focused professional development and program efforts to improve the quality indicators measured by the CLASS. With that in mind, we recommend that the Professional Development Committee, program directors and teachers continue to focus on improving pre-k classrooms quality, especially in the area of **Instructional Support**. Based upon last year's improvement a target of >6.2 for **Classroom Organization** and >5.0 for **Instructional Support** are within the reach of RECAP classrooms with the ultimate recommended target being >6.25 for all classrooms for all domains.*

Comparing RECAP's CLASS Results to Other Early Childhood Education Programs

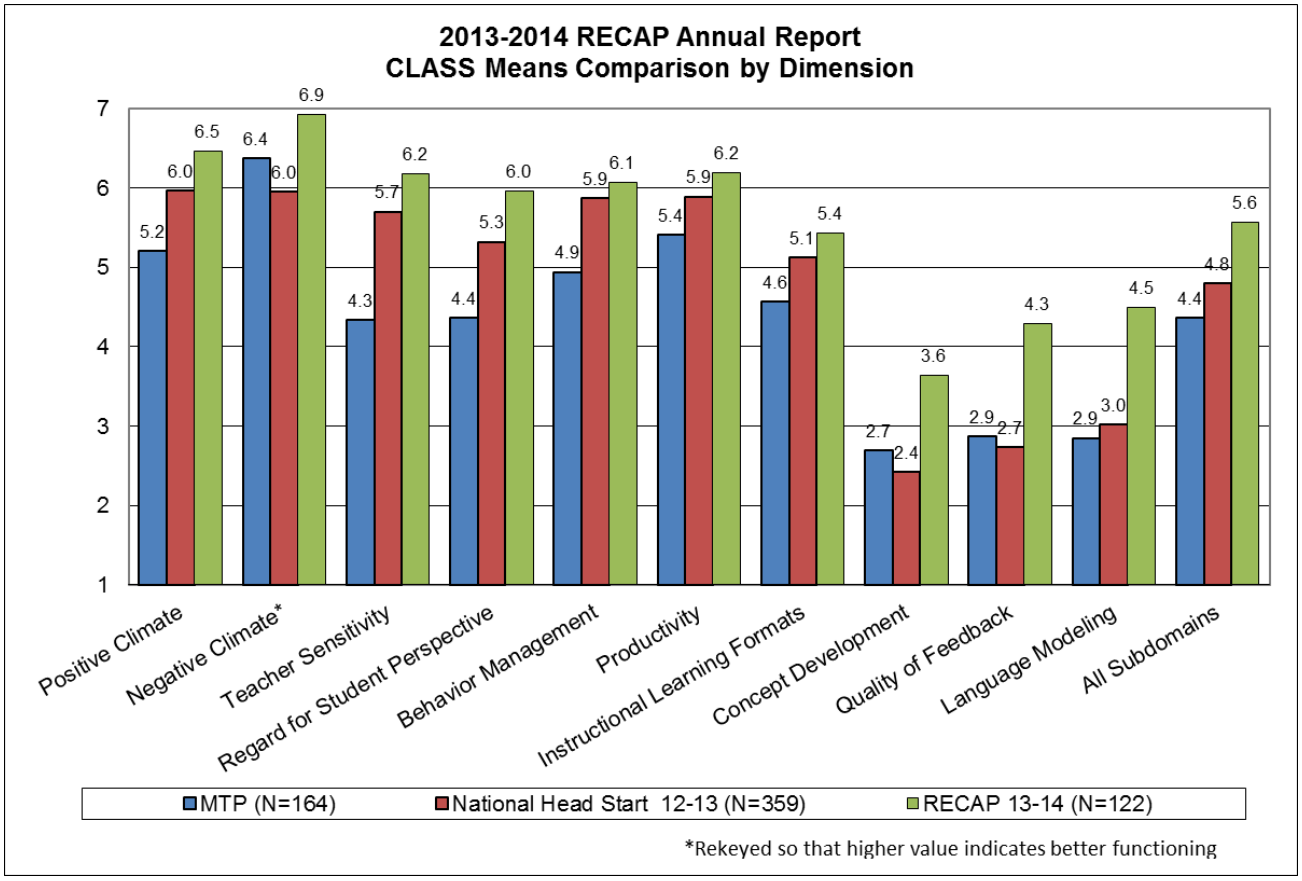
The CLASS has gained popularity across the nation in recent years based on the number of studies and evaluations that use the CLASS to assess classroom quality. These studies provide RECAP partners with a valuable context in which to compare Rochester's results with other pre-k programs throughout the United States.

The My Teaching Partner (MTP) study (Pianta, et al. 2007) was the first to provide CLASS domain and dimension scores. These scores were also reported in the CLASS technical manual (Pianta, et al. 2008) and have been used as a comparison point for the RECAP reported results. As noted, the CLASS has also been used nationally by the Head Start Association since 2011-2012. Mean dimension and total scores for the MTP and for the most recent year reported for Head Start, as well as mean scores for the most recent year of RECAP, are displayed in Table 5 and in Figure 6 (U.S. Department of Health & Human Services, 2014).

Table 5. CLASS Means by Dimension

2013-2014 RECAP Annual Report RECAP CLASS Means Comparison by Dimension							
Domains	**Dimension**	**MTP (N=164)**		**Nat. Head Start 12-13 (N=359)**		**RECAP 13-14 (N=122)**	
		Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Emotional Support	***Positive Climate***	5.2	0.9	6.0	0.4	6.5	0.7
	Negative Climate*	6.4	0.7	6.0	0.1	6.9	0.2
	Teacher Sensitivity	4.3	0.9	5.7	0.5	6.2	0.8
	Regard for Student Perspective	4.4	1.0	5.3	0.6	6.0	1.0
Classroom Organization	***Behavior Management***	4.9	0.9	5.9	0.5	6.1	0.9
	Productivity	5.4	0.8	5.9	0.5	6.2	0.8
	Instructional Learning Formats	4.6	0.8	5.1	0.6	5.4	1.0
Instructional Support	***Concept Development***	2.7	0.7	2.4	0.6	3.6	1.2
	Quality of Feedback	2.9	0.9	2.7	0.6	4.3	1.7
	Language Modeling	2.9	0.7	3.0	0.6	4.5	1.2
Total	***All Dimensions***	4.4	0.8	4.8	0.5	5.6	0.7
* Rekeyed so that higher value indicates better functioning							

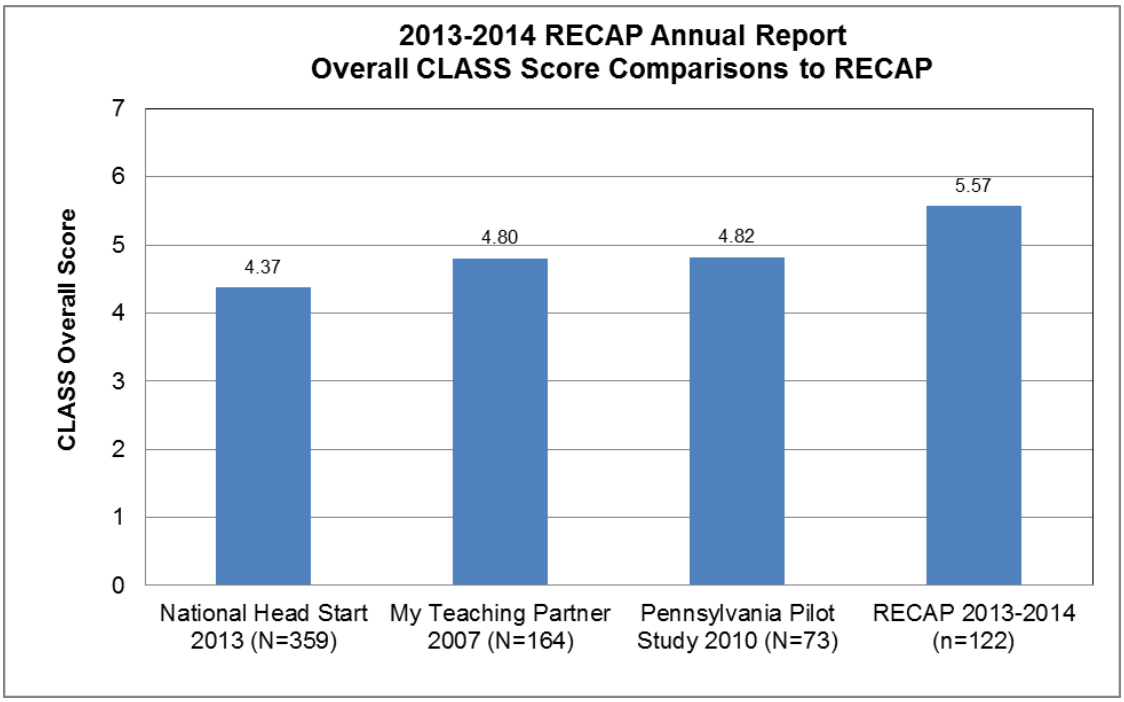
Figure 6. CLASS Means by Dimension



Compared to MTP (Pianta, et al. 2008), 2011-2012 Head Start (U.S. Department of Health & Human Services, 2013) and the 2012-2013 Head Start (U.S. Department of Health & Human Services, 2014) results, it is evident that RECAP classrooms have very strong ***Emotional Support***, ***Classroom Organization, and Instructional Support*** environments and are significantly better, as a group, than the classrooms in these studies.

Figure 7 adds a recent pilot study from programs across the state of Pennsylvania (Philson, 2011) for which CLASS total scores were available. Once again, CLASS total scores for RECAP classrooms were significantly better than the other samples providing further evidence of the comparatively high quality of RECAP classrooms.

Figure 7. CLASS - Classroom Assessment Scoring System Comparisons



In summary, to date RECAP classrooms are relatively strong when compared to others nationally. However, this does not negate the opportunity for RECAP programs to grow in the ***Classroom Organization*** *and* ***Instructional Support*** *domains.*

CLASS Correlations with ECERS-R

Previous RECAP annual reports have reported on the relationships between the CLASS and the ECERS-R (Story, et al., 2014, Story, Hightower, Macgowen, Van Wagner, Brugger, & Lotyczewski, 2012; Taylor, Hightower, MacGowan, Van Wagner, Brugger, & Lotyczewski, 2011; Taylor, Lehmann, Reynolds Weber, Hightower, MacGowan, Van Wagner, & Brugger, 2010). The results of these anlyses provided evidence that suggested that the CLASS and the ECERS-R assess different aspects of classroom quality. Based on these previous results it was hypothesized that there would be relatively few significant correlations between the classroom domains as measured by the two instruments and that if significant correlations were found, they would account for relative small amounts of overlapping variance.

Correlations between the CLASS and the ECERS-R were analyzed again this year. Table 6 displays these results. Correlations were derived from a sample of RECAP teachers (n=67) who had a CLASS observation in the 2013-2014 school year and had either an ECERS-R observation conducted in the same school year or, in cases of teachers who were exempt from receiving an ECERS-R observation, the 3-year or 5-year average ECERS-R scores used to determine exemption. Of the 32 correlation coefficients (3 domains and a total of the CLASS, and 7 dimensions and a total of the ECERS-R (4 X 8 = 32), statistically significant ($p \leq .01$) correlations were found for 10 of the relationships.

Table 6. CLASS Dimension and ECERS-R Subscale Correlations

2013-2014 RECAP Annual Report **CLASS Dimension and ECERS-R Subscale Correlations (n=67)**								
	ECERS-R							
CLASS	***Space***	***Routines***	***Language***	***Activities***	***Interactions***	***Program Structure***	***Parents***	***Total***
Emotional Support	0.71	0.12	0.24*	0.19	0.35*	0.22	0.06	0.25*
Classroom Organization	0.03	0.17	0.14	0.06	0.34*	0.19	0.21	0.23
Instructional Support	0.09	0.22	0.15	0.16	0.28*	0.25*	0.23	0.28*
Total	0.08	0.20	0.20	0.16	0.37*	0.26*	0.20	0.30*
* Significant at p<.01								

The Interaction scale of the ECERS-R is conceptually related to the relationship-based domains of the CLASS. This relationship is highlighted by the positive correlations among these variables. Program Structure and Instructional Support are also similar constructs, showing a positive relationship. All but one of the remaining statistically significant correlations involved the *Total* scales of the instruments.

***Summary and Recommendations**:*

There is evidence that these observational assessment tools overlap to a small degree, primarily in the area of interactions, which is not surprising and supports the construct validity of each tool, i.e., overlap occurs where you would theoretically expect it to and there is no overlap where you would not expect any. Again this year, the few weak correlations between the CLASS and ECERS-R indicated that each instrument measures different parts of classroom environments and program quality, which supports our recommendation to use both the ECERS-R and CLASS to get a comprehensive view of the classrooms.

Also of note, recent communications from the ECERS author report a new ECERS-3 will be available this winter. Purportedly this new edition adds new items and clarifies existing items. After review by RECAP assessment team and provider members, we strongly recommend the ECERS-3 be considered to replace the existing ECERS-R in 2015-2016.

Student Performance – Academics

Child Observation Record (COR)

In 1992, the HighScope Educational Research Foundation, a nonprofit organization dedicated to the development and evaluation of materials that teach and assess young children, created and released the Child Observation Record (COR). The COR is used by Head Start programs nationally and is approved by the New York State Department of Education for use in pre-k settings. RECAP began use of the COR nearly two decades ago, based on the recommendations of teachers and administrators from RCSD and Head Start. In 2014, the HighScope Educational Research Foundation released a new version of the COR called the Child Observation Record: Advantage (COR Advantage). Due to the timing of its release, the COR Advantage could not be incorporated into the RECAP system in 2013-2014; however, it will be integrated into RECAP's evaluation process in the 2014-2015 school year.

The COR is a developmentally appropriate measure that assesses children's academic (language, literacy, mathematics, & science), social, and motor competencies. Teachers observe children for at least 6 weeks and record their observations of their students' functioning using 32 items. Each item is scored on a 5-point, developmentally sequenced, scale where each point represents a level of children's growth along a developmental continuum.

Similar to the previous two decades, teachers completed the COR in the fall and spring. By administering the COR in the fall, teachers are able to immediately identify and address any problem areas that their students display. The second administration of the COR in the spring allows teachers to assess how much the individual student has grown and provide insights regarding the student's preparedness for kindergarten, and to share such information with parents. These two times of administration also provide RECAP with the ability to examine the growth rates for the entire pre-k sample and, when the COR is administered in kindergarten, their growth rates beyond pre-k as well. The COR results presented in this section, as well as in the Statistical Supplement, are integral to understanding child outcomes and pre-k program effectiveness.

Teachers completed the COR for their students using the COMET system, which tabulates and processes the data and produces child summary reports almost instantly. These reports show the average raw and percentile scores for the individual child in four skill areas. The individual items by their respective skill areas are:

- ***Initiative & 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

- ***Language & Literacy***: Showing awareness of sounds in words
  Using letter names and sounds
  Reading
  Writing
  Counting

- ***Movement & Music***: Moving in various ways
  Moving with objects
  Feeling and expressing steady beat
  Moving to music
  Singing

- ***Math & Science***: Comparing properties
  Identifying position and direction
  Identifying sequence change and causality
  Identifying materials and properties
  Identifying natural and living things

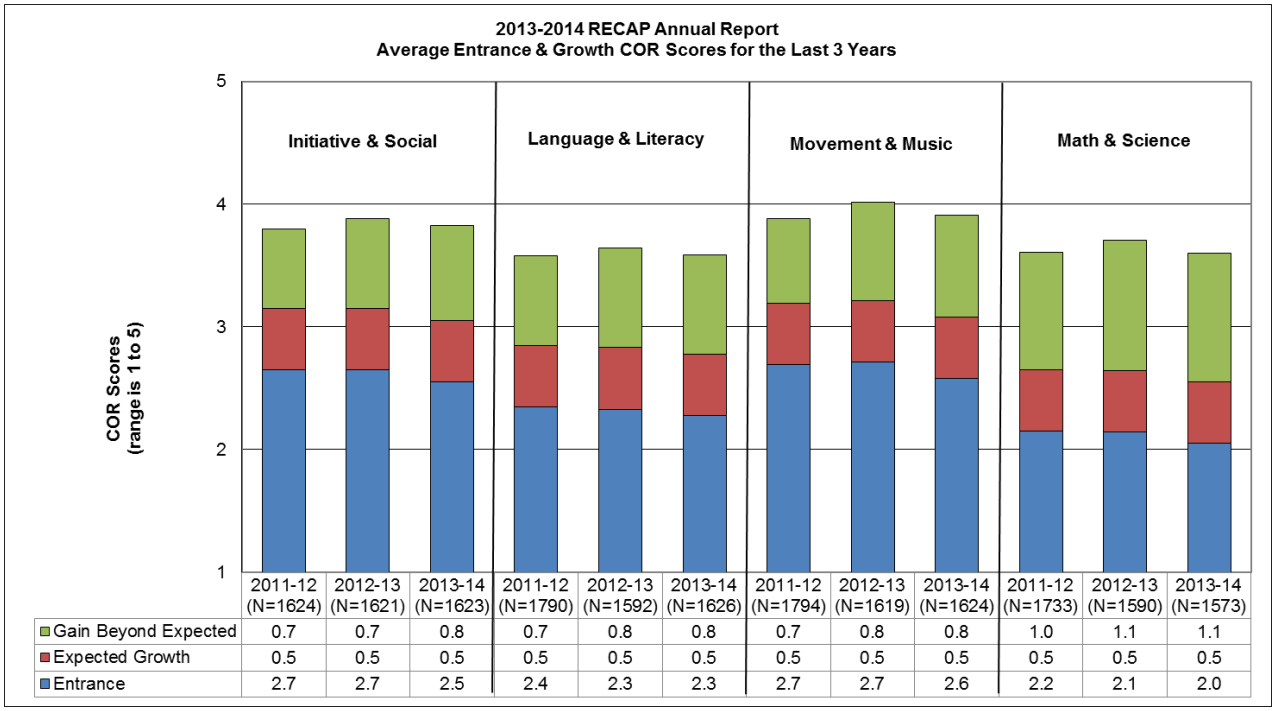
The following text and figure depict the growth of RECAP students on the COR for the entire cohort for the 2013-2014 school year, including three year-olds (n=276) and some students who were in non-UPK classrooms (n=130) with a few students falling into both groups (n=69). The Statistical Supplement presents additional analyses based on gender and race/ethnicity.

In Figure 8, the COR results for the entire cohorts for the past three school years are presented with the means reported for each of the academic subscales. Previous analyses conducted by RECAP (Story et al., 2014) have conservatively estimated that children in Rochester are expected to gain close to .50 points on each of the COR scales over the course of a single school year, due to development alone (using a 95% confidence interval). The RECAP Assessment Team has reasoned that any gain beyond the initial 0.50 points is due to changes from participation in classroom instruction. Also, RECAP acquired a memo from HighScope entitled "Interpretation of the Relationship of the COR Scores and School Readiness" which indicates that children who, on average, score between 4 and 5 on the COR have reached a developmental level appropriate for students entering kindergarten (Luke, July 2012).

Figure 8 depicts students' COR scores upon entering pre-k, their estimated expected growth based on development alone, and their growth beyond the expected growth for each subscale. Over the past three years, children's scores upon entry into pre-k have declined in every area assessed by the COR. At the same time, Figure 8 illustrates that children's overall growth rate has remained consistent with last year's growth rates for all four domains. As a result, this year's spring scores on the COR showed a slight decrease from last year. On average, children entering pre-k this past year had more deficiencies in their academic, social, and motor functioning, had

significant growth during the year, but, as a cohort, were not able to obtain the minimum level of mastery of skills that they need to be considered ready for kindergarten.

Figure 8. Average Entrance and Growth COR Scores for the Last 3 years



	2011-12 (N=1624)	2012-13 (N=1621)	2013-14 (N=1623)	2011-12 (N=1790)	2012-13 (N=1592)	2013-14 (N=1626)	2011-12 (N=1794)	2012-13 (N=1619)	2013-14 (N=1624)	2011-12 (N=1733)	2012-13 (N=1590)	2013-14 (N=1573)
Gain Beyond Expected	0.7	0.7	0.8	0.7	0.8	0.8	0.7	0.8	0.8	1.0	1.1	1.1
Expected Growth	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Entrance	2.7	2.7	2.5	2.4	2.3	2.3	2.7	2.7	2.6	2.2	2.1	2.0

Growth on the COR domains either remained the same or increased slightly from previous years. ***Math & Science*** growth scores continue to show the most improvement from fall to spring (ranging from 1.5-1.6), while total gains on the other three domains were all similarly slightly smaller (ranging from 1.2-1.3) but still demonstrating excellent student progress. This year, none of the COR domains achieved a score of 4.0 which, as noted above, HighScope asserted was the minimum required for a student to be considered prepared to enter kindergarten.

Last year, RECAP used the information provided by HighScope to calculate the necessary average growth needed for a pre-k child in Rochester to achieve K readiness by the time they entered kindergarten. Table 7 displays those results for this year. All of these scores are far below kindergarten readiness indices on the COR. It is important to note the lowest scores are on the more "academic" dimensions. It is clear from the table that Rochester's pre-k children would need to make great gains in all areas and huge gains of 340% to 380% in ***Language & Literacy*** and ***Math & Science***, respectively, to be ready for kindergarten.

Table 7. Growth Rates Necessary to Achieve Kindergarten Readiness

2013-2014 RECAP Annual Report Growth Rates Necessary for Students to Achieve Kindergarten Readiness on the COR					
Domain	**Median Fall Skills Scores Over the Past 3 Years**	**Expected Skill Gain by Development Alone***	**COR Score in the Spring Due to Development Alone**	**Gain Above Development Needed to Achieve K Readiness (4.5)**	**Necessary Growth Rate to Achieve K Readiness**
Initiative & Social	2.6	0.5	3.1	1.4	280%
Language & Literacy	2.3	0.5	2.8	1.7	340%
Movement & Music	2.7	0.5	3.2	1.3	260%
Math & Science	2.1	0.5	2.6	1.9	380%
*Based on upper bounds of 95% confidence level.					

Consistent with last year's COR results, this year again showed that four year-old children in Rochester enter pre-k with significant needs and deficiencies. Then they receive a high quality pre-k experience and demonstrate significant performance gains. However, regardless of their substantial growth, they still do <u>not</u> come close to kindergarten readiness.

Rochester UPK Students

Since the introduction of Universal Pre-K (UPK) to Rochester in 1998, RECAP has assessed UPK students' skills and abilities. Table 8 shows the number and percent of UPK students in the 2013-2014 school year who scored 4.0 or above (kindergarten ready) on the COR in the fall and then in the spring.

Only 1% of the students (18 of 1690) performed at level 4 or level 5 at the beginning of the school year. However, we did not expect most students would be "ready for kindergarten" when they began their preschool year. Of greater importance is the proportion of UPK students who finished their pre-k year at or above a level 4. For 2013-2014, 887 (50%) of the UPK students assessed by the COR achieved a Total score of 4.0 or higher. For the second year in a row, ***Movement & Music*** had the highest percent of students who were kindergarten ready at 61.1%. Also consistent with last year, the domain with the fewest number of students achieving a level 4 or higher was ***Language & Literacy*** with only 804 (45.3%) students.

Table 8. Rochester UPK Students Ready for Kindergarten Based on the COR

2013-2014 RECAP Annual Report Rochester UPK Students Number of Students Ready for Kindergarten - COR Scores (>=4.0)				
Domain Area	**Fall Total N=1690**		**Spring Total N=1775**	
	n	**%**	**n**	**%**
Initiative & Social	44	2.6%	945	53.2%
Language & Literacy	27	1.6%	804	45.3%
Movement & Music	56	3.3%	1084	61.1%
Math & Science	31	1.8%	863	48.6%
Total COR	18	1.1%	887	50.0%
Note: Percents calculated using Total N's for Pre and Post.				

The information regarding kindergarten readiness provided by HighScope has provided RECAP with valuable insights regarding the status of Rochester's pre-k students. Rochester's UPK students COR scores continue to demonstrate that at least half of the students leaving pre-k are not ready for the demands of kindergarten. Inevitably, this leads to many students entering kindergarten without the foundational abilities that they need in place before they can begin to understand the more advanced educational instruction provided in kindergarten. We discuss this trend and some potential strategies for slowing or even halting it further on in this report.

Performance and Student Attendance

RECAP has tracked student attendance for almost two decades. This year, we analyzed attendance data from both RCSD and community-based organizations. For purposes of these analyses, only students who attended at least 108 days (60%, 3 days per week minimum) were included. The RECAP Assessment Team determined that this cutoff for attendance constituted an adequate amount of instruction time while removing all students who were registered and then left the district after only a brief period of time. It's important to note that of the 2,224 total students who were assessed using the COR, only 1,158 (52.1%) students were assessed using the COR in both the fall and the spring and also met the minimum requirement of 108 days of attendance.

The low number of students who met both the criteria of being assessed twice with the COR and the minimum attendance could be due to several factors. First, as suggested above, some students who registered for pre-k in the Rochester City School District do not remain in the district for the full year. For these analyses, we only included students who had been assessed with the COR in both the fall and the spring. There were many students who did not have scores for the COR at both times and this contributed to the low number of students who were included in this analysis. RECAP recommends that the efforts made thus far to work with teachers, both within RCSD and at community-based organizations, to help them accurately track attendance should continue. In addition, teachers should also be encouraged to complete the COR assessment in its entirety on all of their students at both time points during the year. By doing so, we will have a more complete understanding of Rochester's pre-k students' abilities and learning.

The analyses of student attendance and its effects on student performance yielded some interesting results. For these analyses, students were categorized as having "high" attendance when they were present for 171 total days (95% of the 180 total days they could possibly attend) or more during the school year or as having "low" attendance if they did not attend a pre-k program for at least 171 days. We predicted that those students with better attendance would perform better on the COR in the spring due to the additional instruction time they received.

Contrary to last year, when overall students with low attendance performed significantly poorer than those with high attendance on the COR, this year we found no significant differences in COR scores in the fall between students with low and high attendance. This was also true for the COR growth scores and the students' COR scores in the spring. These results are present in Tables 9, 10, and 11.

Table 9. COR Scores in the Fall Based on Attendance

2013-2014 RECAP Annual Report COR Scores in the Fall Based on Total Attendance							
Skill Area	**Fall**						**Effect Size**
	Low			**High**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	918	2.56	0.69	240	2.55	0.71	-0.01
Language & Literacy	916	2.32	0.70	239	2.29	0.70	-0.04
Movement & Music	920	2.60	0.71	240	2.57	0.68	-0.04
Math & Science	889	2.08	0.74	231	2.09	0.76	0.01
Total COR	917	2.39	0.65	240	2.38	0.66	-0.02

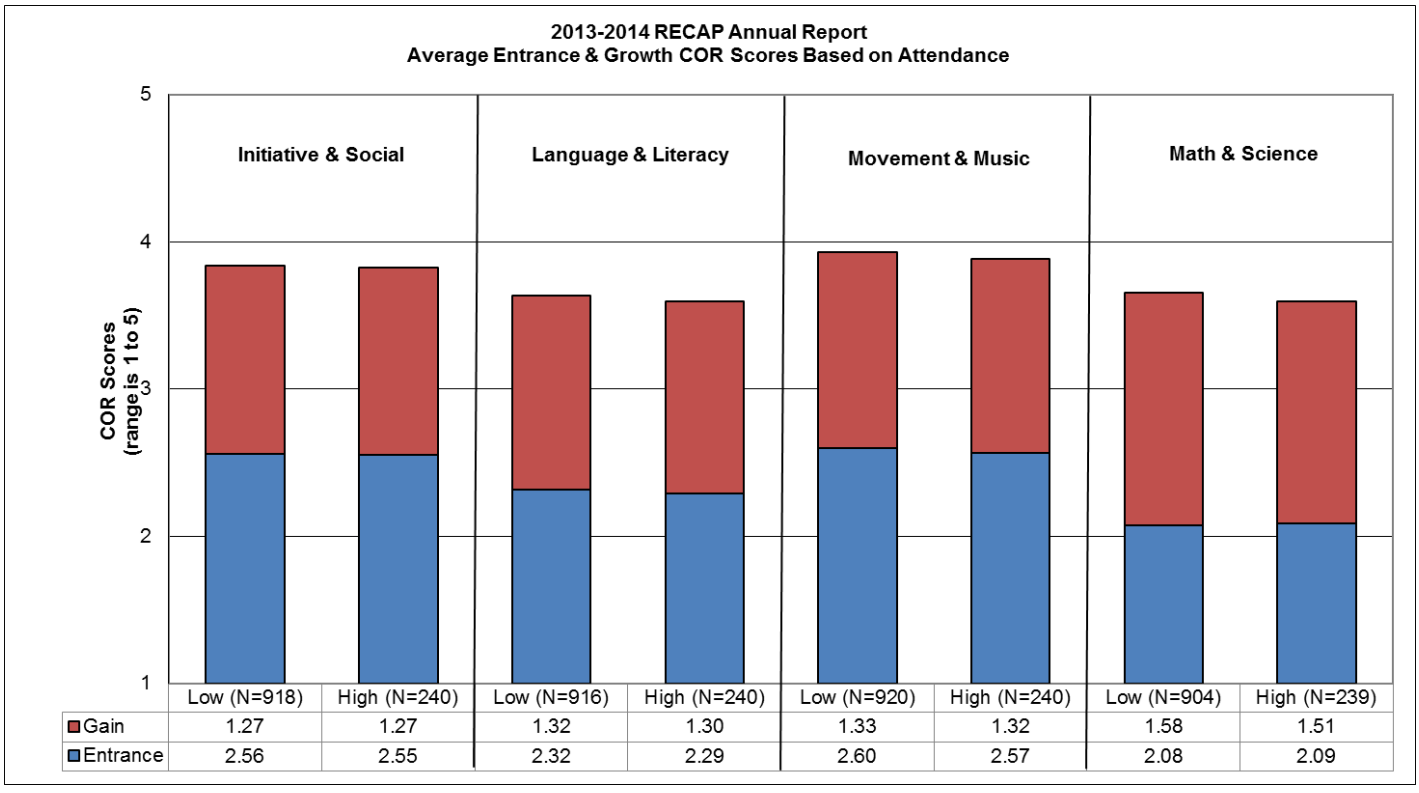
Table 10. COR Scores in the Spring Based on Attendance

2013-2014 RECAP Annual Report COR Scores in the Spring Based on Total Attendance							
Skill Area	**Spring**						**Effect Size**
	Low			**High**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	904	3.84	0.87	240	3.89	0.78	0.06
Language & Literacy	913	3.63	0.92	240	3.58	0.86	-0.06
Movement & Music	903	3.93	0.84	240	3.89	0.78	-0.05
Math & Science	904	3.66	1.05	239	3.59	1.00	-0.07
Total COR	913	3.77	0.87	240	3.72	0.81	-0.06

Table 11. COR Growth Scores Based on Attendance

2013-2014 RECAP Annual Report COR Growth Scores Based on Total Attendance							
Skill Area	**Growth**						**Effect Size**
	Low			**High**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	900	1.27	0.78	240	1.27	0.78	0.0
Language & Literacy	901	1.33	0.75	240	1.32	0.74	-0.01
Movement & Music	907	1.32	0.76	239	1.30	0.74	-0.03
Math & Science	879	1.58	0.91	231	1.51	0.87	-0.08
Total COR	908	1.38	0.71	240	1.35	0.71	-0.04

Figure 9. COR Fall and Growth Scores Based on Attendance



This year's analyses show that students who only attended from 60% to 94% of the school year benefitted the same amount academically as students who attended ≥ 95% of the school year. These results suggest that consistent attendance may not be as crucial to children's academic success as anticipated. Attending some of the time was just as important as attending a high

percentage of the time for pre-k children. The use of the 60% attendance cutoff for this year's analyses was due, in part, to a desire to account for children who were attending the pre-k program regularly and consistently but who were only attending 3 days a week. In sum, the results suggest that students who do not attend pre-k everyday will grow similarly to those who do attend every day. This finding is surprising and has major policy implications regarding excluding RCSD children from pre-k experiences because of the less than perfect attendance.

Performance and Program Length

Over the years, many of RECAP's stakeholders have asked questions relative to the program length (i.e., the hours spent each day in the program) and its potential effects on student outcomes. In 2013-2014, the New York State Education Department implemented and disseminated the Priority Pre-Kindergarten grant, which provided new funding to pre-k programs to facilitate their conversion from half-day programs into full-day programs. In February of 2014, 56 RECAP classrooms transitioned from half-day to full-day programs, bringing the total of full-day classrooms to 94 out of 145 (64.8%).

This year, RECAP conducted analyses on student outcomes based on the length of the program's day. For these analyses, we operationally defined students as "half-day" if they attended a program for 2.5 hours or less per day the entire school year. We defined students who attended a program for more than 2.5 hours per day from the beginning of the year or who attended a program that converted from 2.5 to 5 or more hours as "full-day". This definition is important to consider when interpreting the results of the following analyses because most "full day" students were in a "half-day" program in the fall and in a "full-day" program in the spring.

Table 12 displays COR scores for children in the fall. On average, "half-day" students performed significantly lower than "full-day" students on all of the COR subscales and Total COR. The growth rates among the two groups, shown in Table 14, were not statistically significant different for 3 of the 4 COR subscales: ***Language & Literacy, Movement & Music,*** and ***Math & Science.*** However, half day student grew significantly more than full day students on the COR ***Initiative & Social*** scale.

Table 12. COR Scores in the Fall Based on Length of Program Day

2013-2014 RECAP Annual Report COR Scores in the Fall Based on Length of Day*							
Skill Area	**Fall**						**Effect Size**
	Half-Day			**Full-Day**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	468	2.48	0.63	1062	2.60	0.71	0.17
Language & Literacy	468	2.23	0.66	1062	2.34	0.72	0.16
Movement & Music	468	2.46	0.66	1062	2.65	0.71	0.27
Math & Science	468	1.97	0.65	1062	2.11	0.77	0.19
Total COR	468	2.29	0.60	1062	2.43	0.67	0.22
*All results are significant at the $p<.01$ level							

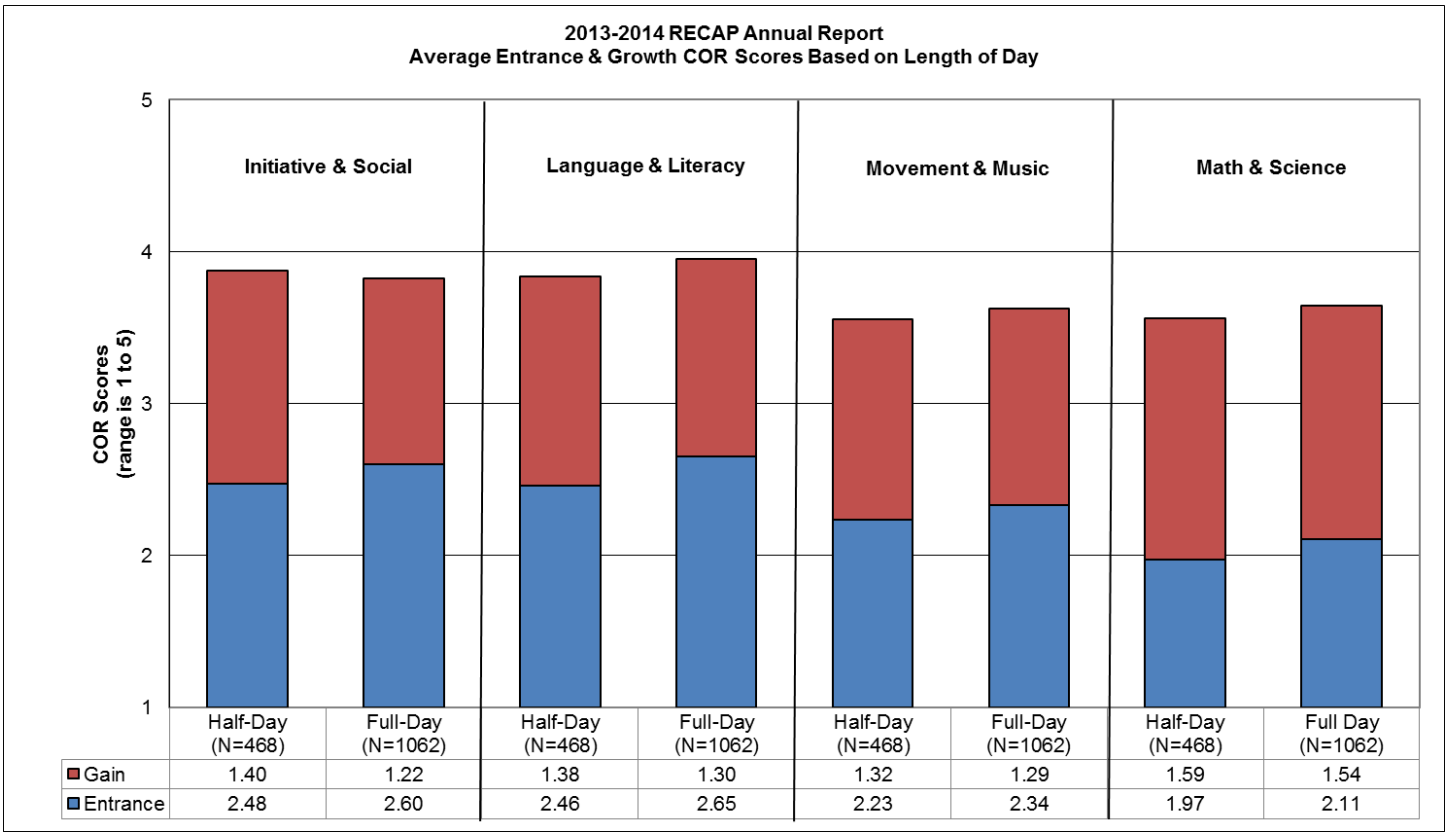
Table 13. COR Scores in the Spring Based on Length of Program Day

2013-2014 RECAP Annual Report COR Scores in the Spring Based on Length of Day							
Skill Area	**Spring**						**Effect Size**
	Half-Day			**Full-Day**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	468	3.87	0.83	1062	3.82	0.88	-0.06
Language & Literacy	468	3.55	0.90	1062	3.63	0.91	0.09
Movement & Music	468	3.83	0.83	1062	3.95	0.83	0.14
Math & Science	468	3.56	1.11	1062	3.65	1.01	0.09
Total COR	468	3.71	0.87	1062	3.76	0.85	0.06
*No significant differences at $p<.01$ level							

Table 14. COR Growth Scores Based on Length of Program Day

2013-2014 RECAP Annual Report COR Growth Scores Based on Length of Day							
Skill Area	**Growth**						**Effect Size**
	Half-Day			**Full-Day**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	468	1.40	0.66	1062	1.22	0.81	-0.23*****
Language & Literacy	468	1.32	0.66	1062	1.29	0.77	-0.04
Movement & Music	468	1.38	0.61	1062	1.30	0.77	-0.11
Math & Science	468	1.59	0.80	1062	1.54	0.91	-0.06
Total COR	468	1.42	0.60	1062	1.34	0.72	-0.12
*Results are significant at the $p<.01$ level							

Figure 10. COR Sub-scale Scores Based on Length of Program Day



	Half-Day (N=468)	Full-Day (N=1062)	Half-Day (N=468)	Full-Day (N=1062)	Half-Day (N=468)	Full-Day (N=1062)	Half-Day (N=468)	Full Day (N=1062)
Gain	1.40	1.22	1.38	1.30	1.32	1.29	1.59	1.54
Entrance	2.48	2.60	2.46	2.65	2.23	2.34	1.97	2.11

Last year, RECAP results showed that students who attended a full-day pre-k program performed significantly and meaningfully better on the more academic assessments, as measured by the COR, than did students who only attended part day programs and, thus, supported the need for more full-day programs to improve academic functioning. This year's results did not reflect the same pattern of results. However, students' mid-year transition from half-day to full-day could have mitigated the results of the full-day programs. Continuity of care was hypothesized to be a contributing factor and the next set of analyses addressed this potential issue.

Performance and Continuity of Care

The funding that RCSD received from the Priority Pre-Kindergarten grant this year caused an unprecedented upheaval in classroom composition and teacher stability for Rochester's pre-k students, according to accounts from teachers and directors. The transition of 56 RECAP classrooms from half-day to full-day programs resulted in the creation of new full day classrooms and required the district to hire new teachers. As part of the transition, many students completed the second half of the year with a different teacher.

RECAP examined the potential effects that the transition might have had on students' academic and social-emotional development. We analyzed student outcomes on the COR subscales based on teacher changes using a series of *t*-tests. Students were divided into two categories: 1) students who had the same teacher throughout the year and 2) students who had started the year with one teacher and ended the year with a different teacher. It is important to note that this categorization did not take in to account the reason for the change in teacher. For example, students who had a teacher who left during the year for maternity leave or long-term disability were also included in the group of students who had a different teacher in the spring than in the fall.

In the beginning of the year, the fall COR sub-scale analyses, shown in Table 15, found no significant differences between student performance for those students who had the same teachers and those who, eventually, had different teachers. We expected this result because these teachers all had the same amount of time to get to know their students and did not have prior knowledge of their students' abilities.

By the end of the year, the students who had the same teacher in the fall and the spring performed significantly better on the COR subscales than those who had a change of teacher during the year. These results are displayed in Table 16 and Table 17.

Table 15. COR Scores in the Fall Based on Continuity of Care

2013-2014 RECAP Annual Report COR Scores in the Fall Based on Continuity of Care						
Skill Area	**Same Teacher**			**Different Teacher**		
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**
Initiative & Social	1312	2.56	0.69	331	2.54	0.71
Language & Literacy	1310	2.30	0.69	330	2.30	0.75
Movement & Music	1313	2.59	0.70	332	2.61	0.71
Math & Science	1276	2.05	0.71	314	2.10	0.83

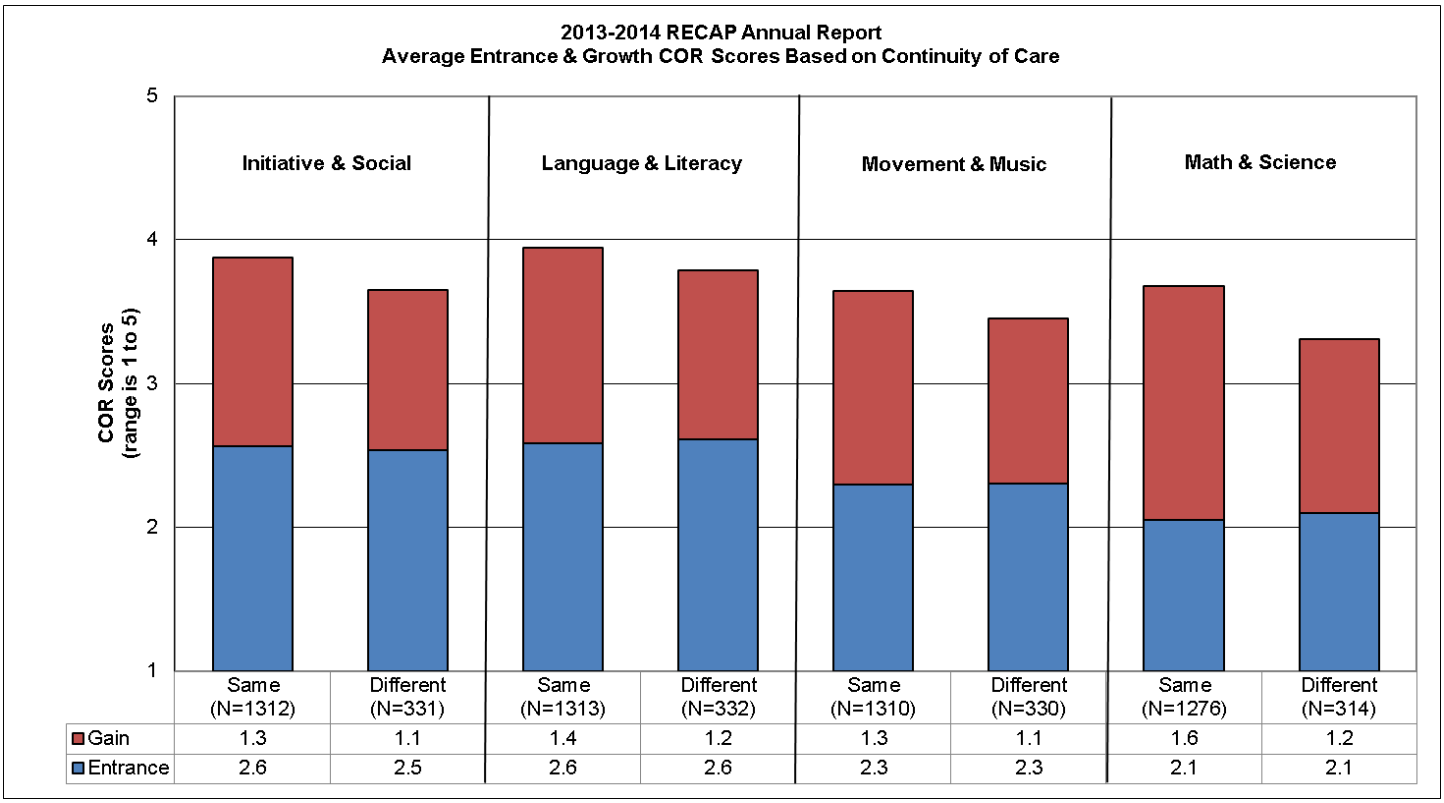
Table 16. COR Scores in the Spring Based on Continuity of Care

2013-2014 RECAP Annual Report COR Scores in the Spring Based on Continuity of Care*							
Skill Area	**Spring**						**Effect Size**
	Same Teacher			**Different Teacher**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	1303	3.88	0.83	326	3.65	0.99	-0.27
Language & Literacy	1306	3.64	0.89	329	3.45	1.00	-0.21
Movement & Music	1303	3.95	0.79	325	3.79	0.95	-0.19
Math & Science	1294	3.67	1.02	325	3.38	1.14	-0.28
*All results are significant at the $p<.01$ level							

Table 17. COR Growth Scores Based on Continuity of Care

2013-2014 RECAP Annual Report COR Growth Scores Based on Continuity of Care*							
Skill Area	**Growth**						**Effect Size**
	Same Teacher			**Different Teacher**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Initiative & Social	1298	1.32	0.73	325	1.11	0.90	-0.27
Language & Literacy	1299	1.35	0.69	327	1.15	0.92	-0.27
Movement & Music	1299	1.36	0.68	325	1.18	0.88	-0.25
Math & Science	1266	1.63	0.80	307	1.21	1.09	-0.24
*All results are significant at the $p<.01$ level							

Figure 11. COR Scores Based on Continuity of Care



	Same (N=1312)	Different (N=331)	Same (N=1313)	Different (N=332)	Same (N=1310)	Different (N=330)	Same (N=1276)	Different (N=314)
Gain	1.3	1.1	1.4	1.2	1.3	1.1	1.6	1.2
Entrance	2.6	2.5	2.6	2.6	2.3	2.3	2.1	2.1

Both teachers and administrators within RECAP postulated that the mid-year transition of students from one teacher to a different teacher had some detrimental effects. The results of these analyses support that hypothesis. Students who changed teachers during the school year grew less than children who kept the same teachers, and subsequently, had lower COR subscale scores in the spring. While the results are not conclusive, they suggest that the continuity of having the same teacher throughout the year is important and encourages increased rates of student growth.

HighScope Curriculum

The 2013-2014 school year marked the fourth year of HighScope curriculum implementation in the Rochester City School District, ABC Head Start, and UPK community-based programs. The HighScope curriculum integrates teaching practices for educators with content that facilitates developmentally appropriate learning for children. The New York State Education Department has approved it as an evidenced-based curriculum.

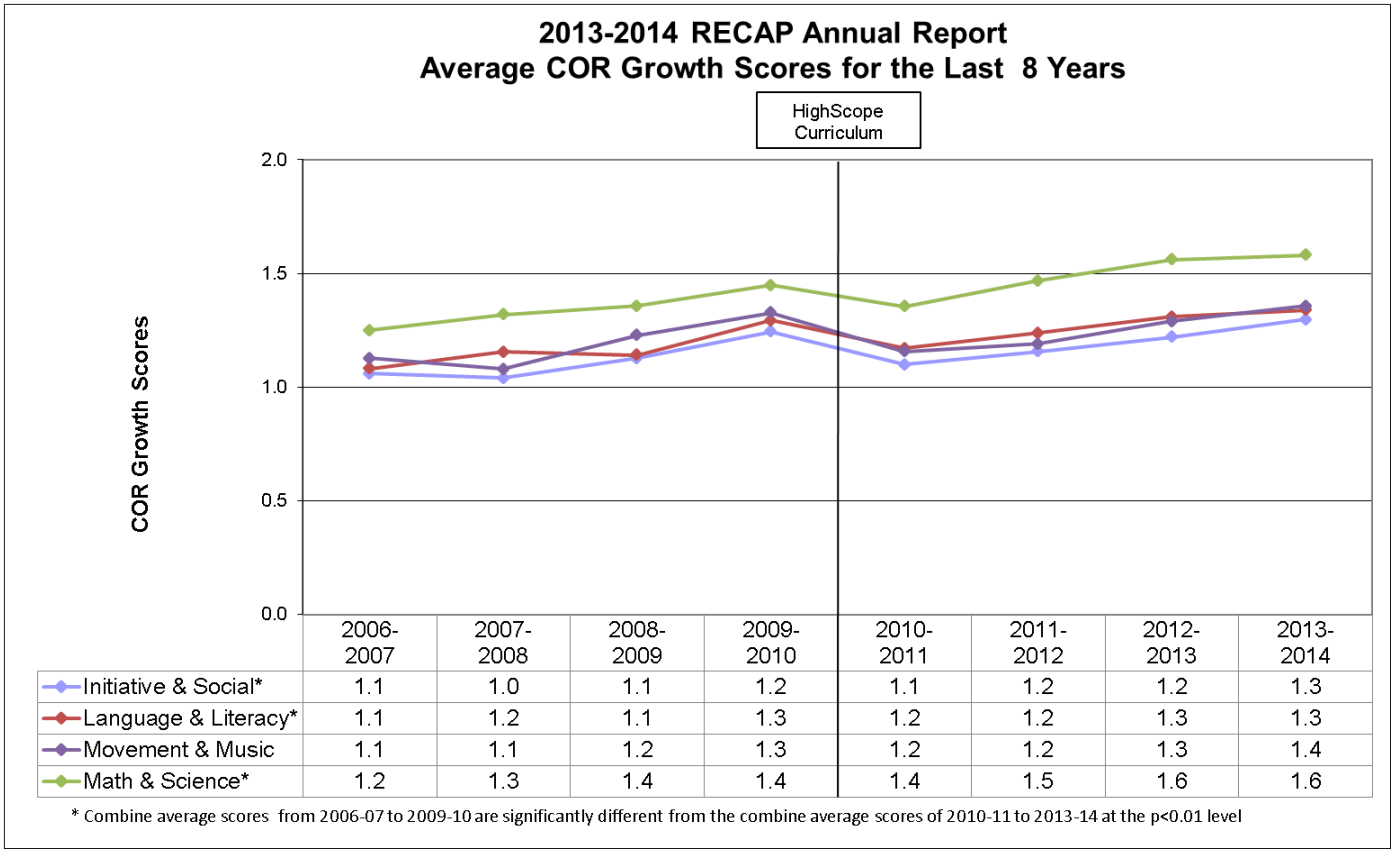
This curriculum emphasizes active participatory learning, adult-child interaction, and the plan-do-review process (Marshall, Lockhart, & Fewson, 2007). Active participatory learning refers to an approach where children are "active learners" through child-based learning that is supported by the teacher and materials as students manipulate their environment. Adult-child interaction is a partnership between teacher and child that allows for child-appropriate decisions within the classroom and a supportive climate for teachers to guide, nurture, and respond to students. The plan-do-review process is part of the HighScope daily routine; children meet in a small group with the teacher during planning time to decide what they would like to do during work time. After work time, when the children have participated in the activities they planned, the small group then comes back together with the teacher for recall time, where students share what they did and what they learned.

Change Scores

In order to account for any potential differences between student cohorts upon entering pre-k, COR growth scores were examined prior to and after the implementation of the *HighScope* curriculum. We calculated growth scores by taking the average (mean) difference between students' COR scores from the beginning to the end of the school year. As revealed in Figure 12, COR growth scores have shown fluctuations across the last 8 years, but, in general, are trending upwards. The ***Initiative & Social*** and ***Movement & Music*** subscales' growth scores increased slightly (0.1 point) when compared with last year, while the ***Language & Literacy*** and ***Math & Science*** growth scores remained the same. Despite the downturn that Figure 12 displays in the 2010-2011 school year, the first year of the implementation of HighScope, the growth scores for all four subscales have been trending upwards since the implementation of the HighScope curriculum. Growth in ***Math & Science*** has been particularly strong since the introduction of the HighScope curriculum.

RECAP also compared the average COR subscales' growth scores for the four years prior to HighScope curriculum implementation to the average growth scores of the four years after. *T*-test results showed that students' growth on the ***Initiative & Social, Language & Literacy,*** and ***Math & Science*** subscales during the HighScope implementation has improved significantly ($p<.01$). There continues to be no significant change in the ***Movement & Music*** domain.

Figure 12. Eight Years of COR Growth Scores



	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Initiative & Social*	1.1	1.0	1.1	1.2	1.1	1.2	1.2	1.3
Language & Literacy*	1.1	1.2	1.1	1.3	1.2	1.2	1.3	1.3
Movement & Music	1.1	1.1	1.2	1.3	1.2	1.2	1.3	1.4
Math & Science*	1.2	1.3	1.4	1.4	1.4	1.5	1.6	1.6

* Combine average scores from 2006-07 to 2009-10 are significantly different from the combine average scores of 2010-11 to 2013-14 at the p<0.01 level

The past 8 years of data have provided RECAP with valuable information regarding the effects of the HighScope Curriculum. Since its implementation, the HighScope curriculum has continued to support slow, but significant growth in pre-k children's academic and social skills, as measured by the COR.

Spring Performance

The longitudinal look at students' growth on the COR presents some evidence that the HighScope curriculum is, in part, preparing Rochester's pre-k students for kindergarten. However, students' growth is only one part of the picture regarding pre-k students' academic achievement. In order to gain a more comprehensive understanding of the HighScope curriculum's effects, RECAP also compared the combined results of the COR scores *in the spring* from the four years prior to the implementation of the HighScope curriculum to the results of the four years of implementation, which are presented in Table 18. The absolute skill levels attained by students on the ***Language & Literacy*** and ***Math & Science*** subscales during the implementation of the curriculum have significantly ($p<.01$) improved when compared to students' scores in the four years prior to the curriculum's implementation. These higher scores could be the result of the emphasis that the HighScope curriculum places on enhancing students' reading and language capabilities. However, students' scores in ***Movement & Music*** achieved in the spring have decreased significantly since the introduction of the HighScope curriculum.

The effect sizes (the change in standard deviation units) were relatively small this year. The highest effect size reported was in ***Language & Literacy*** (*d*=0.15), indicating that this domain showed the greatest and most meaningful gain from before to after the HighScope implementation. While the scores from before the implementation of the HighScope curriculum are statistically significantly different on 3 subscales of the COR and the Total COR score, the effect sizes are very small and not indicative of meaningful change.

Table 18. COR Spring Subscale Scores Before and After HighScope Implementation

2013-2014 RECAP Annual Report Mean Spring COR Subscale Scores							
	Pre-HighScope			Post-HighScope			
Skill Area	**N**	**Mean**	**St. Dev.**	**N**	**Mean**	**St. Dev.**	**Effect Size**
Initiative & Social	6840	3.82	0.88	5984	3.81	0.84	-0.01
Language & Literacy*	6838	3.27	1.04	5974	3.56	0.91	0.15
Movement & Music*	6843	3.97	0.89	5972	3.88	0.80	-0.05
Math & Science*	6833	3.50	1.09	5925	3.57	1.03	0.04
Total COR*	6858	3.64	0.89	6006	1.27	0.70	0.05
*Scores are statistically different (p<.01)							

In general, students who completed their pre-k education after the implementation of the HighScope curriculum displayed relatively meaningful changes in skill levels in the ***Language & Literacy*** subscale. There were no meaningful differences on the ***Math & Science***, ***Initiative & Social,*** or ***Movement & Music*** subscales.

Since the introduction of HighScope, students have displayed greater gains in ***Language & Literacy,*** and ***Math & Science*** *skills. However, there has been no change in children's* ***Initiative & Social*** *skills and children's* ***Music & Movement*** *growth scores showed a decline after the implementation of HighScope. From the evidence gathered so far, the HighScope curriculum has helped to improve students' academic performance.*

Recommendations:

- *The use of the HighScope curriculum should continue because of the significant and meaningful results in the* ***Language & Literacy*** *domain. However, if the* ***Math & Science*** *performance on the COR does not improve this coming year, then supplemental curriculum materials in math and science should be considered.*
- *Additional materials or lessons that focus on the areas of* ***Movement & Music*** and ***Initiative & Social*** should be considered and implemented, as soon as reasonable as these areas have not improved over the past four years.
- *The monitoring of the effects of the HighScope curriculum on children's performance across multiple domains should continue with the use of the COR Advantage over the next few years.*

Brigance® Early Childhood Screen III (Brigance III)

Due in part to New York state requirements, RECAP added the Brigance® Early Childhood Screen II to its assessment battery in 2012-2013. RECAP used this direct assessment to screen students for critical predictors of school success and provide important information on a student's development. In the summer of 2013, the developers of the Brigance disseminated a new edition of the Brigance called the Brigance® Early Childhood Screen III. The new version of the Brigance contains new content and more closely aligns with the learning standards outlined by Common Core standards. It is used to identify children whose development may be delayed and in need of further evaluation. It also screens for students who may be gifted or talented and might benefit from more enhanced work. RECAP incorporated the Brigance III, replacing the prior version of the assessment, in the 2013-2014 school year. No comparisons to last year's data are possible due to the significant changes made to this screening instrument.

Areas assessed by the Brigance III include ***Language Development, Academic & Cognitive Skills,*** and ***Physical Development & Health.*** An overall score for the Brigance III is calculated out of a possible 100 points and is used in conjunction with a calculated "At Risk" score, which is derived from a subset of Brigance III items, to assign a status level to each student:

- Level 1 – students who are at high risk and may be in need of further evaluation for developmental delays
- Level 2 – students who should be monitored closely
- Level 3 – students who are functioning in a normal developmental range
- Level 4 – students who are possibly talented and may need enhanced work and additional stimulation

In the fall, teachers administered the Brigance III to all of their students. Results showed that 66% of students were functioning either within the normal range or as possibly gifted (Levels 3 and 4). The Brigance III identified 34% of the incoming pre-k students as being at-risk and possibly in need of a more formal evaluation or to be monitored closely (Levels 1 and 2). Table 19 shows the breakdown of the students' overall developmental status based on the Brigance III screen in the fall of the 2013-2014 school year.

Table 19. Brigance III Screening Status in the Fall

2013-2014 RECAP Annual Report Brigance III Screening Status in the Fall		
Screening Status	**Fall**	
	N=1826	**%**
Determine need for formal evaluation	489	26.8
Monitor closely	126	6.9
Functioning in normal range	1079	59.1
Possibly talented and may need enhanced work	132	7.2

Upon entering pre-k, a third of all students were already showing signs of delayed developmental readiness. This is a substantial proportion of the pre-k population and further supports the COR's assessment that many children are entering pre-k significantly behind where they should be developmentally.

In the spring of 2013-2014, a self-selected group of teachers volunteered to complete a second Brigance III on some of their students. This second administration was requested in order to determine the impact of a year in a UPK program on Brigance III scores. The Brigance III is a direct and normed assessment based on children's development. Therefore, the difference in the students' ages from fall to spring directly affects which items are administered to them. For instance, a child who is four years old at the initial time of assessment will be able to accumulate a maximum of 48 points on the ***Language Development*** subscale area, while a 5-year-old child can only accumulate 16 points on the same subscale area. In order to allow for comparisons between fall and spring, regardless of which set of questions were administered, the percent of items correct was calculated (number correct/number possible) x100.

Table 20 presents the percent correct means for each area assessed by the Brigance III for students who had scores in both the fall and the spring, as well as the overall mean scores for both administrations. The mean percent of items correct increased significantly from fall to spring on each subscale and for the total Brigance III score. The ***At Risk Score*** also increased significantly from fall to spring, indicating that children were showing *better* functioning and higher skills related to the subset of "critical" items that comprise the ***At Risk Score***. All of the effect sizes for the subscales showed meaningful changes ($d \geq 0.34$) with the ***Language Development*** subscale showing the largest effect ($d = 0.49$).

Table 20. Brigance III Scores in the Fall and in the Spring

2013-2014 RECAP Annual Report Brigance III Fall and Spring Skill Area Scores – Pilot Sample*						
Subscale	**N**	**Fall**		**Spring**		**Effect Size**
		Mean % Correct	**SD**	**Mean % Correct**	**SD**	
Language Development	193	75.2	23.3	85.2	17.4	0.49
Academic & Cognitive	193	58.2	26.1	68.2	23.3	0.40
Physical Development & Health	193	46.8	25.8	57.8	25.3	0.43
At Risk Score^{+}	193	60.8	24.2	68.8	23.1	0.34
Total	193	65.0	20.9	71.0	19.7	0.30
*All scores are statistically significantly different from fall to spring ($p<.01$) $^{+}$Calculated so that a higher score represents better functioning.						

Table 21 presents the number and percent of students whose total scores fell within each Brigance III screening level. A series of Chi Square tests determined if there was any change in the distribution of students from the beginning of the year to the end of the year. Only students who had received a Brigance III administration in both the fall and the spring were included in

these analyses. There were no significant differences ($p<.01$) from fall to spring in the number of students who fell within each level.

Table 21. Brigance III Status in the Fall and in the Spring

2013-2014 RECAP Annual Report Brigance III Screening Status in the Fall and in the Spring					
Screening Status Level (N=193)	**Fall**		**Spring**		**Chi Square**
	n	**%**	**n**	**%**	
1 – Determine need for formal evaluation	55	28.5	49	25.4	0.47
2 - Monitor closely	8	4.1	12	6.2	0.84
3 - Functioning in normal range	109	56.5	100	51.8	0.85
4 - Possibly talented and may need enhanced work	21	10.9	32	16.6	2.65

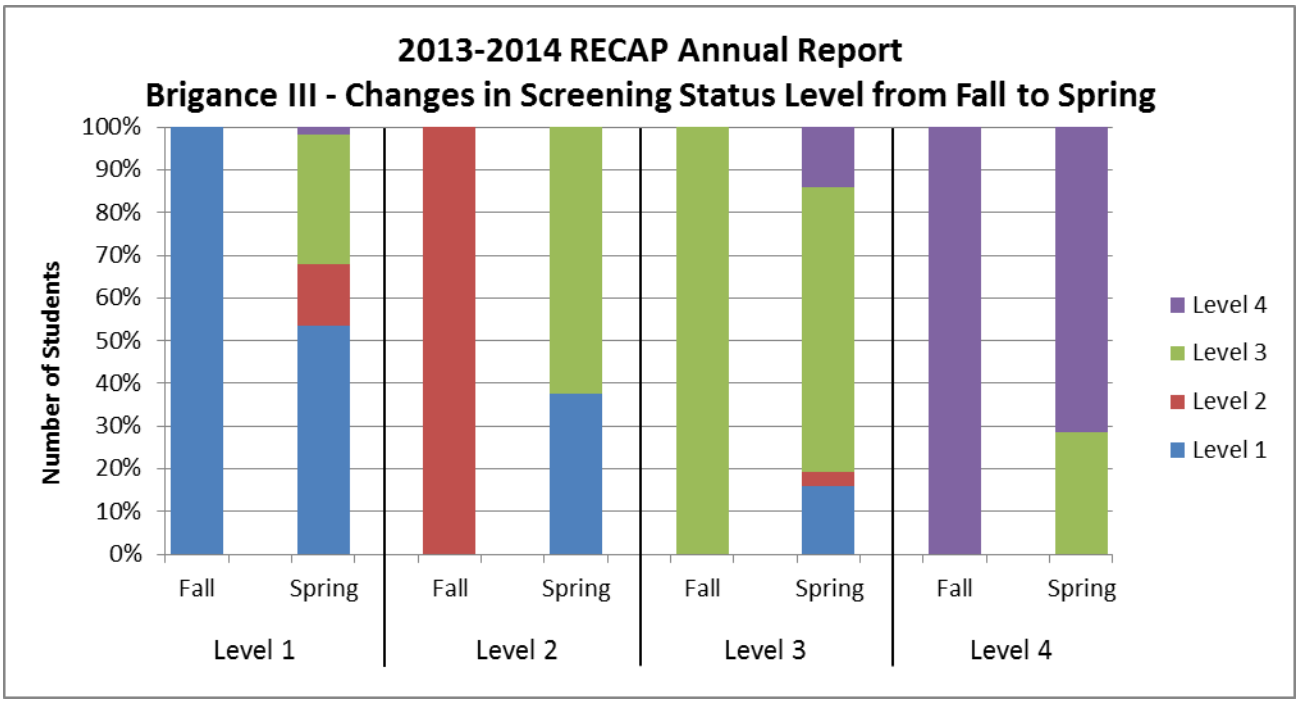
Last year, RECAP assessed if students who began the year at Level 1 remained in Level 1 in the spring and, conversely, if students who started in Level 4 would remain in the Level 4 range and so on for the other two Brigance screening levels. This year, we repeated this analysis with the Brigance III to determine if individual students' scores changed significantly enough that they would fall into different screening levels from fall to spring. The results of are presented in Table 22 and Figure 13.

Of the 21 students who were originally identified as Level 4, all of them remained either in Level 4 or only regressed to Level 3, "normal" functioning. Seventy-six percent of the students who scored either Level 3 or Level 4 in the fall also scored within these two levels in the spring. Students who performed in Level 1 or Level 2 (77%) did not move outside those two levels. Contrary to last year where 77% of Level 1 students retained their Level 1 status throughout the school year, a significantly smaller percentage (54%) of students remained in the Level 1 from the fall of 2013 to the spring of 2014. In general, a very small percentage of children fell into the range of Level 2 in both the fall and the spring (n=8, 4.02% in the fall and n=12, 6.03%), however, the 12 students in the spring were not the same students from the fall.

Table 22. Change in Brigance III Screening Status from Fall to Spring

2013-2014 RECAP Annual Report Brigance III - Changes in Screening Status Level from Fall to Spring					
Fall N=199			**Spring N=199**		
	Sample n	**% of sample**		**Sub-sample n**	**% of sub-sample**
Level 1 - Determine need for further evaluation	56	28.14%	**Level 1**	30	53.57%
			Level 2	8	14.29%
			Level 3	17	30.36%
			Level 4	1	1.79%
Level 2 - Monitor closely	8	4.02	**Level 1**	3	37.50%
			Level 2	0	-
			Level 3	5	6.25%
			Level 4	0	-
Level 3 - Functioning in normal range	114	57.29%	**Level 1**	18	15.79%
			Level 2	4	3.51%
			Level 3	76	66.67%
			Level 4	16	14.04%
Level 4 - Possibly talented	21	10.55%	**Level 1**	0	-
			Level 2	0	-
			Level 3	6	28.57%
			Level 4	15	71.43%

Figure 13. Change in Brigance III Screening Status from Fall to Spring



Similar to last year, RECAP again found that the majority of the students did not make dramatic changes either positively or negatively on the Brigance. Students who entered pre-k at risk and with potential developmental delays tended to perform at the same level at the end of the year. One hypothesis is that these students may have entered pre-k with such a large deficit that any gains made were not sufficient to move them out of the Level 1 range. Also of concern is why 22 students (10% of total) moved from Level 3 to Levels 1 or 2, demonstrating a significant loss of skills. One hypothesis is that some of these students may experience a sudden trauma or multiple traumas in their lives. RECAP recommends following up with these students and their families to identify possible causes of the dramatic decrease in skills from fall to spring.

Last year, RECAP recommended that the Brigance (now the Brigance III) be administered in both the fall and spring to a larger sample of students during the 2013-2014 school year. It was determined that this was not possible due to teachers' overburdened schedules. Therefore, spring scores for the 2013-2014 school year were only available for students if their teacher volunteered to complete a second administration of the Brigance III in the spring.

Relationships between the COR and the Brigance: Concurrent and Construct Validity

Brigance III and COR scores were correlated in both the fall and the spring in order to assess convergence of these two measures. For these correlations, only students assessed using both instruments during the same timeframe could be included.

Correlations Between the Brigance III and the COR in the Fall

Correlations for fall responses between the COR and Brigance III subscales are displayed in Table 23. All of the relationships between the Brigance III ***Language Development*** and ***Academic/Cognitive*** subscales and the Brigance III total and the COR subscales and overall score were positive and significant. The strongest relationship was found between the ***Language & Literacy*** scores on the COR and the ***Academic/Cognitive*** subscale scores (r=.51) on the Brigance. The ***Physical Development & Health*** subscale had no significant correlations with the COR subscales in the fall. At the beginning of the year the overlap between the COR and Brigance for the more cognitive/academic types of domains ranged from 15% to 26%, which suggests these instruments measure similar, but not the same, constructs, while the Brigance ***Physical Development & Health*** scale measures something different.

Table 23. Correlations Between the COR and the Brigance in the Fall

2013-2014 RECAP Annual Report **Correlations Between COR Subscale Scores and Brigance Subscale Scores in the Fall**						
	N	***Initiative & Social***	***Language & Literacy***	***Movement & Music***	***Math & Science***	***COR Total***
		r	*r*	*r*	*r*	*r*
Language Development*	1164	0.41	0.48	0.39	0.40	0.46
Academic/Cognitive*	1164	0.42	0.51	0.40	0.49	0.49
Physical Development & Health	1164	0.06	0.05	0.03	0.08	0.06
Brigance III Total*	1164	0.43	0.50	0.40	0.46	0.49
*Results are significant at the p<.01 level.						

Correlations Between the Brigance and the COR in the Spring

Again, these correlations only include students who have scores for both instruments in the spring (n=154). Most of the spring scores for these instruments showed positive and significant (p<.01) correlations. The ***Academic/Cognitive*** and ***Physical Development & Health*** subscales on the Brigance III as well as the total Brigance III score correlated positively and significantly with all of the COR subscales and the overall COR scores. These correlations are moderate to strong and range from 10% to 49% overlap in measuring the same constructs. Only the Brigance III ***Language Development*** subscale did not correlate with the COR, which was unexpected since this scale had much higher correlations with the COR in the fall.

Table 24. Correlations Between the COR and the Brigance in the Spring

2013-2014 RECAP Annual Report Correlations Between COR Subscale Scores and Brigance Subscale Scores in the Spring						
	N	***Initiative & Social***	***Language & Literacy***	***Movement & Music***	***Math & Science***	***Overall***
		r	*r*	*r*	*r*	*r*
Language Development	154	0.13	0.09	0.16	0.09	0.13
Academic/Cognitive*	154	0.52	0.70	0.48	0.64	0.64
Physical Development & Health*	154	0.32	0.47	0.35	0.40	0.42
Total*	154	0.54	0.67	0.54	0.62	0.65
*Results are significant at the $p<.01$ level.						

This year's version of the Brigance shows a different pattern of correlations with the COR than last year's. At the beginning of the school year, the Brigance III had moderate correlations with all of the more academic skills that the COR measures, showing evidence of strong convergent construct validity in the fall. Additionally, there were no significant correlations with ***Physical Development & Health*** on the Brigance III, which we anticipated as the Brigance III and the COR purport to measure different constructs, supporting construct validity due to the divergence of the dissimilar constructs.

In the spring, however, the lack of correlations between ***Language Development*** on the Brigance III and the COR subscales, in particular the ***Language & Literacy*** subscale, suggest that the skills assessed by the ***Language Development*** subscale are not the same as those assessed by the ***Language & Literacy*** subscale of the COR. On the other hand, the ***Physical Development & Health*** subscale on the Brigance III displayed moderate correlations with all of the COR subscales in the spring.

This was unexpected based on last year's results that found that the ***Physical Development & Health*** subscale had weak or non-significant correlations with the COR. One possible limitation is that because teachers volunteered to complete the Brigance III a second time, their results were different. Further analyses are necessary to generate reasonable explanations as to why. Because the Brigance III Total has better reliability (alpha=0.96) when compared to its subscales (alphas range from 0.80 to 0.96), its correlations with the COR subscales are the most appropriate correlations for further analysis and review.

In both the fall and the spring, the weakest relationship with the Brigance III Total was with COR ***Movement & Music*** subscale (r=0.40 and 0.54 respectively). The ***Initiative & Social*** subscale of the COR also had a correlation coefficient of r=0.54 in the spring. Even though these were the weakest relationships between the Brigance III total and the COR subscales, all of the correlations were positive, significant, and of moderate strength. For both the fall and the spring, the Brigance III Total correlated the highest with the COR subscale of ***Language & Literacy***

(r=0.50; 0.67). The strength of the correlations indicate that the Brigance III has strong construct validity and is able to assess some of the same skills that the COR assesses.

Recommendation:
From a psychometric perspective, the Brigance III and the COR assess either different aspects of the same constructs or different constructs with similar names. Because the Brigance is moderately correlated with the COR, we recommend that the Brigance III continue to be used as a screening measure for children entering pre-k. It is able to identify children with potential academic delays quickly and reliably. However, the continued use of the COR is also recommended to augment the initial Brigance III screening. Again, both measures should be used to provide insights for teaching and instruction of pre-k children as well as for program improvements.

Pre-kindergarten to Kindergarten Transition

For the past several years the Rochester, state, and national early education communities have become more interested in the transition between pre-k and kindergarten. This year we looked more closely at this critical period in children's education.

Summer Learning and Student Academic Performance in Kindergarten

RECAP, ABC Head Start, and the Rochester City School District have used the COR for three year olds, four year olds in UPK/PPK, and five year olds in kindergarten for a number of years at both the beginning and at the end of the school years. This consistent use of the same instrument over time allows for comparisons across time and multiple grade levels.

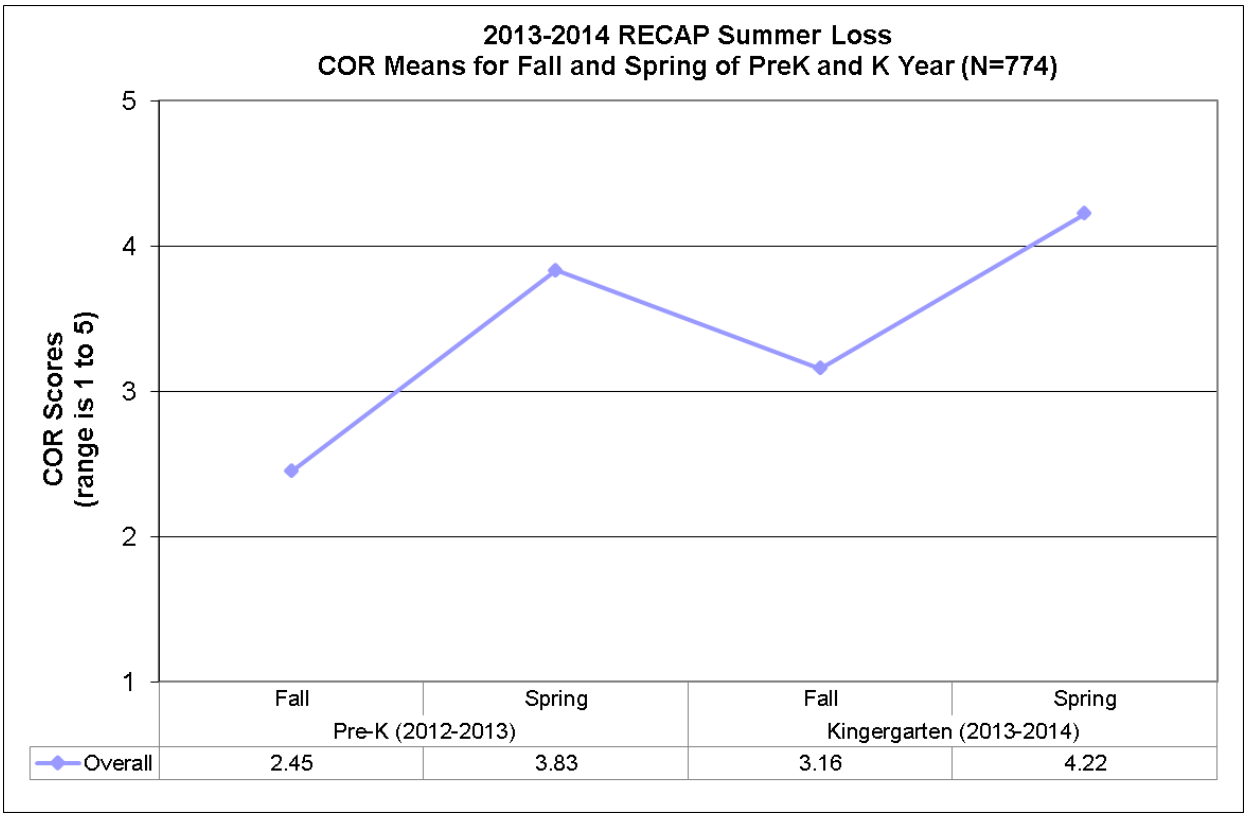
For the comparisons below, because kindergarten teachers used a shortened 23 item version of the COR, pre-k students' COR performance was recalculated using the same 23 items used in kindergarten. Only students with both pre-k and kindergarten scores were included in the next set of analyses.

RECAP has reported for over a decade that pre-k and kindergarten students' performance decreases significantly over the summer on COR subscale and total COR scores ($p<.01$) (Story et al., 2014; Story, Hightower, MacGowan, Van Wagner, & Brugger, 2013). As an example, last year the 2011-2012 pre-k cohort from the end of pre-k to the beginning of kindergarten lost, on average:

- -0.44 on ***Initiative & Social*** – a 12% loss from the end of pre-k
- -0.71 on ***Language & Literacy*** – a 20% loss, which is more than a year's worth (.50) of developmental gains
- -0.28 on ***Movement & Music*** – an 8% loss
- -1.01 on ***Math & Science*** – a 30% loss, approximately two years of developmental gains
- -0.59 on COR Total score – a 16% loss, approximately a year's worth of overall developmental gains

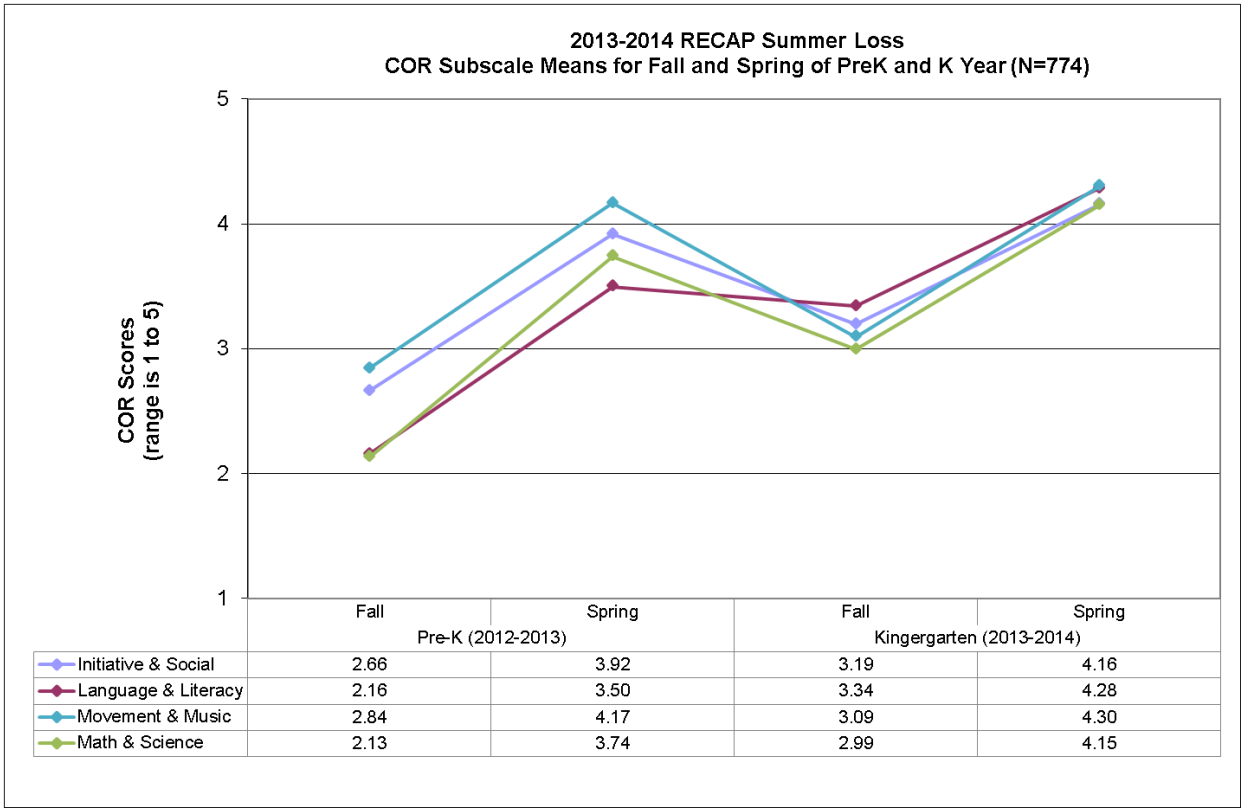
The 2012-2013 pre-k – 2013-2014 kindergarten cohort displayed similar losses. Figure 14 illustrates the difference in students' COR overall scores at four time points: fall of their pre-k year, spring of their pre-k year, fall of their kindergarten year and spring of their kindergarten year. Overall, the students' COR scores showed similar decreases across domains from spring of pre-k to fall of kindergarten with students losing on average 0.68 points (or 17.6%). This represents a degradation of students' skills that equates to over a year's worth of developmental gains.

Figure 14. Overall COR Scores from Pre-k to Kindergarten



Three of the four COR subscales also showed significant loss from the spring of pre-k to the fall of kindergarten (See Figure 15). However, the ***Language & Literacy*** subscale showed minor and non-significant decline over the summer. This is a dramatic departure from prior years' trends.

Figure 15. COR Subscale Scores from Pre-k to Kindergarten



	Fall	Spring	Fall	Spring
	Pre-K (2012-2013)		Kingergarten (2013-2014)	
Initiative & Social	2.66	3.92	3.19	4.16
Language & Literacy	2.16	3.50	3.34	4.28
Movement & Music	2.84	4.17	3.09	4.30
Math & Science	2.13	3.74	2.99	4.15

From the end of pre-k to the beginning of kindergarten (i.e., over the summer), students lost significant academic functioning. As noted in previous years, students gained the most in ***Math & Science*** *during the school year, but lost about half as much as they had gained over the summer. The greatest loss was in the area of* ***Movement & Music****.*

While RCSD pre-k students make significant gains during the school year while in high quality programs, without ongoing stimulation by such demonstrably high quality programs, significant losses occur.

On a positive note, this year, students better maintained their ***Language & Literacy*** *acquisition over the summer months. This could be the result of the targeted literacy and reading activities that were prepared for parents to use over the summer to work with their children to continue their language development.*

Recommendations:
COR performance upon exiting pre-k and beginning kindergarten demonstrates that, during the summer, children experience significant losses in functioning. This further explains their lack of readiness for kindergarten.

In essence, there are at least three major strategies that need to be considered immediately to address the summer learning loss issue:

- *Help parents better prepare their children for school entry, at whatever age educational services become available*
- *Provide more intensive services at a younger age (e.g., pre-k for three year-olds)*
- *Add at least 6 weeks of instruction from July through August for all children transitioning from pre-k to kindergarten. This approach was piloted during the summer of 2014 and is reported in the next section.*

UPK Summer Program - Pilot

In the summer of 2014, several RECAP partners piloted a 30-day summer program for pre-k students who would be starting kindergarten in the fall of 2014. The pilot sample (n=48) included 26 girls (54%) and 22 boys (46%). The students' race/ethnicity was reported for 39 children: 27 were black (69%), 9 were Hispanic (23%), and 3 were white (8%).Unfortunately, the sample size was too small to perform any analyses based on gender or ethnicity. Children's ages ranged from 4.6 to 5.6 years, with a median of 5.0 years upon beginning the summer program. Only children who attended the summer program for at least 16 days were included in the analyses.

Teachers in the Summer Leap Program used the COR to assess participants' skills at the end of the summer. Therefore, these students had COR scores for the fall of 2013, the spring of 2014, and the summer of 2014. Table 25 presents the means and standard deviations for the COR subscales at the three different time points.

Table 25. Mean COR Scores from Fall, Spring, and Summer for Summer Program

2013-2014 RECAP Annual Report COR Scores from Pre-K to End of Summer Program (n=48)						
COR Subscales	**Fall, 2013**		**Spring, 2014**		**Summer, 2014**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Initiative & Social	2.70	0.80	3.52	1.05	3.80	0.86
Language & Literacy	2.40	0.91	3.26	0.98	3.56	0.82
Movement & Music	2.72	0.81	3.58	0.96	3.96	0.81
Math & Science	2.13	0.97	3.17	1.14	3.55	0.95

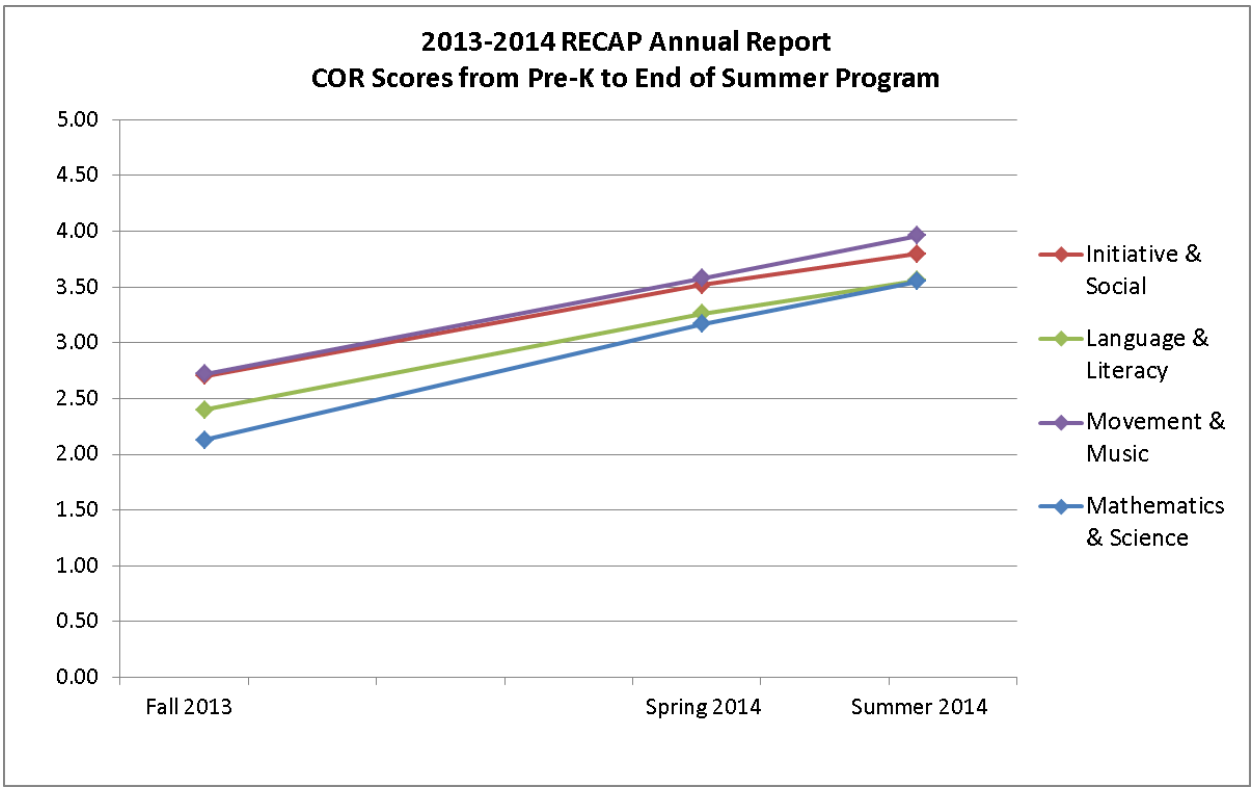
The students in the pilot study were not only able to maintain the gains that they exhibited during the school year but they were also able to continue to grow throughout their time in the summer program.

RECAP conducted repeated-measures analyses of variance (RANOVAs) to determine the contribution of the summer program to the students' COR scores. The results are displayed in Table 26. The analyses were conducted initially using all three times of testing, then only using spring and summer scores to determine the contribution of the summer program alone. Each of the COR subscale scores showed statistically significant increases over the three times of testing. More specifically, student's growth on the COR showed significant gains from spring to the end of the summer program. Figure 16 shows the growth rates displayed as a function of time, clearly showing that the subscales' growth remained constant from the fall through the summer.

Table 26. RANOVA Results for Students' COR Scores from Pre-K to the End of the Summer Program

2013-2014 RECAP Annual Report COR Scores from Pre-K to End of Summer Program (n=48)				
COR Subscales	**Fall, Spring, Summer**		**Spring, Summer**	
	F	***p***	***F***	***p***
Initiative & Social	103.44	<0.001	14.29	<0.001
Language & Literacy	81.61	<0.001	14.30	<0.001
Movement & Music	64.53	<0.001	17.81	<0.001
Math & Science	90.99	<0.001	21.86	<0.001

Figure 16. COR Scores from Pre-k to Kindergarten for the Summer Program



It is important to note that the summer program results have numerous limitations. First, students' attendance to the summer program was not consistent, with the median days attended being 23. Secondly, the results are based on a small sample of students who were not selected randomly from the population of pre-k participants but rather include students who had "needs" as determined by their pre-k teachers and required that all children had parent permission and endorsement to participate. This sample is not representative of the entire Rochester pre-k population.

For more detailed information on the summer program and its effects on students' COR scores, please see the RECAP Special Report: 2014 UPK Summer Program Outcome summary (Lotyczewski, Story, & Hightower, 2014).

Recommendation:
The phenomenon of summer learning loss has been repeatedly demonstrated. Even though this year was just a pilot year, the COR scores at the end of the summer programs are encouraging. They support the belief that extending the "school year" through summers would help student's to at least maintain the skills they learned during the year and, potentially, continue their growth at a similar rate as they displayed during the school year. Unfortunately, we do not have the ability at this time to determine if children still experienced skill loss, and to what extent, between the end of the summer program and the beginning of their kindergarten year. We recommend that the students involved in this and any future summer programs be tracked into their kindergarten year.

It should be noted that Horizons/Summer LEAP, a major provider of summer programming, has determined through its research and evaluations that high-quality summer programming should occur for at least three consecutive years to make a significant and lasting difference. Therefore, a ***minimum*** *of high-quality summer programming should be in place for students going from pre-k to kindergarten and continue for kindergarteners going into first grade and first graders going into second grade.*

Comparing 3rd Grade ELA and Math Standardized Test Scores for RECAP and Non-RECAP Students

Rochester, like most urban communities, continues to see low graduation rates, with only 48% of students graduating on time in 2013 (Information and Reporting Services, 2014). With the mounting pressure to improve graduation rates, RCSD is examining earlier grade levels to try to understand what might be contributing to Rochester's low graduation rates and determine ways that the district might be able to intervene. Two critical indicators of students' achievement and future success are their 3rd grade ELA and Math standardized test scores.

RECAP used *t*-tests to compare ELA and Math scores for students who were in RECAP preschool programs and those who were not during the 2010-2011 and 2011-2012 school years. The analyses revealed that students who participated in RECAP programs scored significantly higher on both tests than Non-RECAP students ($p>.01$). In addition, the standard deviation of scores was smaller for RECAP students than for Non-RECAP students.

Table 27 shows the means, standard deviations, and effect sizes for RECAP and Non-RECAP students' ELA and Math scores. Data from scores collected for the 2012-2013 school year for ELA and Math were not included in the longitudinal analysis because a change in the scoring system resulted in very different score ranges. Including the data from 2012-2013 resulted in a high and inaccurate examination of standard deviations.

For both ELA and Math scores, 3rd grade students who attended RECAP preschool programs *scored 4-6 point higher* than third grade students who did not attend RECAP preschools. This suggests that that participation in quality preschool programs can have a lasting impact on academic performance.

Table 27. ELA and Math Scores for RECAP and Non-RECAP Students

2013-2014 RECAP Annual Report 3rd Grade ELA & Math scores for 2010-2011 and 2011-2012 RECAP vs. Non-RECAP							
	RECAP			Non-RECAP			Effect Size
	N	Mean	SD	N	Mean	SD	
ELA	1785	652.30	19.49	2868	646.43	22.66	0.27
Math	1797	675.15	21.10	2933	670.36	23.33	0.21

Students who participated in RECAP affiliated classrooms performed significantly better on their 3rd grade ELA and Math standardized tests than their peers who were not involved in RECAP classrooms. Students in RECAP programs were functioning at a higher academic level. These results suggest that attendance in a high-quality pre-k program, such as those provided by RECAP partners, can have significant and lasting effects on students' academic performance.

Relationship of Pre-K Classroom Quality to 3rd Grade ELA and Math Scores

The demonstrable high quality of classrooms is a hallmark of RECAP's pre-k programs. Therefore, RECAP has begun to investigate the relationship of classroom quality and students' academic achievement. We conducted analyses to determine if attending a pre-k classroom with a higher ECERS-R score increased the probability of passing the ELA and Math exams in 3rd grade.

We wanted to ensure that our findings did not depend on the cohort chosen or the mode of analyses. Consequently, we matched the 2006-2007 RECAP cohort with the RCSD 2010-2011 3rd grade ELA and Math performance data, and we did likewise with the 2007-2008 cohort by matching them with 2011-2012 performance data. Although the number of students matched fluctuated in each analysis by cohort and test, these results are based on analyses of over 60 classrooms with more than 400 total students.

RECAP performed 2 sets of analyses: (a) analyses to investigate if ECERS-R scores are associated with passing the 3rd grade ELA and Math tests, and (b) analyses to investigate if ECERS-R scores are associated with scoring higher in the ELA and Math scale scores. The first analyses used a logistic model suitable to the dichotomous pass/fail nature of the outcome. The second analyses used a linear model suitable to the normally distributed and continuous test scale scores.

For both sets of analyses, two types of multilevel logistic models were estimated:

Two-level Intercept Model - In this model, the ELA pass/fail indicator is regressed against time 1 (pre) COR total scores and an intercept. The intercept is modeled as a function of the ECERS-R scores in the pre-k classroom. This model estimates whether classrooms with high ECERS-R scores give an additional advantage in passing the Math and ELA tests in 3rd grade.

Two-level Intercept and Slope Model – In this model, the ELA pass/fail indicator is regressed against time 1 (pre) COR total scores and an intercept. The intercept is modeled as a function of the ECERS-R scores in the pre-k classroom and the slope coefficient of the COR total score is modeled also as a function of ECERS-R scores. This model estimates whether classrooms with high ECERS-R scores give any additional advantage in passing the ELA and Math tests and whether children with higher COR (time 1) scores benefit more or less from attending classrooms with high ECERS-R scores.

Table 28. Shows the results of the first set of analyses (a - above). We found no detectable association between ECERS scores and passing either the ELA or the mathematics 3rd grade scores.

Table 28. 3rd Grade ELA & Math Multilevel ECERS-R Logistic Models Results

2013-2014 RECAP Annual Report 3rd Grade ELA & Math Multilevel ECERS-R Logistic Model Results				
Multilevel Logistic Regression Models	**ELA (Pass/Fail) OR**	**Significance**	**Math (Pass/Fail) OR**	**Significance**
	INTERCEPT MODEL			
Cohort 06-07	1.13	ns	1.01	ns
Cohort 07-08	1.17	ns	0.99	ns
	INTERCEPT & SLOPE MODEL			
Cohort 06-07	1.23 0.97	ns ns	.47 1.40	ns ns
Cohort 07-08	1.85 0.86	ns ns	0.21 1.92	ns ns
Note: OR = odds ratio, ns= not significant at p<.05.				

Table 29. shows the results of the second set of analyses (b - above). We found no detectable association between ECERS scores and scoring higher in either the ELA or the mathematics 3rd grade tests.

Table 29. 3rd Grade ELA & Math Multilevel ECERS-R Linear Regression Results

2013-2014 RECAP Annual Report 3rd Grade ELA & Math Multilevel ECERS-R Linear Regression Results				
Multilevel Linear Regression Models	**ELA Scale Score Coefficient**	**Significance**	**Math Scale Score Coefficient**	**Significance**
	INTERCEPT MODEL			
Cohort 06-07	0.81	ns	0.54	ns
Cohort 07-08	-0.26	ns	-1.22	ns
	INTERCEPT & SLOPE MODEL			
Cohort 06-07	-2.62 1.38	ns ns	-0.67 0.49	ns ns
Cohort 07-08	-3.06 1.14	ns ns	-7.39 2.42	ns ns
Note: ns= not significant at p<.05.				

In conclusion, higher scores in the ECERS in the pre-k classroom were <u>not</u> associated with better performance in standardized 3rd grade tests. Because we repeated the analyses in two cohorts using a variety of statistical models and with two different outcomes (pass/fail and scale score), we have a high degree of confidence in these results. One definite limitation is the restriction of range with the ECERS in Rochester. Many classrooms perform high or extremely high so there is not a full range of ECERS scores. We recommend conducting similar analyses

with the CLASS data in future years to examine the relationships between the CLASS, which assesses student teacher interactions, and student performance.

Student Performance – Social/Emotional

Teacher-Child Rating Scale (T-CRS)

The Teacher-Child Rating Scale (T-CRS) has also been an integral part of the RECAP assessment system since it first began. The T-CRS consists of 32 items that assess both positive and negative aspects of a child's social-emotional performance. The items on the T-CRS combine to create four empirically derived subscales: ***Task Orientation***, ***Behavior Control***, ***Assertiveness***, and ***Peer Social Skills.***

The T-CRS has a variety of uses: as a screening measure, as part of an individual assessment battery, and as a pre- and post-research or evaluation measure. Within RECAP, the T-CRS serves as a screener to identify students with needs and as a tool to track population trends, changes in students' social and emotional development, and the effects of pre-k programs in Rochester. Table 30 compares initial at-risk status (at or below the 15th percentile, approximately 1 standard deviation) as measured by the fall administration of the T-CRS for the 2012-2013 and 2013-2014 RECAP program years.

We ran a series of chi-square tests to identify any significant ($p \leq .01$) changes in the percentage of children who were "at-risk" in one or more of the dimensions at the beginning of the school year. These tests determine whether the fluctuations in percentages are within an expected amount of change from year to year. The results showed that a significantly smaller proportion of students entered pre-k in 2013-2014 with *no risk* factors identified on the T-CRS. While there were small, non-significant increases in the proportions of students who were at-risk in ***Task Orientation*** and ***Behavior Control***, the largest increase from last year to this year in the proportion of students at-risk was in ***Peer Social Skills***. The increase of 2.0% of students at-risk in ***Peer Social Skills*** was statistically significant. The changes in the percentages of students at risk in the other domains upon entry to pre-k were not significantly different from 2012-2013 to 2013-2014.

Table 30. Social-Emotional Risk Factors for the Past 2 Years in the Fall

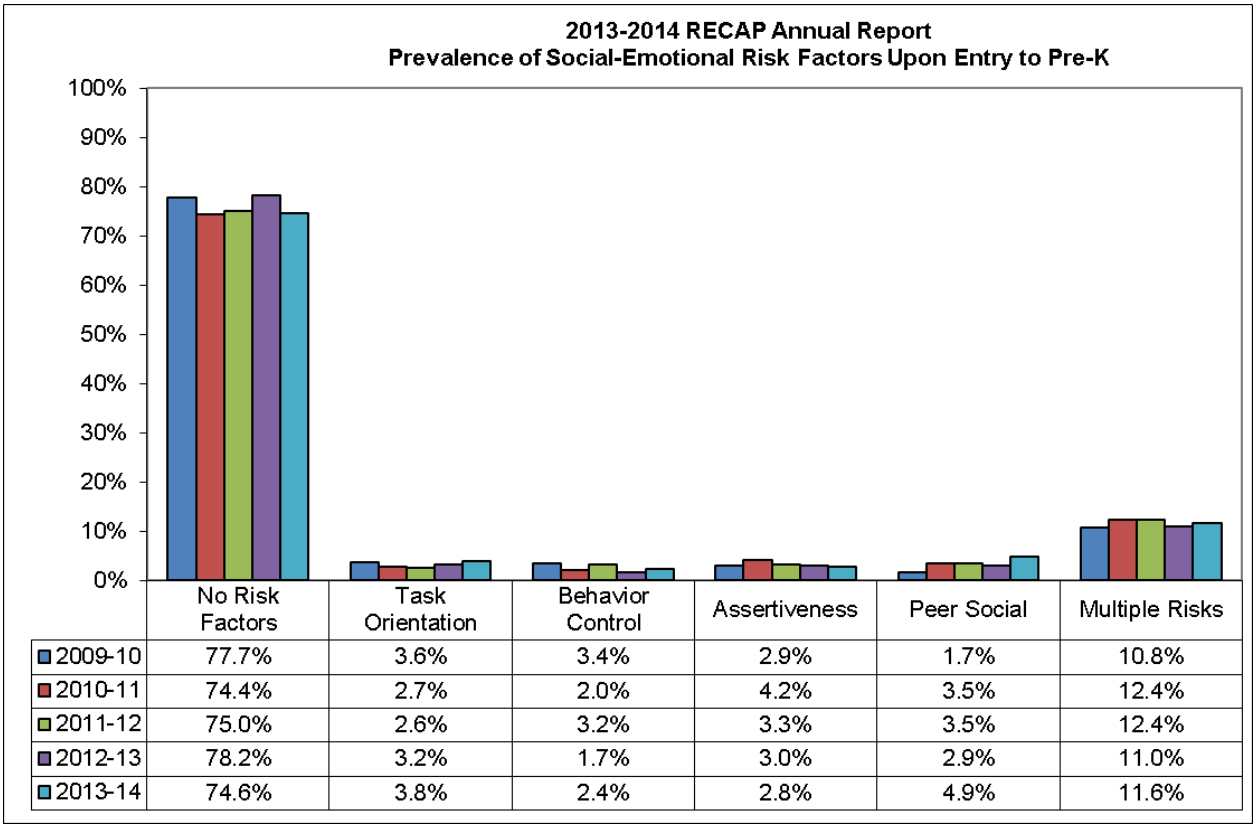
2013-2014 RECAP Annual Report Students with Social-Emotional Risk Factors in the Fall					
	2012-2013		2013-2014		Chi Square
	Frequency	Percentage[+]	Frequency	Percentage[+]	
No risk factors	1,454	78.2%	1,456	74.6%	7.07*
***Task Orientation* risk only**	60	3.2%	74	3.8%	0.89
***Behavior Control* risk only**	32	1.7%	46	2.4%	1.91
***Assertiveness* risk only**	55	3.0%	55	2.8%	0.07
***Peer Social Skills* risk only**	53	2.9%	95	4.9%	10.35*
Multiple risk factors	205	11.0%	227	11.6%	0.34
Number of valid responses	1,859	-	1,953	-	-

[+] Percentage is calculated from number of valid responses
* Scores are statistically different (p<.01)

As shown below in Figure 17, the proportions of students for each at-risk category (no risk factors, and single or multiple risk factors) have remained relatively consistent, with the exception of this year's ***Peer Social Skills*** scores, for the last five years for the students attending RECAP-affiliated pre-k programs.

Children with no risks in the past two years have ranged from 75% to 78%; therefore, overall, 22% to 25% have at least one social and emotional risk. Combining the single-risk rates from each of the four groups shows that children with individual risk factors comprise approximately 14%. This rate is slightly higher than in previous years, which were approximately 11-12% over the last four years.

Figure 17. Prevalence of Social-Emotional Risk Factors at Entrance



	No Risk Factors	Task Orientation	Behavior Control	Assertiveness	Peer Social	Multiple Risks
2009-10	77.7%	3.6%	3.4%	2.9%	1.7%	10.8%
2010-11	74.4%	2.7%	2.0%	4.2%	3.5%	12.4%
2011-12	75.0%	2.6%	3.2%	3.3%	3.5%	12.4%
2012-13	78.2%	3.2%	1.7%	3.0%	2.9%	11.0%
2013-14	74.6%	3.8%	2.4%	2.8%	4.9%	11.6%

In comparison to 2012-2013, 3.6% fewer children arrived without a social or emotional risk in 2013-2014. Based on national norms, we anticipate that approximately 85% of the children assessed would arrive with no social or emotional risk factors presenting. In Rochester last year, only 75% of students entered pre-k without any risk factors, a significantly lower rate than expected when compared with the national norms. Additionally, Rochester's four-year-old children entered pre-k with more risks when compared with the prior year, continuing the trend of students presenting in the fall with more social and emotional issues when compared to national samples.

Rochester UPK Students

The social and emotional risk factors for UPK students, as assessed by the T-CRS in the fall and spring of the 2013-2014 school year, are shown in Table 31. All 1,341 UPK students who had a T-CRS assessment completed at both times of administration were included in this analysis. RECAP used a series of chi-square tests to determine if the proportions of at-risk students at the beginning and the end of the school year were significantly different. This year we did not find any significant changes in the proportions of students who were at-risk from fall to spring.

Table 31. T-CRS Risk Factors for Rochester UPK Students

2013-2014 RECAP Annual Report Rochester UPK Students - Complete Data Only T-CRS Risk Factors (Below 15th Percentile)					
N=1341	**Fall**		**Spring**		**Chi Square**
	n	**%**	**n**	**%**	
No Risks	1024	76.4%	1055	78.7%	4.1
Risks					
Task Orientation	157	11.7%	138	10.3%	0.7
Behavior Control	120	8.9%	145	10.8%	3.5
Assertiveness	69	5.1%	51	3.8%	2.2
Peer Social	175	13.0%	146	10.9%	1.9
Risks					
Single Subscale	176	13.1%	154	11.5%	0.9
Task Orientation	53	4.0%	46	3.4%	0.3
Behavior Control	33	2.5%	49	3.7%	3.8
Assertiveness	32	2.4%	20	1.5%	2.4
Peer Social	58	4.3%	39	2.9%	3.2
Multiple Subscales	141	10.5%	132	9.8%	0.1
Two Risks	85	6.3%	79	5.9%	0.1
Three Risks	49	3.7%	44	3.3%	0.1
Four Risks	7	0.5%	9	0.7%	0.3
Note: There were no statistically significant differences between the fall and the spring results ($p<0.01$).					

*In previous years, we have seen significant decreases in the proportions of students who were at-risk, specifically for **Assertiveness**. That trend did not continue this year. There were no significant decreases in the proportion of students at-risk in any subscale of the T-CRS. Conversely, this year there was no significant increase in the proportion of students who were classified as being at-risk for **Behavior Control**, as opposed to last year's findings that the*

proportion of students increased during the school year. This year's results should be interpreted with caution due to the full day pre-k expansion that happened midyear.

Performance and Student Attendance

For the second consecutive year, we analyzed students' social and emotional performance using the T-CRS based on student attendance. See Table 32. Only students who attended a RECAP program for at least 108 days were included in these analyses and students were categorized into "low" attendance if they attended between 108 and 171 days and "high" attendance if they attended over 171 days.

At the beginning of the school year, students in the high and low attendance groups scored approximately the same on all of the T-CRS subscales, as there were no statistically significant differences between the two groups ($p<.01$).

Table 33 shows that final T-CRS subscale scores in the spring were not different based on student attendance. The amount of growth from fall to spring was also not significantly different between the two attendance groups for each of the T-CRS subscales. (See Table 34 and Figure 18).

Table 32. T-CRS Scores in the Fall Based on Attendance

2013-2014 RECAP Annual Report T-CRS Scores in the Fall Based on Total Attendance							
Skill Area	**Fall**						**Effect Size**
	Low			**High**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	827	28.62	6.61	212	28.03	6.55	0.09
Behavior Control	827	28.04	7.02	212	26.86	7.48	0.17
Assertiveness	827	29.43	5.87	212	29.73	5.59	-0.05
Peer Social Skills	827	30.39	5.89	212	30.30	5.67	0.02
*No results are significant at the $p<.01$ level							

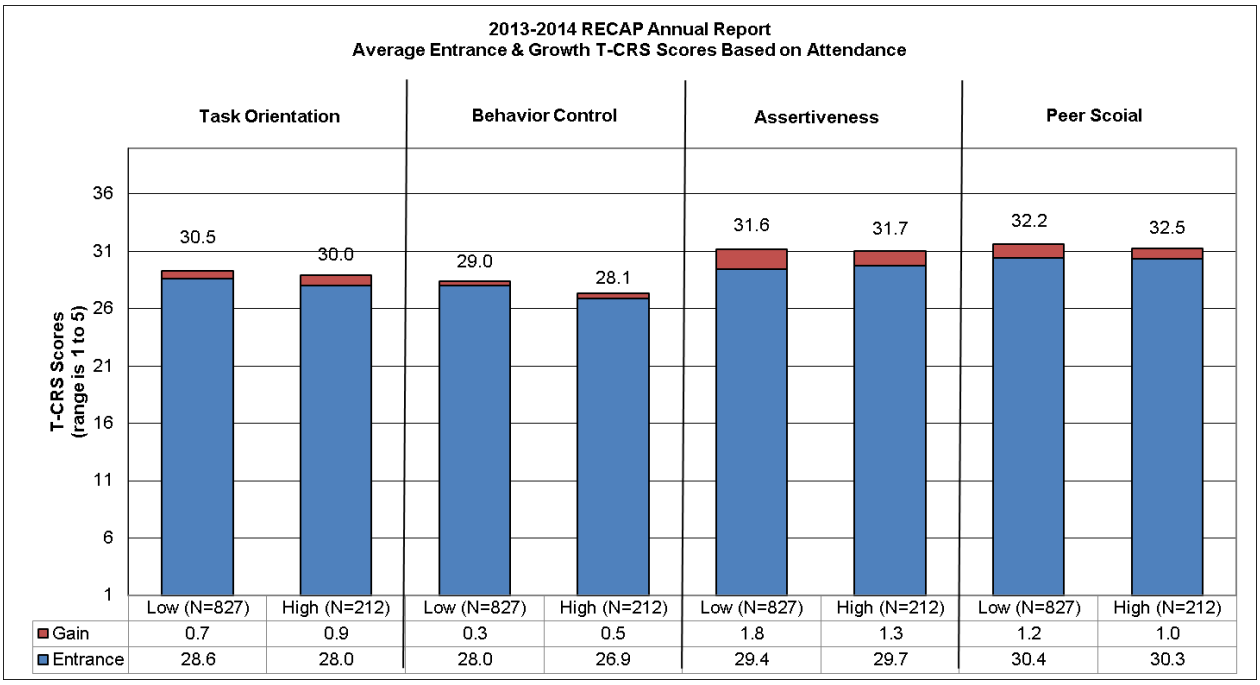
Table 33. T-CRS Scores in the Spring Based on Attendance

2013-2014 RECAP Annual Report T-CRS Scores in the Spring Based on Total Attendance							
Skill Area	**Spring**						**Effect Size**
	Low			**High**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	827	29.32	6.85	212	28.90	6.81	0.06
Behavior Control	827	28.36	7.76	212	27.33	7.79	0.13
Assertiveness	827	31.21	5.82	212	31.02	5.39	0.00
Peer Social Skills	827	31.59	6.16	212	31.27	6.61	0.05
*No results are significant at the $p<.01$ level							

Table 34. T-CRS Growth Scores Based on Attendance

2013-2014 RECAP Annual Report T-CRS Growth Scores Based on Total Attendance							
Skill Area	**Growth**						**Effect Size**
	Low			**High**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	827	0.70	6.19	212	0.86	5.85	-0.03
Behavior Control	827	0.32	6.40	212	0.47	6.29	-0.02
Assertiveness	827	1.78	5.51	212	1.30	4.43	0.09
Peer Social Skills	827	1.20	5.78	212	0.97	5.39	0.04
*No results are significant at the $p<.01$ level							

Figure 18. T-CRS Subscale Scores Based on Attendance



Historically, there has been relatively little change for children from fall to spring on the T-CRS. These findings, based on attendance, suggest that students who entered the school year at similar levels of social-emotional functioning gained the same regardless of the number of school days that they were present, assuming at least 108 days. In essence, student attendance did not have an effect on the exit scores for children on their social and emotional performance.

Performance and Program Length

We analyzed the length of the day that students attended a pre-k program as part of RECAP and its effects on students' social and emotional performance, as measured by the T-CRS. Program length was categorized as programs that were 2.5 hours long pre day as half-day and anything more than that as full-day. Fifty-six RECAP classrooms expanded from half-day to full-day in February of 2014.

At the beginning of the school year, students in the half-day programs showed no significant differences from the full-day programs in their T-CRS scores. However, from the beginning to the end of the school year, the groups' growth scores for three of the four domains were statistically different. Changes in ***Task Orientation, Behavior Control***, and ***Peer Social*** scores were significantly lower for the students who attended full-day programs than were the growth scores for students who attended half-day programs. All four subscales' scores on the spring administration of the T-CRS were significantly lower for the full-day students than the half-day students. While there were significant differences between the full-day and half-day students, the effect sizes were small. See Tables 35-37.

Table 35. T-CRS Fall Scores Based on Length of Program Day

2013-2014 RECAP Annual Report T-CRS Scores in the Fall Based on Length of Day							
Skill Area	**Fall**						**Effect Size**
	Half-Day			**Full-Day**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	538	28.67	6.03	1048	28.23	6.89	0.07
Behavior Control	538	27.91	6.80	1048	27.70	7.31	0.03
Assertiveness	538	29.08	5.52	1048	29.56	5.83	-0.08
Peer Social Skills	538	30.34	5.26	1048	30.29	6.06	0.01
*No results are significant at the $p<.01$ level							

Table 36. T-CRS Spring Scores Based on Length of Program Day

2013-2014 RECAP Annual Report T-CRS Scores in the Spring Based on Length of Day*							
Skill Area	**Spring**						**Effect Size**
	Half-Day			**Full-Day**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	538	30.23	6.32	1048	28.61	7.20	0.23
Behavior Control	538	29.20	7.38	1048	27.57	7.98	0.21
Assertiveness	538	31.17	5.91	1048	30.86	5.76	0.05
Peer Social Skills	538	32.24	5.63	1048	30.98	6.45	0.20
*All results are significant at the $p<.01$ level							

Table 37. T-CRS Growth Scores Based on Length of Program Day

2013-2014 RECAP Annual Report T-CRS Growth Scores Based on Length of Day							
Skill Area	**Growth**						**Effect Size**
	Half-Day			**Full-Day**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation*	538	1.56	5.17	1048	0.39	6.60	0.19
Behavior Control*	538	1.29	5.52	1048	-0.14	6.84	0.22
Assertiveness	538	2.09	4.94	1048	1.30	5.37	0.15
Peer Social Skills*	538	1.90	4.99	1048	0.69	5.92	0.22
*Results are significant at the $p<.01$ level							

Children at the end of full-day UPK programs did not, on average, score as highly on the T-CRS as half-day students. Additionally, they did not show as much social and emotional growth as half-day UPK students on three of the four subscales. Conversations with teachers and administrators have provided some potential explanations that could explain the reduced rate of growth seen in full-day students. One possibility is that most pre-k students were not ready for an extended day of learning in a classroom. Some proposed that the change in the children's routines when they became full-day students was also a dramatic challenge for the students. Another suggestion is related to the challenges of changing teachers midyear. We examine this further in the next section.

Performance and Continuity of Care

Many of the RECAP pre-k students experienced a significant disruption to their normal routines in February of 2014 when the Priority Pre-K (PPK) grant supplied funding for classrooms to transition from half-day to full-day programs. The addition or reassigning of teachers contributed to the disturbances experienced by the children in pre-k this year. It is important to understand some of the potential effects that the transition could have had on Rochester's pre-k students.

As was done with the COR analyses, students were categorized into one of two groups: those who had the same teacher in the fall and the spring and those whose teacher changed. We used a series of *t*-tests to determine what, if any, differences existed between the two groups. Table 38 displays the results of the students fall T-CRS scores based on their continuity of care. As expected, there were no differences between the two groups at the beginning of the school year; all teachers would have had the same amount of time to observe and rate the students and they were rating them at the same time point.

Table 38. T-CRS Fall Scores Based on Continuity of Care

2013-2014 RECAP Annual Report T-CRS Scores in the Fall Based on Continuity of Care							
Skill Area	**Fall**						**Effect Size**
	Same			**Different**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	1261	28.39	6.49	354	28.39	7.05	0.00
Behavior Control	1261	27.79	6.96	354	27.69	7.73	0.01
Assertiveness	1261	29.43	5.57	354	29.31	6.22	0.02
Peer Social Skills	1261	30.46	5.59	354	29.85	6.49	0.11
*No results are significant at the $p<.01$ level							

We also analyzed students' growth rates on the T-CRS based on the continuity of care that they experienced. As can be seen in Figure 19, students who had the same teacher throughout the school year showed significantly more growth in ***Task Orientation, Behavior Control,*** and ***Assertiveness*** than did students whose teachers changed mid-year. While the results did not find statistically significant differences between the two groups on ***Peer Social***, it is worth noting that the students who had the same teacher throughout the school year still showed greater growth than students who did not. Students' growth scores for ***Task Orientation*** and ***Behavior Control*** are *particularly alarming for students who had two different teachers as their growth rates, on average, showed a decline* with students' social-emotional behaviors ending up worse in the spring. By the spring, students who had more than one teacher during the school year were rated significantly lower in all four areas of social and emotional behavior assessed by the T-CRS (see Table 39).

Figure 19. T-CRS Growth Rates Based on Continuity of Care

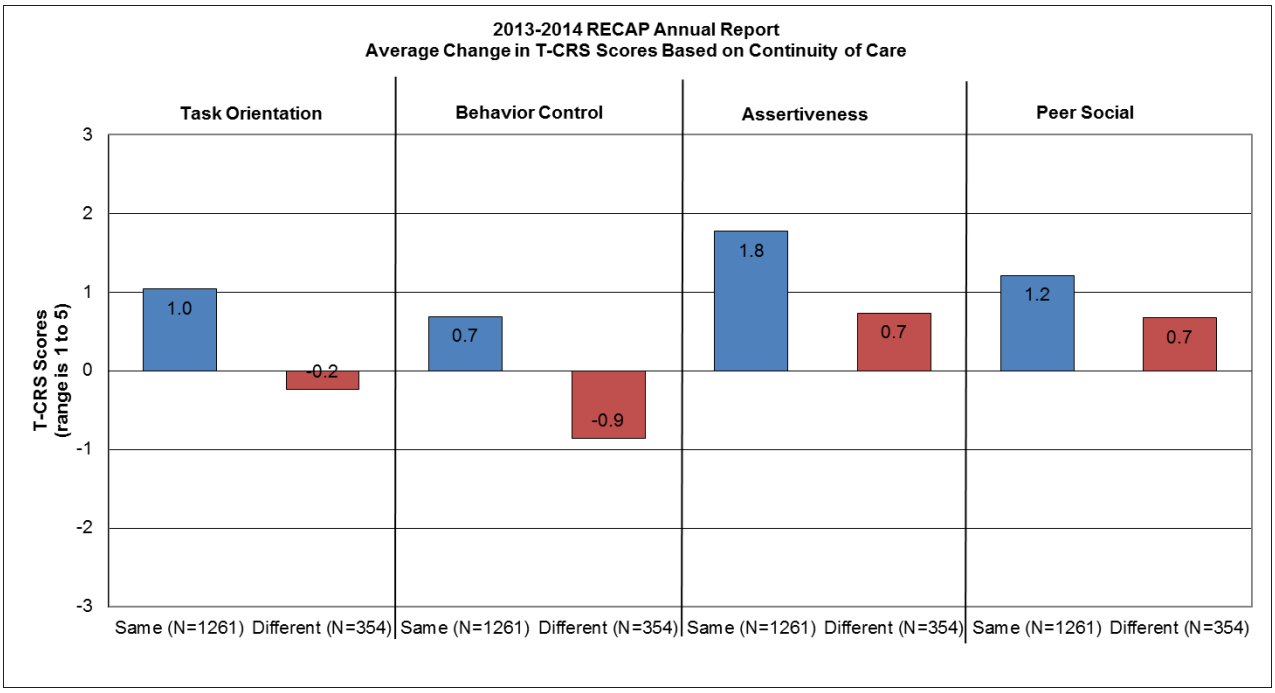


Table 39. T-CRS Spring Scores Based on Continuity of Care

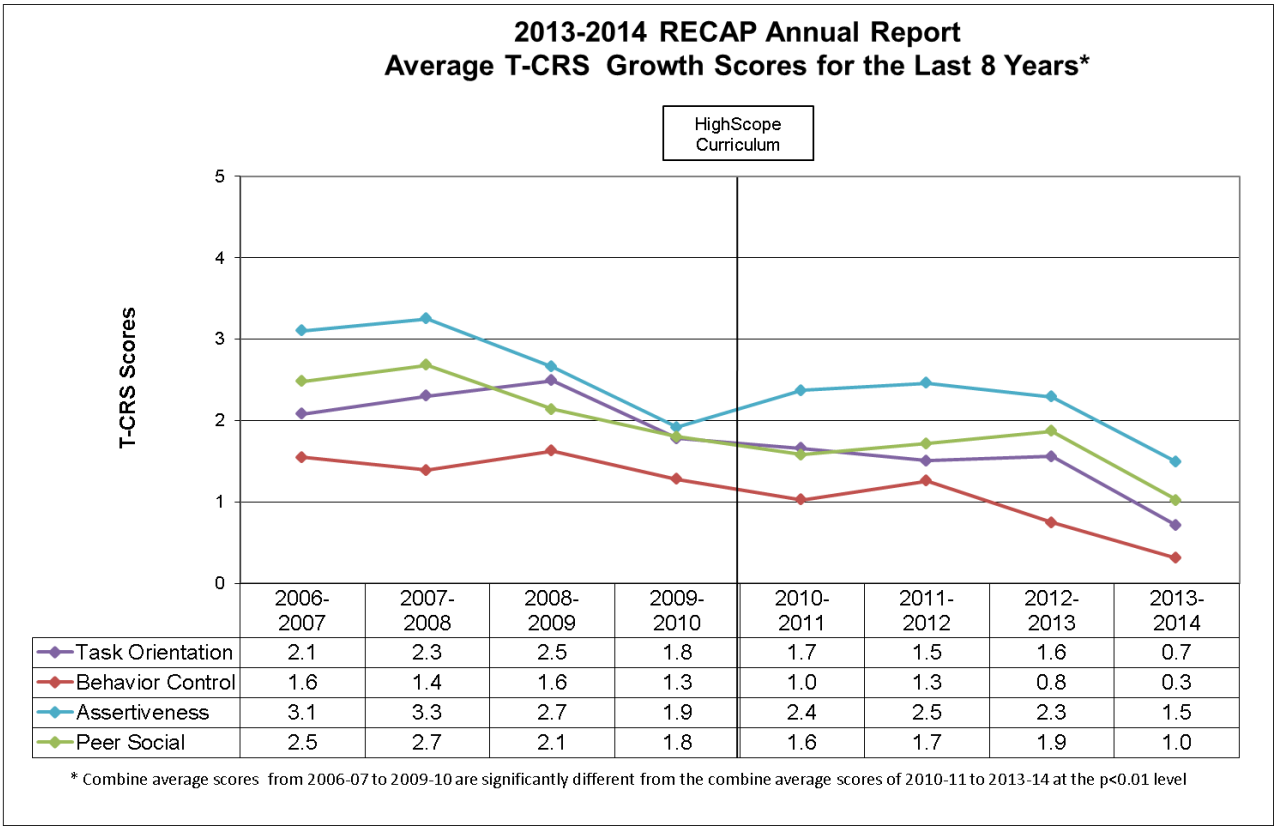
2013-2014 RECAP Annual Report T-CRS Scores in the Spring Based on Continuity of Care*							
Skill Area	**Spring**						**Effect Size**
	Same			**Different**			
	N	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**	
Task Orientation	1261	29.43	6.88	354	28.15	7.02	0.19
Behavior Control	1261	28.47	7.70	354	26.82	7.90	0.21
Assertiveness	1261	31.20	5.81	354	30.04	5.67	0.20
Peer Social Skills	1261	31.67	6.02	354	30.52	6.72	0.19
*All results are significant at the $p<.01$ level							

The change of teachers during the school year was associated with poorer social and emotional growth and end-of-the-year performance on the T-CRS for students in 2013-2014. Again, these results, while not definitive, support the suggestion that the compositional stability of the classroom is important to students' social and emotional growth and development. Given these results, in combination with those of the COR, it is highly recommended that pre-k classroom teachers stay with their classes throughout the school year whenever possible.

HighScope Curriculum

As with the COR, we compared the growth scores for the T-CRS over the last eight years to examine the effects of the HighScope curriculum while controlling for variations in the initial scores of the incoming students. The growth scores on all four of the T-CRS subscales *decreased significantly* this year in comparison to last year.

Figure 20. Eight Years of T-CRS Growth Scores by Subscale



	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Task Orientation	2.1	2.3	2.5	1.8	1.7	1.5	1.6	0.7
Behavior Control	1.6	1.4	1.6	1.3	1.0	1.3	0.8	0.3
Assertiveness	3.1	3.3	2.7	1.9	2.4	2.5	2.3	1.5
Peer Social	2.5	2.7	2.1	1.8	1.6	1.7	1.9	1.0

* Combine average scores from 2006-07 to 2009-10 are significantly different from the combine average scores of 2010-11 to 2013-14 at the p<0.01 level

Figure 20 shows the growth scores from the administration of the T-CRS from the 2006-2007 to 2013-2014. The growth scores for the T-CRS ranged from 1.3 to 3.3 before the use of the HighScope curriculum, but, in the four years since the adoption of HighScope, T-CRS growth scores have ranged from a low of 0.3 to a high of 2.5. This year, in particular, had the lowest growth scores seen in RECAP in the past eight years. While the T-CRS subscale growth scores have been significantly lower since the introduction of HighScope when compared to before the curriculum's introduction, the trend toward decline began one to two years before the curriculum was adopted. This is also evident when examining the change in the growth scores for the Total T-CRS shown in Figure 21. From 2006-2007 until 2009-2010, students saw average gains of approximately 2.2 on the T-CRS, with the lowest average gain of 1.7 in 2009-2010. Since then, overall growth scores on the T-CRS have been averaging 1.5 and appear to be continuing on a downward trend with a lowest average gain of 0.3 occurring this year in ***Behavior Control***. The use of HighScope has not apparently altered the overall decline.

Since before the implementation of the HighScope curriculum, students have been experiencing smaller gains in the social-emotional areas as assessed by the T-CRS.

Figure 21. Eight Years of Overall T-CRS Growth

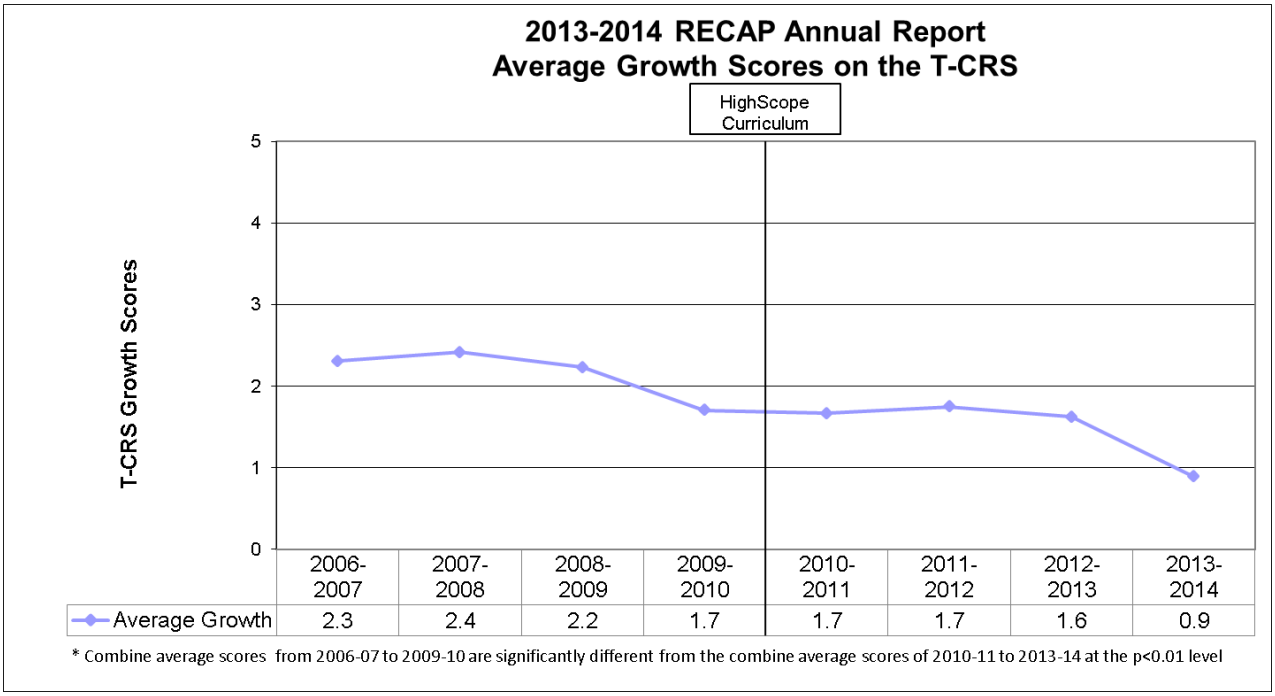


Table 40 provides a side-by-side comparison of the combined results of the *spring* T-CRS scores from the four years prior to the implementation of the HighScope curriculum and the results of the combination of scores in the spring for the four years following the implementation of the curriculum. The *t*-test results indicate that the subscale scores for all of the T-CRS subscales were significantly worse after the curriculum implementation than they were prior to the curriculum's implementation. Furthermore, the findings showed that, overall, T-CRS scores at the end of pre-k have also decreased significantly. It is important to note that the effect sizes are small and declines in these scores appear prior to the inauguration of the HighScope curriculum, as illustrated by Figures 20 and 21. Additionally, this year's scores were much lower than past years' scores, *possibly because of the transitions that children experienced with the pre-k expansion*, and pulled down the overall averages of the last four years combined.

Table 40. T-CRS Subscale Scores in the Spring Before & After HighScope Implementation

2013-2014 RECAP Annual Report Average T-CRS Subscale Scores at Time 2 (Spring)*							
	Pre-HighScope			Post-HighScope			
Skill Area	**N**	**Mean**	**St. Dev.**	**N**	**Mean**	**St. Dev.**	**Effect Size**
Task Orientation	6564	30.04	7.48	6353	29.72	6.81	0.04
Behavior Control	6562	28.97	8.06	6353	28.36	7.54	-0.04
Assertiveness	6548	31.41	6.57	6353	31.15	5.80	-0.02
Peer Social	6561	32.54	6.66	6353	31.69	6.03	-0.07
Overall	6572	30.74	6.05	6353	30.23	5.50	-0.04
* All scores are statistically different (p<.01)							

These results suggest that the trend toward declining growth in children's behavior in all areas of the T-CRS is, at best, not being stabilized by the HighScope curriculum. Although the effect sizes associated with the declines are not large, they should be a concern because children's social and emotional behaviors are tied directly to students' long-term academic performance (Durlak et al, 2011).

We recommended that a more thorough review of the potential causes and remedies of these negative results be conducted by a new Ad Hoc Committee of the UPK Policy Advisory Group and/or the UPK Professional Development Committee.

Parent Perspectives

Overview of RECAP Parent and Family Measures

Family involvement and participation in children's first formal exposure to education is integral to children's development and academic success and reflects parents' future involvement with the education system. The support and input of parents is crucial to addressing the needs of pre-kindergarten children and is a founding principle of RECAP. Capturing parent and family perspectives and promoting family engagement at this stage is important, because parent participation tends not to increase over the time. Pre-k and kindergarten are the best times to encourage parents to begin active patterns of engagement in their children's education.

Since Rochester's Universal Pre-K initial year in 1998-99, RECAP has evaluated many parental aspects in the pre-k realm. The parent/family instruments used over these 17 years have included:

1. *Parent Satisfaction Survey* – an end of the year measurement of parent satisfaction with their child's pre-k program. RECAP began using this instrument at the onset of Universal Pre-K and continued to use it for many years. It yielded consistent results with 94% of parents assigning a grade letter rating of "B" or higher to their child's pre-k program. RECAP determined that this survey no longer provided new or meaningful information so both the RECAP "A" Team and Advisory Committee decided to discontinue its use in 2008.

2. *Family Involvement Questionnaire, FIQ* (Fantuzzo, McWayne, & Perry, 2004) – a nationally recognized instrument that assesses three domains: ***School Involvement***, ***Parent-Teacher Communication***, and ***Home Involvement***. The FIQ has emerged as an t important parent and family survey.

3. *Parent-Child Rating Scale, P-CRS* (Hightower, Work, Cowen, Lotyczewski, Spinell, Guare, & Rohrbeck, 1986) – a social-emotional instrument and a companion to the T-CRS – provides parents' perspectives on their child's social-emotional adjustment regarding ***Task Orientation, Frustration Tolerance, Positive Peer Social Relations, Negative Peer Social Relations, Self-Reliance, Shy Anxious-Withdrawn,*** and ***Positive Disposition.***

4. *Pre-K Parent Appraisal of Children's Experiences*, *Pre-K PACE* (Hightower, Gramiak, Allan, Lehmann, Halterman, Lotyczewski, Baker, Forbes-Jones, & Demanchick, 2008) – a relatively long and very comprehensive instrument, completed by parents, that details their child's history from pre-birth to their entry into pre-k. The Pre-K PACE asks for information about child's medical history, developmental history, and current functioning within speech and language, motor skills, cognitive skills, social-emotional adjustment, and life experiences domains.

Teacher-parent communication data has also been collected for the past two years, via COMET. UPK teachers input information about eleven types of parent contacts (for example, phone conferences, classroom visits, and parent-teacher conferences) throughout the school year. This

data collection system is relatively new and teachers are still learning its mechanisms. Therefore, the data collected thus far is incomplete; however, we are now observing increases in the number of contacts being recorded, and we suspect that the number of actual contacts is substantially higher.

Family Involvement Questionnaire

Tracking family involvement and participation is a state requirement and an important component for UPK. In 2006, RECAP reviewed the pertinent literature and determined that the Family Involvement Questionnaire (FIQ) (Fantuzzo et al., 2004) was one of the best-researched instruments available for assessing parent involvement with their child's education from the parent's perspective. RECAP first piloted and administered the FIQ during the 2006-2007 school year. Since then, RECAP has administered the FIQ twice a year, once in the fall and once in the spring, to measure changes that may have occurred in parent involvement throughout the course of the school year.

The 2011-2012 school year marked the beginning of the systematic use of the 21-item short form of the FIQ, which, based on analyses in previous years, demonstrated adequate and robust reliability and validity when compared to the full 42-item FIQ (Fantuzzo et al., 2004). There are a number of advantages to reducing the number of items. Most notably, it reduces the amount of time parents need to spend completing the questionnaire and increases the likelihood of the FIQ's completion.

The FIQ measures parents' involvement in and support of their children's education. The measure is psychometrically sound and has three empirically derived factors (Fantuzzo et al., 2004). Children's Institute independently validated these results (Gramiak, Hightower, Brugger, Van Wagner, MacGowan, & Montes, 2007). The three parent involvement domains are:

School Involvement: This includes activities and behaviors that parents engage in at schools/centers with their children. Examples are, "I go on class trips with my child," and, "I talk with other parents about school meetings and events."

Parent-Teacher Communication: This describes communication between parents and school personnel about the child's educational experience and progress, including talking with the teacher about multiple facets of the child's classroom experience. Item examples include "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."

Home Involvement: This scale examines parent-reported behaviors 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)."

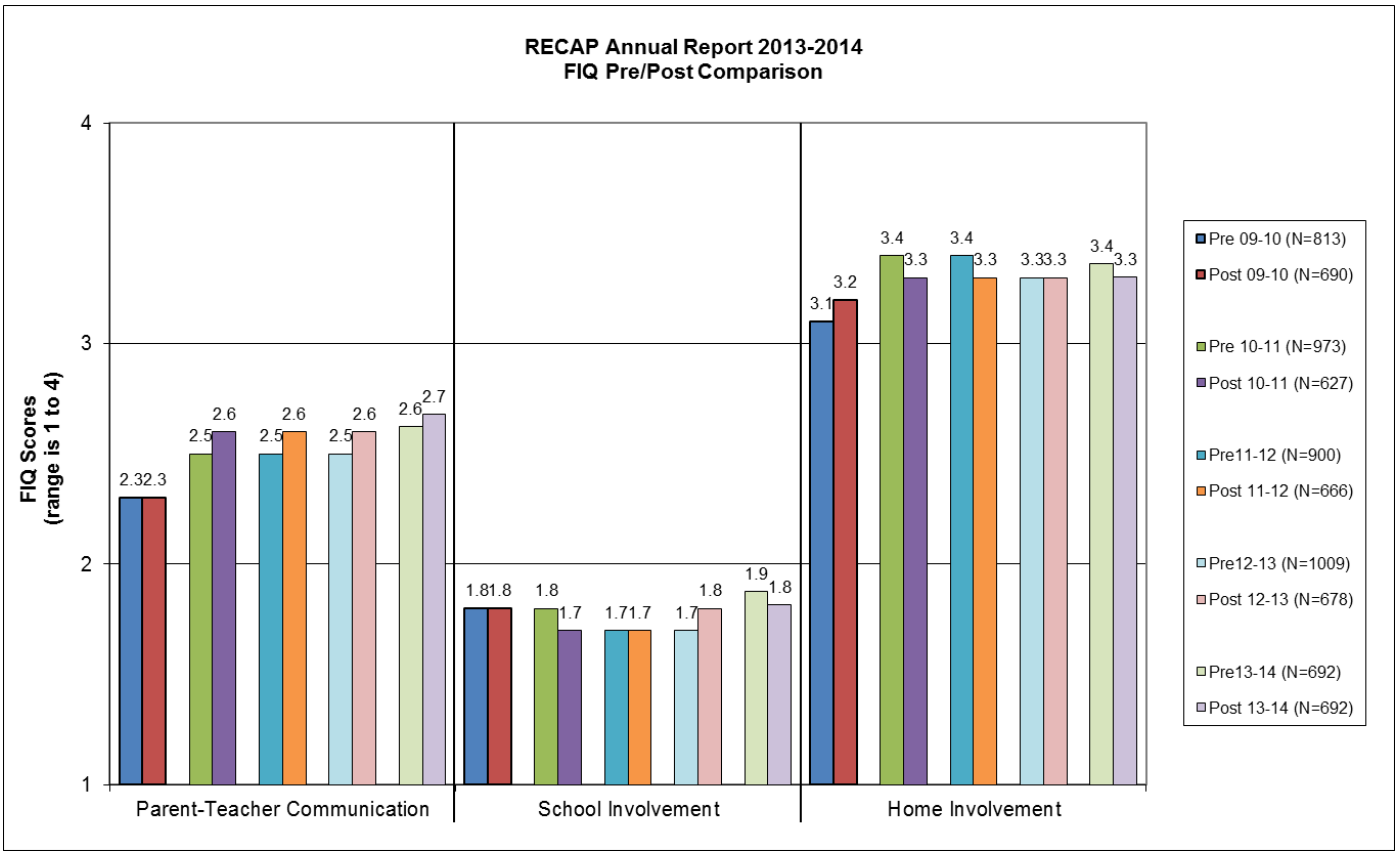
With this school year's data, we assessed whether differences emerged throughout the course of the family's involvement in their child's preschool year by reporting the pre- and post-comparison on the three scales. The Cronbach's alpha reliabilities of the fall data collection have remained stable and are reported in the *Statistical Supplement* this year. Also reported in the *Statistical Supplement* are the results for individual programs.

Figure 22 below shows parents consistently report their greatest involvement in the home environment, followed by moderate involvement with communications with teachers, and the least involvement in the classroom. Results for the past four years show similar results.

As we reported the past 5 years, family involvement remains low, and it has shown very little change from one school year to the next. Overall, efforts by program administrators and teachers, if any, have made no evident impact on these results.

Because family involvement is important and families typically do not get more involved in their children's education as their children grow older, it is critical that increasing family involvement continues to be a significant area of focused effort in the pre-kindergarten years. Assuming there is a desire to improve family involvement and participation, pre-kindergarten program directors, teachers, and staff must lead the school district and implement specific successful strategies that improve communication between teachers and parents as well as family involvement in their programs and at their sites.

Figure 22. Five Year Family Involvement Questionnaire Comparisons



This chart represents five years of pre and post-data in the three domains, or thirty (30) data points. As we can observe, there have been *no evident changes in parent participation in any of the domains, spanning the course of the last half-decade*.

FIQ Correlations with the COR and T-CRS

Last year, 2012-2013, we found virtually no significant correlations between the Family Involvement Questionnaire and the COR and the T-CRS at either beginning of school year or at the end of school year (Story, et al. 2013). This year we are seeing some small, but statistically significant, correlations at the beginning of the school year between the FIQ and the COR and the T-CRS. This is especially true in the ***School Involvement*** domain of the FIQ, which positively correlated with seven of the eight subscales that make up both the COR and the T-CRS. The ***Parent-Teacher Communication*** domain had multiple small but significant positive correlations with the COR. We also saw significant and robust relationships between subscales of the T-CRS and the FIQ ***Home Involvement*** subscale.

Table 41 displays the three parent completed FIQ scales correlated with the teacher completed subscales of the COR and T-CRS *at the beginning of the 2013-2014 school year*. Eight of the 12 COR-FIQ correlations were statistically significant at $p<.01$. All four COR scales were related to FIQ ***School Involvement*** domain, the COR ***Math & Science*** scale had the smallest correlation. There was a direct relationship between parents involvement in school and UPK children's academic and social functioning.

Three of the COR scales were related to the FIQ ***Parent-Teacher Communication*** scale; the COR ***Math & Science*** scale was not significantly related to ***Parent-Teacher Communications***. However, the more the child's family is involved with communicating with his /her teacher, as perceived by the parent, the better the child performed on ***Initiative & Social***, ***Language & Literacy***, and ***Movement & Music*** subscales, as observed by the teacher.

Only the COR ***Language & Literacy*** scale correlated significantly with the FIQ ***Home Involvement*** scale. The better the parent rated their involvement with their child at home, the better the child's language and literacy skills were when observed by the teacher in the classroom.

Table 41. FIQ Correlations With the COR and the T-CRS in the Fall

2013-2014 RECAP Annual Report FIQ Correlations with COR and T-CRS in the Fall				
N=297		FIQ		
		Parent-Teacher Communication	School Involvement	Home Involvement
COR	*Initiative & Social*	0.18*	0.24*	0.14
	Language & Literacy	0.19*	0.25*	0.19*
	Movement & Music	0.17*	0.22*	0.15
	Math & Science	0.15	0.18*	0.13
T-CRS	*Task Orientation*	0.06	0.16*	0.25*
	Behavior Control	-0.08	0.05	0.09
	Assertiveness	0.14	0.19*	0.30*
	Peer Social	0.06	0.18*	0.28*
*Statistically significant at the p<.01 level				

The correlations between the T-CRS and FIQ scales are interesting in regards to both the relationships that are significant and those that are not. For example, the way parents perceive their communication with the teacher has no relationship with how the teacher perceives any of their child's behaviors assessed by the T-CRS. Similarly, there are no significant relationships between how teachers perceive a child's ability to control themselves (***Behavior Control***) with how parents report any of their involvements with their child at home or at school.

However, the FIQ ***School Involvement*** and ***Home Involvement*** scales are each positively related to the T-CRS ***Task Orientation***, ***Assertiveness***, and ***Peer Social Skills*** subscales. The stronger a parent's perception of school and home learning involvement, the better teachers perceive children's ability to focus on tasks, to ask questions, to assert themselves, and to get along with peers.

Table 42 presents the correlations between the change parents perceive on their family's involvement from the beginning to the end of the year with the change observed by teachers on academic (COR) and social and emotional functioning (T-CRS) during that same time period. What is striking is the lack of any relationship regarding parents' perceived changes in their communications with teachers or in their involvement at home and any academic or social–emotional changes observed in their children. In addition, there were no significant relationships between changes in parents' school involvement and changes in children's academic and motor domains of the COR or in their task orientation, assertiveness, or behavior control as measured by the T-CRS. However, parents' perceived increases in their involvement in school settings was related to their children's improved initiative and peer social behaviors as perceived by teachers.

Table 42. 2013-2014 FIQ Correlations Change Scores

2013-2014 RECAP Annual Report FIQ Change Scores Correlations with COR and T-CRS Change Scores				
N=297		FIQ		
		Parent-Teacher Communication	School Involvement	Home Involvement
COR	*Initiative & Social*	0.11	0.17*	0.04
	Language & Literacy	0.03	0.13	0.06
	Movement & Music	0.14	0.13	0.06
	Math & Science	-0.02	0.08	-0.03
T-CRS	*Task Orientation*	0.01	0.16	0.02
	Behavior Control	-0.06	0.13	0.07
	Assertiveness	-0.06	0.09	0.04
	Peer Social	-0.04	0.18*	0.13
*Statistically significant at the p<.01 level				

This year's results suggest that there are relationships between how parents rate their family involvement at the beginning of the year and how teachers observe children's academic performance. However, many of the correlations are small, suggesting that the relationship between parents' perceptions of their involvement and teachers' ratings of students' social and emotional functioning is weak. Another take-away is that, prior to UPK, parents' involvement with their children at home was important to a child's language, literacy, social and emotional functioning. Parents' involvement has the weakest relationship with math and science skills. More work is needed to help understand this disconnect better. One possibility is that RECAP parents are not exploring math and science concepts with their children on a regular basis. Some support for this hypothesis is provided by the observation of gains made by children in Math and Science from the beginning of the year to the end of the year and the dramatic loss seen over the summer. While there is a community wide effort to improve and maintain children's language and literary (i.e., "reading by third grade"), this raises the question: is there a need to improve parent and child literacy in STEM (Science, Technology, Engineering , Math) related concepts too?

Parent-Child Rating Scale (P-CRS)

The Parent-Child Rating Scale (P-CRS) is a 39-item parent-completed measure designed to assess social-emotional competences and concerns that parents' have regarding their children. Social-emotional competence includes forming and maintaining positive peer relationships, being assertive and self-reliant, tolerating frustration/setbacks, being able to self-regulate, and having a positive temperament. Social-emotional concerns include having negative peer relationships and being anxious and insecure. The development of the P-CRS took place over a 15-year period. The intent of the P-CRS was to design a measure that would be particularly well suited in assessing the perspectives of pre-kindergarten parents. As in all previous years, during the 2013-2014 school year, parents completed the P-CRS twice, once in the fall and again in the spring.

In review, the P-CRS collects information on seven empirically derived subscales:

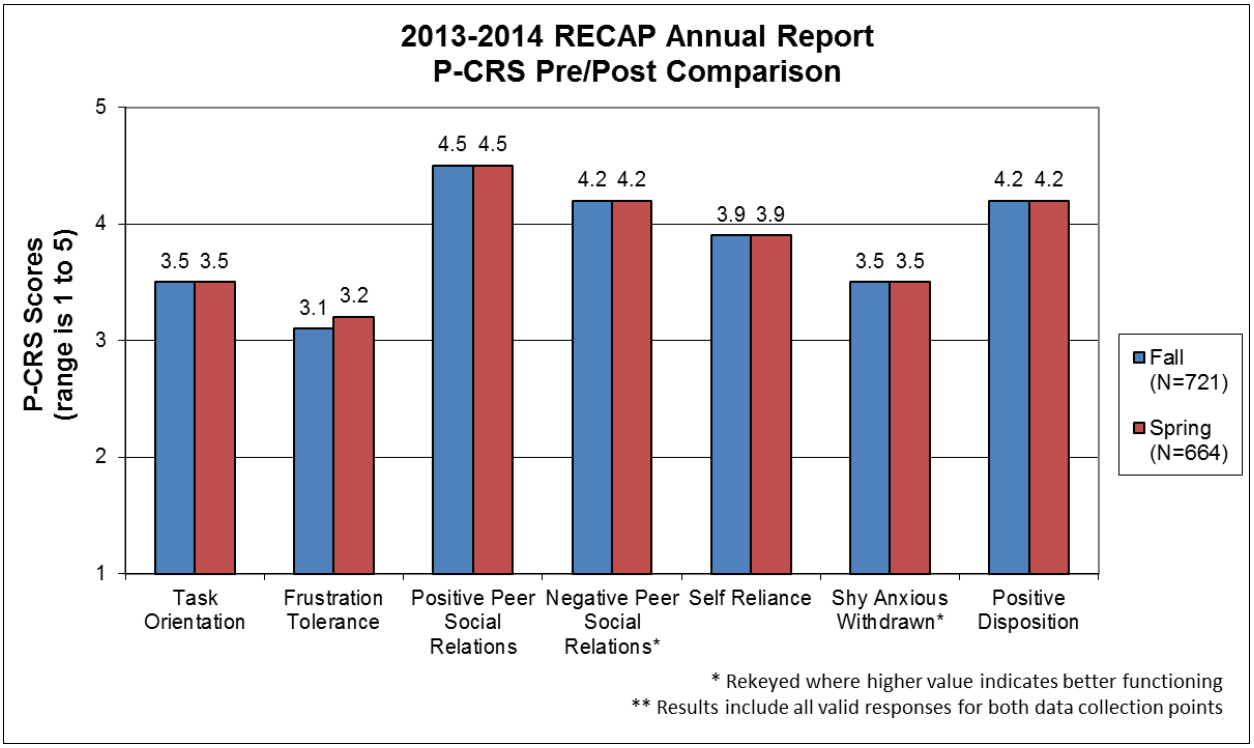
- Task Orientation
- Frustration Tolerance
- Positive Peer Social Relations
- Negative Peer Social Relations
- Self-Reliance
- Shy Anxious-Withdrawn
- Positive Disposition

The *Negative Peer Social Relations* and *Shy Anxious-Withdrawn* subscales reflect parental concerns about children's difficulty behaving or relating to other children, while the subscales of *Task Orientation, Frustration Tolerance, Positive Peer Social Relations, Self-Reliance,* and *Positive Disposition* are associated with parent-perceived competencies. The parent-completed P-CRS, in conjunction with the teacher-completed COR and T-CRS, provides a more comprehensive, multi-source composite of children's social and emotional development.

Figure 23 shows that parents reported the same levels of functioning for their child at the beginning and at the end of the school year. In other words, parents did not perceive a change in their children's behaviors from the start to the end of the school year. This result is consistent with *all* previous years' findings.

The emerging consensus explanation is that parents have a long-term perspective of their child and they are less likely to see subtle changes in behavior at home than teachers at school, who can see changes in a child relative to a group of children more quickly within the classroom environment.

Figure 23. Comparison of P-CRS of Scores From Fall to Spring



The results of the Parent Child Rating Scale (P-CRS) remain unchanged for 2013-14; this has been true throughout the use of the P-CRS in pre-k. Teachers perceive and report their students' social-emotional growth; parents do not perceive commensurate growth in their children as reported on the P-CRS. We can discern no further point in continuing to commit funds and time to the use of P-CRS when the results are so consistent. We therefore recommend that the time, funding, and efforts used on the P-CRS be reallocated to other, potentially more productive areas.

Pre-K Parent Appraisal of Children's Experiences

The Pre-K Parent Appraisal of Children's Experiences (Pre-K PACE) is a comprehensive assessment that captures parents' observations about their child in a wide variety of domains. One of benefits of the Pre-K PACE is that it provides valuable demographic and experiential information for students enrolled in Rochester's pre-kindergarten programs.

In past years, efforts to collect completed Pre-K PACE forms from parents have resulted in low return rates. Parents have not taken the time to complete the instrument, perhaps due to its length or their reading ability. As such, Children's Institute staff have begun the process of shortening and simplifying the appraisal while minimizing the loss of valuable information. To that end, Principal Components Analyses (PCA) and Exploratory Factor Analyses (EFA) were conducted on the past 7 years' worth of completed Pre-K PACE forms.

PCA and EFA are two statistical techniques that group items that measure similar things into empirical domains or scales. With domains identified, each item's uniqueness within the domain and its overlap with other items in the domain can be assessed. Those items collecting redundant information and those that do not address the constructs desired can be eliminated or consolidated, resulting in the reduction in the number of items.

PCA and EFA were conducted separately for each Pre-K PACE section:

- **Routines:** The items in this section assess everyday activities and practices within the child's home repertoire, such as adaptive skills, mealtime habits, food preferences, bathing, and bedtime routines.
- **Environment:** These items address issues of perceived safety, child discipline strategies and attitudes, the child's play habits, and parent support resources. An index of parental depressive affect (Mental Health Inventory-5) is included here as well.
- **Gross motor skills:** "Big muscle" skills, such as throwing, running, and climbing are assessed in this section.
- **Fine motor skills:** This section covers "small muscle skills" like grasping, writing, and manipulating small objects.
- **Sensory motor functioning**: The items in this section address behaviors related to sensitivity to sensory inputs and integration of sensory and motor functions.
- **Communication and language skills**: These items assess expressive and receptive language skills, comprehension, printed word recognition, and conversational skills.
- **Social and emotional behaviors**: Responses to these items describe the child's typical behavior and their interactions with their peers.
- **Life experiences**: This section asks how often the child has experienced a variety of constructive and adverse life situations.

PCA and FA's that resulted in more than one component or factor used varimax rotations to clarify the components or factors. Presented in Table 43 are representative results of these analyses. The information includes the name of each section, the names of the identified within each section, and the Cronbach's alpha (an index of internal consistency or reliability) for each factor reported.

Table 43. Summary of Exploratory Factor Analyses and Principal Components Analyses for the Pre-K PACE

2013-2014 RECAP Annual Report Summary of FA and PCA Results for the Pre-K PACE		
Section *Scale*	**# of items**	**Alpha**
Routines		
Self-care routines	6	.80
Eating routines	3	.64
Environment		
Parental Depression	5	.79
Play Activities	5	.69
Safety	3	.80
Play Practices	3	.72
Positive Discipline	5	.62
Punitive Discipline	2	.72
Gross Motor Skills		
Advanced/ Motor Skills	6	.88
Walking /Running	4	.89
Fine Motor Skills	6	.86
Sensory Motor	5	.74
Communication and Language skills		
Basic Communication Skills	8	.89
Advanced Communication Skills	2	.76
Social and Emotional		
Aggression	6	.80
Peer Social	4	.75
Nervousness	5	.73
Life Experiences		
Family crisis	7	.69
Family Activities	4	.67
Health Crisis	2	.59
Relocation	2	.51
Total Number of Items on Pre-K PACE	113	
Total Number of Items Loaded in Scales	93	

The EFA and PCA resulted in 21 factors that had alpha reliabilities of 0.51 or greater. Of the original 113 items from the Pre-K PACE that were used in these analyses, 93 items loaded onto a factor. Twenty items did not load onto any factor, indicating that they did not measure the constructs that were being assessed by the other items in that section. Removing these items would shorten the form while still providing information on relevant constructs. This is only the first step in refining the Pre-K PACE. Further analyses are anticipated to continue in the 2014-2015 school year.

Teacher-Parent Communication Data

Much of the information gathered from and about the parents of pre-k children, via the FIQ and the P-CRS, has been static over the last several years. However, the tracking of teacher-parent communications has also been a part of the RECAP system. Although we have recorded parent-teacher communication in a variety of ways in the past, the transition to electronic recording of the data did not occur until the mid-2000's. The COMET system has been used for recording these interactions for several years now, but it has only been recently that we have started to systematically examine these data.

The areas of teacher-parent interactions recorded include:

Parent-Teacher Conferences	*Telephone Conferences*
School Events	*Home Visits*
Classroom Visits	*Open Houses*
Special Gatherings	*Parent Take-Home Projects*
Field Trips	*Newsletters*
Introductory Visits	*Committee on Pre-School Special Education*
Assemblies	*Meeting with School Staff*
Informal communications	*Kindergarten Registration Help*
Mail correspondences	*Flyers*
Other, miscellaneous contacts	

For the past two years combined, the most frequent type of teacher-parent communication was *Parent Take-Home Projects* with 11,350 instances recorded. The next most frequent were *Classroom Visits* (8,433 instances), *Newsletters* (7,499 instances), and *Parent Groups* (5,110 instances). There were many other contacts made from the fall of 2012 to the spring of 2014, including over 5,600 instances recorded as "miscellaneous", but those four categories account for the largest percentage of contacts.

Through the COMET system, we are also able to track frequencies (the number of contacts) and duration (the number of minutes each contact lasted) of the communications throughout the school year. A summary of teacher-parent contacts for the 2012-2013 and 2013-2014 school years is provided in Table 44.

Table 44. Summary of Teacher-Parent Contacts in the 2012-2013 and 2013-2014 School Years

2013-2014 RECAP Annual Report Summary of Teacher-Parent Contacts in 2012-2013 & 2013-2014 School Years				
School Year	**Total Contacts**	**Time in Minutes**	**Number of People**	**Average Duration (Minutes)**
2012-13	18,594	1,097,617	1,614	59.0
2013-14	23,663	1,412,737	1,796	59.7
Percent Increase	27.3%	28.7%	11.3%	1.2%

From 2012-2013 to 2013-2014 there was a 27.3% increase in the total number of reported teacher-parent contacts. Teachers also reported a similar increase in the total duration of the contacts. The minutes of interactions recorded translate into over 18,290 hours in 2012-2013 and over 23,540 hours in 2013-2014. For comparison purposes, in a typical (full-day) school year, six hours per day, with 180 days in the school year, equals 1,080 hours.

The collection of teacher-parent communications data has not been an overriding priority in pre-k programs until recently. The data recorded are spotty in the two years we examined, with data missing from entire agencies. Entities that appeared to record most (if not all) interactions showed large year-to-year variations but we cannot yet discern the cause of these increases. We do not know if they are the result of more actual contacts or if they just reflect efforts made to record the numerous contacts that have routinely been taking place more accurately.

While it is obvious that a great deal of teacher-parent communication is occurring, at this time the logging of these interactions is only partially operationalized and no firm conclusions can be drawn; however, it holds a great deal of potential to help us understand teacher-parent interactions. We recommend that all of RECAP's partners encourage their staff to record these contacts more accurately in the future so that the information gathered can inform effective policies and practices in working with our youngest students' parents.

Conclusion and Future Directions

Conclusion

This Seventeenth Annual Report on the RECAP system finds that classroom quality continues to maintain high standards of excellence. Each year, additional teachers are earning the ECERS-R exempt status, which is attained after achieving a 6.2 out of 7 point rating for three consecutive years.

The efficacy of RECAP's continuous improvement system and the important role that feedback reports serve in continuing to inform the implementation of quality standards in classrooms have been demonstrated repeatedly. High-quality practices are implemented in 145 classrooms serving approximately 2,226 students in Rochester.

Summary of the major findings for the 2013-2014 school year:

- Students in RECAP continue to enter pre-k at lower levels of academic, physical, social, and emotional functioning. This year's cohort scored, on average, at least 0.1 lower in the fall than last year's cohort. A third of the students in RECAP enter pre-k below normal developmental functioning according to the new Brigance Screen III.

- Students are making extraordinary gains during the school year and are showing two to three years' worth of growth on the COR. However, regardless of these significant gains, students are not, on average, meeting the levels required to be considered "ready" for kindergarten by the spring.

- Students' consistent attendance in pre-k did not significantly impact their preparation for kindergarten. Children who do not consistently attend their pre-k showed the same growth on all COR and T-CRS subscales. Students who had low attendance were able to absorb information at the same rate as those children who were present in the classroom regularly. Children with inconsistent and irregular attendance benefitted greatly from their pre-k program's instruction.

- We continue to see students' average social and emotional growth, as measured by the T-CRS, showing smaller gains. This year in particular took a large dip of 0.7 points overall on the T-CRS and showed the smallest amount of growth of the past 8 school years.

- The UPK/PPK expansion in the middle of the school year caused many students and teachers to experience changes in their classroom's composition. While not conclusive, the results of the COR and the T-CRS suggest that students who had different teachers throughout the year did not grow academically, socially, or emotionally as much students who had the same teacher.

- After the initial dip in gains following the implementation of the HighScope curriculum, it appears that the curriculum has been slowly, but steadily, encouraging academic growth and achievement. However, the HighScope curriculum is not showing the same support for social and emotional growth.

- During the summer months, students typically lose a significant amount of their functioning in the areas assessed by the COR. From spring of their pre-k year to the fall of their kindergarten year, students lose over a year's worth of growth on the academic domains of ***Initiative & Social, Movement & Music,*** and ***Math & Science***.

- This was the first year of the UPK Summer Program pilot. Students who participated in this pilot were able not only able to maintain their gains but also continued to grow at the same rate as during the school year.

- Classroom quality continues to be a hallmark of the RECAP experience. The last ten years have shown an overall average rating on the ECERS-R of "extremely good" ($\bar{x} \approx 6.1$) for Rochester's pre-kindergarten classrooms, one of the highest in the U.S.

- 2013-2014 was the second year of full implementation of the CLASS instrument across RECAP. The findings showed that teachers made substantial progress in all areas of the CLASS but especially in the ***Instructional Support*** domain.

- Parents' perceptions of their own involvement and their child's development remain relatively unchanged from the beginning to the end of the school year based on the FIQ and the P-CRS results. The teacher-parent communication data collected on COMET is an encouraging and potentially very informative new source of data.

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

Recommendations and Future Directions

In an effort to continue to improve children's educational experiences, RECAP continues to undertake new initiatives and to reevaluate and refine its processes. The use of instant access to web-based reports for administrators and teachers will help guide the vision of those working with pre-k children. Access to meaningful information in a timely and comprehensive manner allows for shifts of policy and program implementation and helps administrators to rapidly respond to the needs of children as they present themselves. Furthermore, a comprehensive data management system allows analyses to take place quickly with fewer errors or anomalies in the data.

Due to the consistently high ratings that classrooms in RECAP achieve on the ECERS-R, there are no specific recommendations at this time other than to maintain the current systems and processes that will continue to foster high performance on the ECERS-R. (See pages 5-10 for further details.)

While there are no recommendations specific to the ECERS-R, the RECAP assessment team learned that the authors of the ECERS are releasing a new version, called the ECERS-3, in the winter of 2014. While this does not provide enough time for the ECERS-3 to be implemented in the 2014-2015 school year, we recommend that the ECERS-3 replace the existing ECERS-R in the 2015-2016 school year.

The CLASS has demonstrated consistently that the ***Instructional Support*** domain is an area of weakness for RECAP programs. Efforts to provide professional development and training around ***Instructional Support*** have been effective so far but need to continue. We recommend that the Professional Development Committee, program directors, and teachers continue to focus on improving this important area of classroom quality. (See pages 11-16 for further details.)

After repeated analyses, RECAP has determined that while some overlap in content assessed exists between the CLASS and the ECERS-R, both observation tools provide unique information regarding classroom quality. Therefore, both measures should continue to be used in classrooms simultaneously. (See pages 20-21 for further details.)

The low entrance scores of Rochester's pre-k students indicate the need to help parents prepare their children for school entry. We recommend that more intensive services be made available to children and families at younger ages (e.g., pre-k for three year-olds). (See pages 22-26, 40, and 59-61 for further details.)

Even with the gains made in pre-k, RECAP students are still unprepared for kindergarten entrance (See pages 22-26 for further details). There are several different strategies that we recommend to help encourage students' growth and preparedness for kindergarten, including:

- Whenever possible, it is recommended that the composition of the classroom remain stable and that the same teacher remain in the classroom throughout the year. (See pages 34-36 for further details.)

- RECAP partners should help parents better prepare their children for school entry at whatever age educational services become available. (See pages 48-51 for further details.)

- The Rochester early childhood community should provide more intensive services and begin providing them at younger ages, such as providing pre-k programming for three year-olds. (See pages 48-51 for further details.)

- Pre-k should add at least 6 weeks of high quality instruction from July to August for children transitioning from pre-k to kindergarten. (See pages 48-54 for further details.)

- Students who participated in the UPK Summer Program pilot should continue to be monitored into kindergarten. This would provide RECAP with a better understanding of the effects of the summer programs on the students' readiness for kindergarten and their academic achievement beyond pre-k. (See pages 48-54 for further details.)

Continued evaluation of the effects of the HighScope curriculum implementation will give a better understanding of its effects on children's academic and social-emotional growth. We recommend that the HighScope curriculum continue to be implemented in classrooms. Efforts should be made to incorporate supplemental activities that support student skill acquisition in social skills and motor functioning. We suggest that the UPK Policy Advisory Group or UPK Professional Development Committee conduct a more thorough review of the potential causes and possible remedies for the negative results of children's social-emotional functioning since the implementation of the HighScope. (See pages 37-39 and 71-73 for further details.)

This year's results on the COR and the T-CRS indicate that students who did not have consistent and regular attendance benefitted the same amount from their pre-k instruction as children who had near perfect attendance. Policies that exclude children from pre-k experiences because of absenteeism should be reconsidered. (See pages 27-30 and 64-66 for further details.)

The Brigance provides a very valuable snapshot regarding students' cognitive development. We recommend that students receive both a fall and spring administration of the screening tool to help guide not only their pre-k teachers, but also their kindergarten teachers in the following school year. (See pages 40-47 for further details.)

Pre-k programs in Rochester should examine their current efforts and make a more concentrated effort towards increasing parents' involvement in their children's education. (See pages 76-77 and 81-82 for further details.)

Due to the consistent results that have been observed for multiple years on the P-CRS, we recommend that the P-CRS not be administered in the 2014-2015 school year. (See pages 81-82 for further details.)

The Pre-K PACE provides a large amount of valuable information regarding children's experiences before entering pre-k; however, its length may discourage parents from completing

the form. Further refinement of the measure and reduction of its length is recommended. (See pages 83-85 for further details.)

The potential wealth of information that could be gleaned from the teacher-parent communications data is intriguing. We recommend that all of the pre-k programs in RECAP encourage their staff to record these contacts more accurately as this information could have many effects on the policies and practices implemented to encourage parent participation in pre-k. (See pages 86-87 for further details.)

Every year, RECAP provides policy makers, program directors, and pre-k teachers with vital information regarding the quality of their classrooms and the status of their students. This process of evaluation and feedback has been integral to understanding what will best help Rochester's pre-k students succeed academically, socially, and emotionally. Efforts to expand RECAP's practices into kindergarten through 3rd grade should be strongly considered.

Presentations and Publications

Hightower, A. D., Story, M., & MacGowan, A. (2014). *Rochester Early Childhood Assessment Partnership 2012-2013 Sixteenth Annual Report: Promoting informed decisions for early childhood.* Presentations to RECAP Community Partners and the RECAP Community Advisory Council.

Story, M., Van Wagner, G., & Brugger, L. (2013). *Enable Exploring Your World Preschool Program 2012-2013 ECERS-R Results.*

Smith, M., & Van Wagner, G. (2013). Rochester City School District Professional Development Academy - UPK Summer Institute: *Looking at CLASS to Support Effective Instructional Strategies*. Presentation and community-wide training to teachers, support staff and leadership to increase effectiveness of teacher-student interactions in the instructional support domain of the Pre-K Classroom Assessment Scoring System (CLASS).

Story, M., Hightower, A.D., MacGowan, A., Van Wagner, G., & Brugger, L. (2013). *Rochester Early Childhood Assessment Partnership (RECAP): Assessment team report*. Presentation to RCSD Board of Education and RECAP Advisory Council.

Hightower, A.D., Brugger, L., & Van Wagner, G. (2013). The Community Foundation of Herkimer & Oneida Counties. Presentation of RECAP trainings, assessment system, and COMET informational session.

Hightower, A.D. & MacGowan, A. (2012). *Rochester Early Childhood Assessment Partnership 2011-2012 Fifteenth Annual Report: Promoting informed decisions for early childhood.* Presentations to RECAP Community Partners and the RECAP Community Advisory Council.

Story, M., Hightower, A.D., MacGowan, A., Van Wagner, G., Brugger, L., & Lotyczewski, B. (2012). *Rochester Early Childhood Assessment Partnership 2011-2012 Fifteenth Annual Report.*

Brugger, L. (2012). *Rochester Early Childhood Assessment Partnership 2010-11 Fourteenth Annual Report: Promoting informed decisions for early childhood.* Presentation to Early Childhood Development Initiative.

Brugger, L. (2012). *New Trends in Pre-K Health, Wellness and Academics - Rochester Early Childhood Assessment Partnership 2011-12 Fifteenth Annual Report: Promoting informed decisions for early childhood.* Third Annual Rochester City School District Symposium.

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