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EMOTIONAL HEALTH

Rochester Early Childhood Assessment Partnership 2018-2019 Twenty-Second Annual Report

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Children's Institute is a recognized leader in programs, research, and evaluations supporting children's social and emotional health. Our partner COMET Informatics offers a data support system that provides informed decision-making, organizational quality improvements, and improved outcomes for children and youth. Children's Institute (EIN 23-7102632) is a 501©(3) non-profit organization.

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Table of Contents

Acknowledgments	iii
Executive Summary	iv
Introduction to RECAP	1
Program Quality – ECERS-3	5
Program Quality – CLASS	10
Threshold Quality	18
Teacher Experience	19
Student Performance – Academics	22
Brigance	22
Child Observation Record-Advantage (COR+)	24
Dose of Programming	29
Teacher-Child Rating Scale (T-CRS)	32
Family Perspectives	35
Recommendations	52
Presentations and Publications	53
References	54

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Participating programs (in alpha order) include: Action for a Better Community's Early Education Division, Early Childhood Education Quality Council Centers, including: Asbury Day Care Center, Baden Street Centers, Community Child Care Center, Creative Beginnings Child Care, Friendship Children's Center, Ibero Early Childhood Services, Oregon Leopold Day Care Center, Richard M. Guon Child Care Center at Monroe Community College, Rochester Childfirst Network, St. Paul's Child Care Center, and Volunteers of America Children's Center, Florence S. Brown Pre-K School, Rochester City School District Montessori Academy, Rochester City School District Rochester Early Childhood Education Center, and all other Rochester City School District programs, YMCA Child Care Centers, and the following independent child care centers: Caring and Sharing Child Care Center, The Community Place of Greater Rochester, Generations Child Care Centers, Hillside Children's Family Resource Centers, Kreative Kids Zone 3, Little Hearts Child Care, and Sunshine Village Child Care Lee Road.

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The RECAP Advisory Council, chaired by Nancy Kaplan, director of Rochester's Child, plays an instrumental role by providing feedback and insights regarding goals, needs of children and families, and effective use of RECAP data to inform early childhood policymaking in Rochester. We are grateful to the Advisory Council for its wisdom and for advising our team to enrich the relevance of RECAP in community-wide decision-making on behalf of children, families and programs.

Executive Summary

3 Year Olds in 2018-2019 – Expanded Prekindergarten (EPK)

Students

- Measured by the Brigance III, 73% of students entered programs at developmentally appropriate functioning abilities
- Students made significant gains on the COR Advantage (COR+) in the Language, Literacy, and Communication ($d=1.5$) and Creative Arts ($d=1.5$) areas
- Students with beginning to end of year (pre/post) COR+ scores gained approximately 1 point overall, within the 7-point scale,
- Moderate social-emotional gains were made by students with pre/post data in the Assertiveness subscale of the T-CRS. Outcomes on the Task-Orientation, Behavior Control, and Peer Social Skills subscales were not significant

Classroom Quality

- CLASS scores increased from 2017-18 ratings in all three domains (Emotional Support, Classroom Organization, and Instructional Support)
- The overall CLASS mean increased from 5.4 in 2017-18 to 5.6 in 2018-19
- The overall ECERS-3 mean remained the same level as last year at 5.4

4 Year Olds in 2018-2019 – Universal Prekindergarten (UPK)

Students

- Measured by the Brigance III, 64% of students entered programs at developmentally appropriate functioning abilities
- Students made significant gains in the Math ($d=2.3$), Physical Development & Health ($d=2.1$), and Science and Technology ($d=2.1$) categories of the COR+
- Students with pre/post COR+ scores grew approximately 1.4 points overall
- Students who participated in two years of programming (EPK+UPK) outperformed their UPK only peers on the COR+ at fall, winter, and spring assessments and were more ready to transition to kindergarten than their UPK only peers.
- Moderate social-emotional gains were made in the Assertiveness, Peer Social Skills, and Task Orientation subscales of the T-CRS by students.

Classroom Quality

- The overall CLASS mean decreased slightly from the previous year from 5.8 to 5.7
- The overall ECERS-3 mean increased slightly from the previous year from 5.3 to 5.4

Family Perspectives and Relationship Quality in 2018-2019

- Families reported improved relationships with teachers in most areas by the end of the 2018-19 school year
- Teachers reported statistically significant improvement in relationships with families during the 2018-19 school year in two of the nine total constructs and subscales, down from three constructs and subscales in 2017-18
- When the perspectives of families and teachers are compared, these groups have differing opinions about the specific areas of relationship strength and weakness
- There was no difference in the mean scores in any construct or subscale of the *FTRQ – Family* or *Q7* for UPK students that are deemed kindergarten ready by the COR+ versus those that are not kindergarten ready. In 2017-18 there were increases in the means of question scores for four out of ten constructs and subscales and for the caregiver-reported relationship score of the *FTRQ – Family* for UPK students who were kindergarten ready versus UPK students who were not kindergarten ready as defined by the COR+

Introduction to RECAP

Since its inception in 1992, RECAP's overall guiding principles have been to continuously promote, ensure, and improve pre-kindergarten (pre-k) classrooms, programs and child outcomes through the use of its integrated and comprehensive information system. In addition to providing data to enhance children's, teachers', and systems' performance, RECAP translates data into usable information for parents and families, providers, and policy makers / funders through community collaboration, technical assistance and professional development. RECAP fulfills a central role in local, regional and statewide programs and interventions for children, as well as collective impact initiatives, by providing reliable facts on early childhood care and education systems in Rochester as well as regional and national early childhood systems via research, analyses and literature reviews.

This year, as in years past, RECAP provided the following services to providers and policy makers:

- Professional development for teachers, paraprofessionals, family service professionals, and program administrators in the use of child screening measures, assessments, program quality rating scales, parent surveys, web-based data information system use (COMET®) and reports interpretation.
- Efficient and user-friendly data collection, processing, analysis and reports which provide instant feedback (COMET and scan form) at the child, parent, classroom, program, and system levels.
- Twice monthly review and planning Assessment Team meetings with community-based organizations including: Action for a Better Community (ABC) Head Start, Rochester City School District (RCSD) Department of Early Childhood, Early Childhood Development Initiative (ECDI), All Kids Thrive and Roc the Future to analyze and synthesize information, recommend changes, and monitor the systematic quality of early education in Rochester.
- Community Advisory Group meetings to facilitate partnership with the local community, families, professionals and other stakeholders.
- Presentations of aggregate outcomes for EPK and UPK and to support informed decision making for practices and policies in support of children, families and programs.

Information-based decisions using RECAP data are integrated into Rochester's continuous improvement system that strives to ensure and maintain high quality pre-k programs and improve students' overall performance and outcomes.

RECAP uses reliable and valid measures to assess program quality and student outcomes. Early Childhood Environment Rating Scale – Third Edition (ECERS-3) and Classroom Assessment Scoring System (CLASS) were administered by independent observers in all classrooms to measure overall quality and teacher-child interactions. In keeping with national trends, state requirements, and local needs and for screening early in the school year, the Brigance Early Childhood Screen III (Brigance III) was administered by teachers within the first 90 days of the school year. To measure levels of students’ competencies and needs within academic, motoric, cognitive and social/emotional domains, the Child Observation Record - Advantage (COR-Advantage or COR+), an “authentic” observational tool was completed by teachers three times -- fall, early winter and spring. The Teacher-Child Rating Scale (T-CRS), measuring social and emotional skills, was completed by teachers in fall and spring.

Table 1 below summarizes the total number of assessments completed during the 2018-2019 school year.

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

RECAP 2018-19 Variables, Measures, Number Assessed and Methods			
Variables	Measures	Assessments Completed in 2018-19	Method
Classroom Environment Quality	ECERS-3	184	Classroom Observation by Independent Observer
Quality Teacher and Student Interactions	Classroom Assessment Scoring System (CLASS)	186	Classroom Observation by Independent Observer
Academic, Motor, and Social	COR Advantage (COR +)	2,959	Teacher Observation
School, Emotional, and Behavioral Adjustment	Teacher-Child Rating Scale (T-CRS)	2,292	Teacher Observation
Academic Skills, Physical Development, and Health	Brigance Early Childhood Screen III	2,992	Child Direct Performance, Teacher Observation
Family Engagement	Family and Teacher Relationship Quality (FTRQ) – Family Questionnaire	1630	Parent Survey
Family Engagement	Family and Teacher Relationship Quality (FTRQ) – Teacher Questionnaire	120	Teacher Survey
Family Engagement	Family and Teacher Relationship Quality (FTRQ) – Director Survey	7	Director Survey

Student Demographics

Table 2. RECAP EPK Student Demographics

RECAP 2018-19 EPK Student Demographics (n=1119)		
		Percent
Gender	Male	50.0
	Female	50.0
Race/Ethnicity	Black/African American	59.0
	White Caucasian	5.5
	Hispanic/Latino	30.4
	Asian	3.7
	Native American	1.0
	Other	0.2

Table 3. RECAP UPK Student Demographics

RECAP 2018-19 UPK Student Demographics (n=1771)		
		Percent
Gender	Male	51.3
	Female	48.7
Race/Ethnicity	Black/African American	53.9
	White Caucasian	9.7
	Hispanic/Latino	31.1
	Asian	4.2
	Native American	0.7
	Other	0.2

Program Quality – ECERS-3

For 20+ years, RECAP has evaluated and documented the quality of pre-kindergarten classroom environments in the Rochester area using the family of Early Childhood Environment Rating Scale (ECERS) tools. Upon its release in 2015, RECAP adopted the ECERS-3 (Harms, Clifford, & Cryer, 2015) to assess EPK and UPK classrooms. Teachers, paraprofessionals, technical support staff, directors and administrators receive training from RECAP staff to learn about the ECERS-3 and its quality indicators, the classroom observation process and interpretation of feedback reports. This training plays an instrumental role in the success of Rochester’s early education continuous improvement process.

The ECERS-3 consists of 35 items, scored by independent observers on a 7-point scale, with 1 indicating “Inadequate” quality and 7 representing “Excellent” quality. The 35 items are organized in six subscales: Space and Furnishings, Personal Care Routines, Language and Literacy, Learning Activities, Interactions and Program Structure.

From the beginning of its use in RECAP, the ECERS and, subsequently, the ECERS-R, consistently showed that most four-year-old classrooms in Rochester achieved at least “good” (≥ 5.0) quality, with many performing in the excellent range (6.2-7.0) 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 resulted in an average rating within the “very good” to “excellent” range (5.8-6.2 out of 7) on the ECERS-R for the ten years prior to the ECERS-3 implementation. For the last eight years of ECERS-R use, the average score for all RECAP teachers was 6.1 or higher (Infurna et al., 2017).

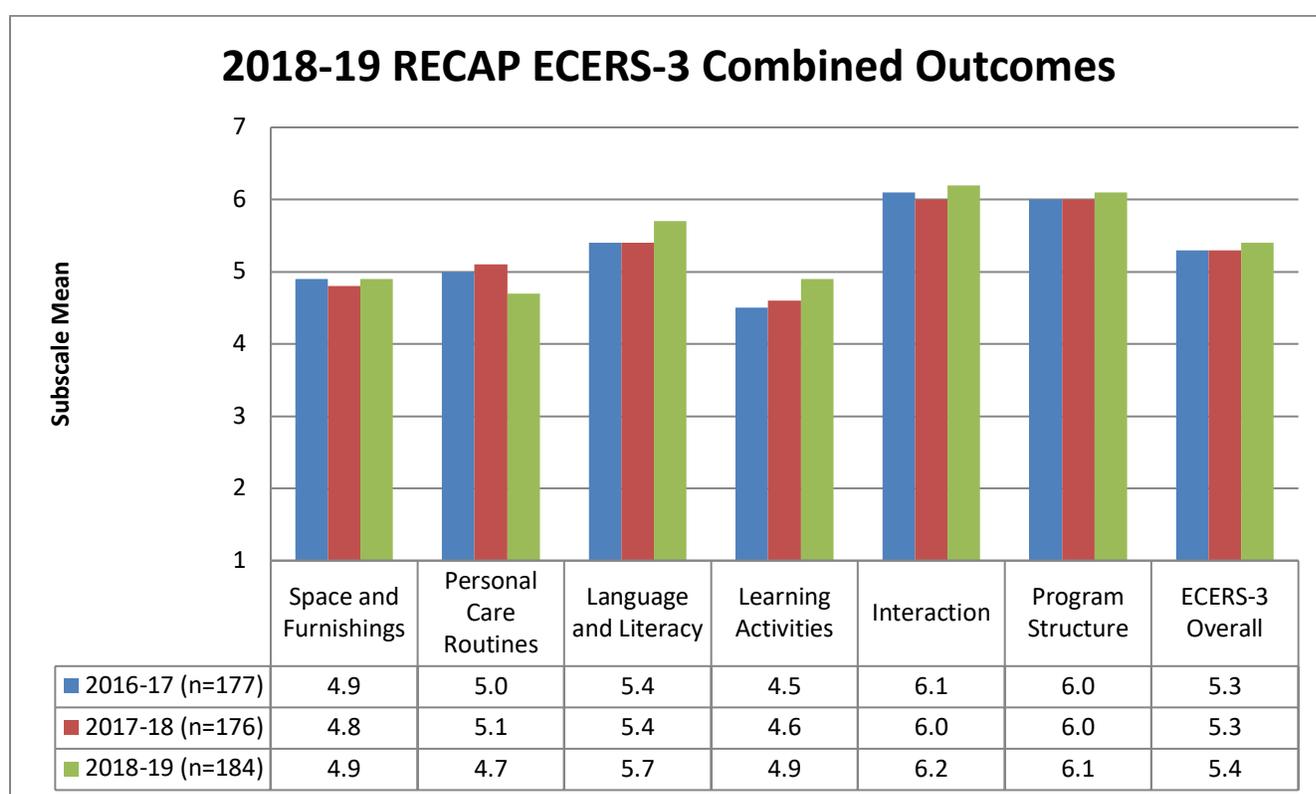
The consistently high scores of the classrooms participating in RECAP prompted a change to the evaluation procedures used to assess classroom quality beginning in 2007-2008. Presently, teachers whose classrooms achieve a very high overall ECERS-3 average rating (6.2) for 3 consecutive years are exempt from annual ECERS classroom observations for three years. At the end of this three-year period an ECERS-3 observation is once again completed. If classroom quality is scored as 6.2 or higher the “exempt” status is retained for an additional 3 years. If exempt teachers’ classrooms do not meet the 6.2 threshold in this observation, they are observed annually until they meet the initial exemption criteria again. In the 2018-19 school year, a total of 13 teachers attained exemption status on ECERS-3.

ECERS-3 Aggregate Results for 2018-2019

On average, the aggregate ECERS-3 performance in 2018-19 remained relatively consistent with the 2017-18 year. This past year, the ECERS-3 total score increased slightly from the last year's 5.3 to a mean score of 5.4.

The 2018-19 year marked the fourth year of RECAP wide implementation of the ECERS-3. In total, 184 RECAP classrooms were assessed by the ECERS-3 in 2018-19. Figure 1 depicts scores over the previous three years.

Figure 1. Three years of RECAP ECERS-3 Scores for EPK and UPK combined



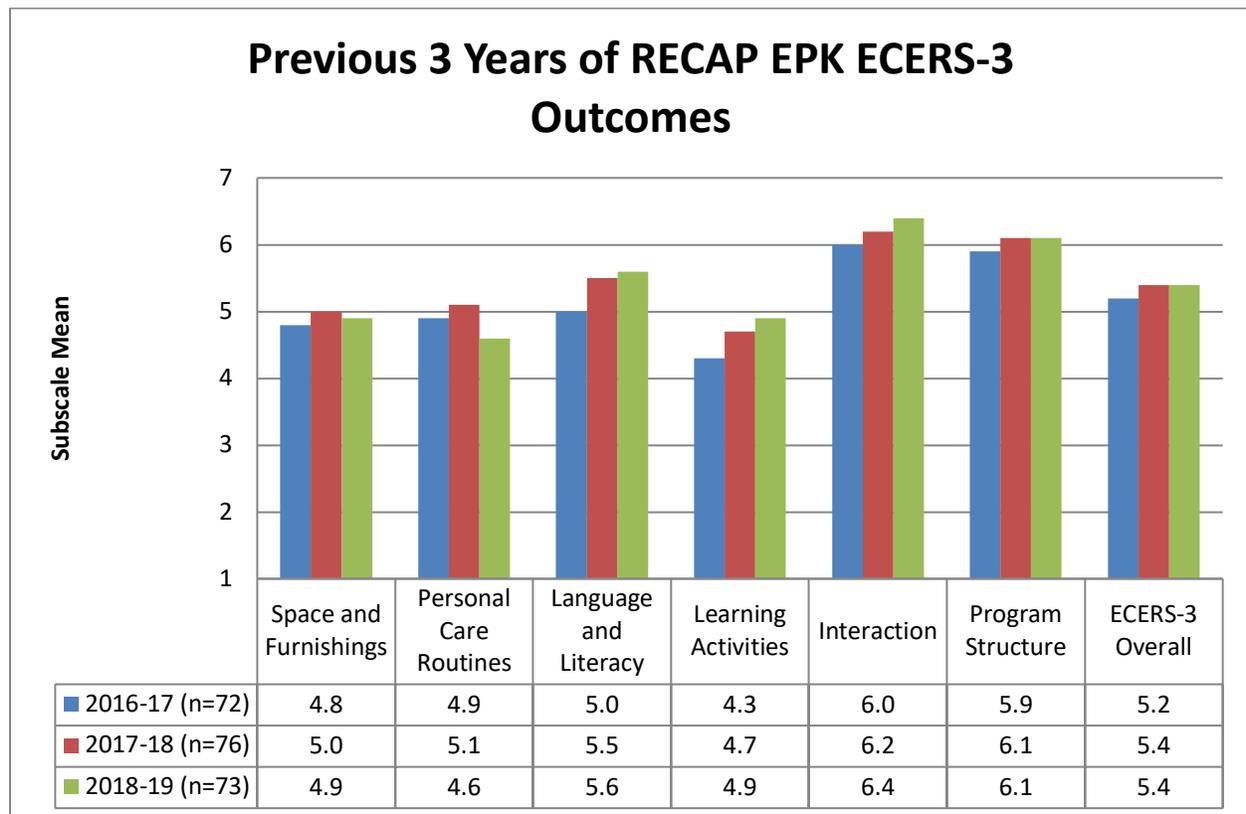
While the Overall ECERS-3 performance increased slightly by 0.1 of a point, it is important to note that the Personal Care Routines subscale score decreased by almost half a point and the Language and Literacy and Learning Activities subscales increased by 0.3. The Space and Furnishings, Interaction and Program Structure subscales also increased slightly from last year.

The following sections separate performance by EPK (3-year-old) and UPK (4-year-old) programs. Figure 2 reports on three years of EPK ECERS-3 scores. Figure 3 depicts three years of UPK ECERS-3 scores. A summary and recommendations section follows Figure 3.

EPK ECERS-3 Results:

Figure 2 represents three years of EPK ECERS-3 scores in Rochester. The greatest amount of growth was observed in the *Interaction* and *Learning Activities* subscales, with scores increased 0.2 from the previous school year. The overall *Total Score* of the ECERS-3 remained the same. Of note, the Personal Care Routines subscale dropped significantly by half a point, down to 4.6 from the previous year score of 5.1.

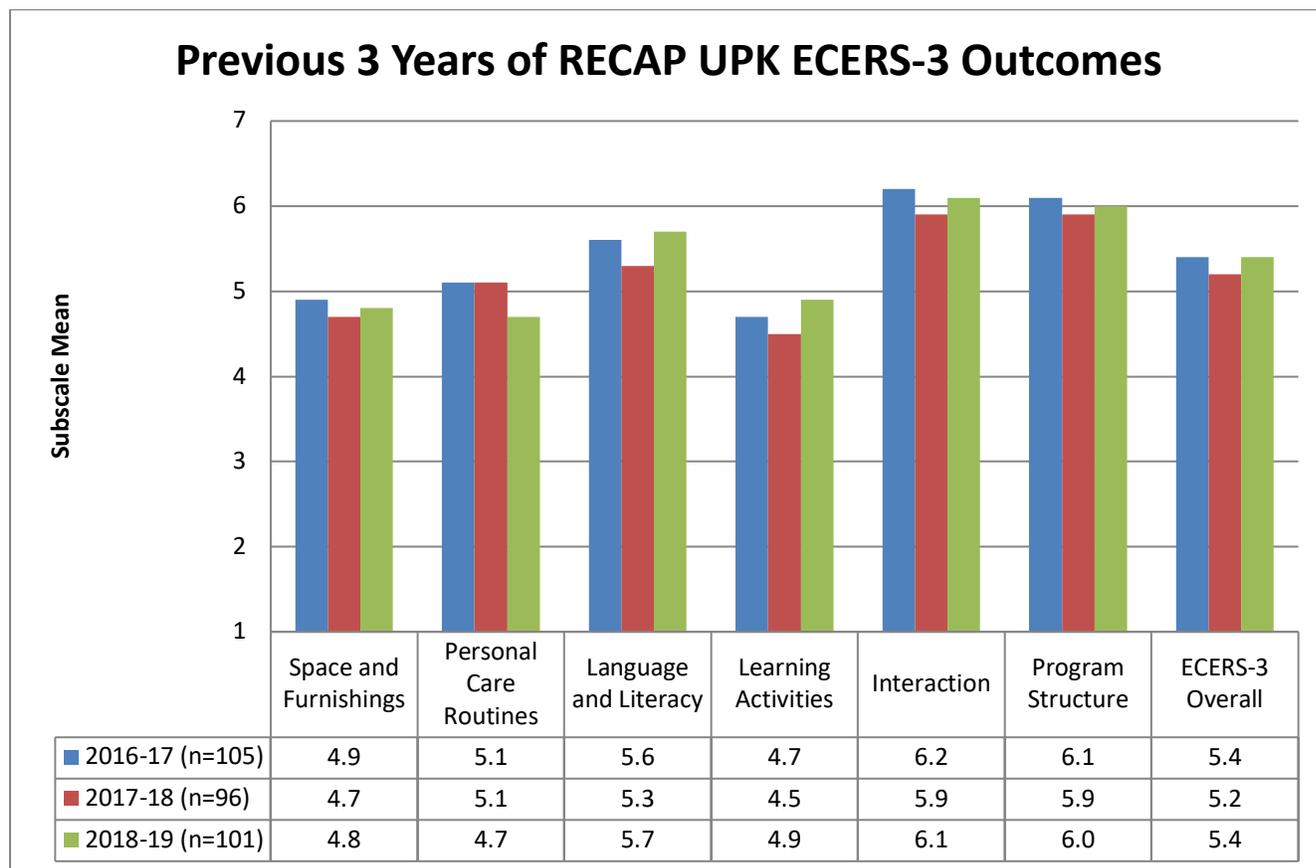
Figure 2. Three Years of RECAP EPK ECERS-3 Scores



UPK ECERS-3 Results:

UPK ECERS-3 scores rose slightly from the 2017-18 school year. Overall, the ECERS-3 **Total Score** increased by 0.2 from 5.2 to 5.4 in 2018-19, back to where it was two years ago.

Figure 3. Three Years of RECAP UPK ECERS-3 Scores



Overall, UPK ECERS-3 subscale scores were within the “good” range. The Space and Furnishings, Interaction and Program Structure subscales rose slightly from the previous year. Importantly, substantial growth was observed in the Language and Literacy and Learning Activities subscales with an increase of 0.4. The Personal Care Routines subscale decreased by 0.4 points.

Summary and recommendations:

Overall, both the EPK and UPK ECERS-3 subscale and overall mean scores were in the “good” range. According to Harms, Clifford, and Cryer (2015), a score ≥ 5 on any subscale is considered “good”. Scores closer to 7 are considered “excellent”. It is difficult to compare Rochester early childhood education programming with other programs across the country due to the relatively recent release of the ECERS-3, and lack of empirical studies focused on the ECERS-3 (Infurna et al., 2018). To date, we have not been able to compare Rochester community outcomes to other communities across New York State or the United States that report ECERS-3 outcomes to the community.

As previously noted, the 2018-19 school year marked the fourth year of ECERS-3 implementation in the Rochester early education community. Figures 1-3 detail RECAP Overall, EPK and UPK classrooms’ scores on the ECERS-3 subscales. At the current time, there remains limited empirical research on program quality as measured by the ECERS-3. It is difficult to put in context the global comparison of program quality with the Rochester early education community.

Harms et al. (2015) report that scores of ≥ 5 on the individual subscales suggest ‘good’ quality programming. For the first time in three years, the Personal Care Routines subscale received the lowest rating. It was followed by the Space and Furnishings and Learning Activities subscale, which have been historically low in the Rochester community. Overall, three of the six combined subscale means were greater than 5.0 and the overall quality rating of EPK and UPK combined is 5.4. This suggests that overall program quality in Rochester early childhood education programming, as measured by the ECERS-3, is ‘good’.

The continuous improvement model that RECAP incorporates is currently supporting many discussions about the improvement of classroom quality and necessary supports for educators. Targeted professional development is scheduled for the upcoming 2019-20 school year and will incorporate topics to support quality improvements. We recommend emphasis on Personal Care Routines subscale with attention to items and specific indicators within each item to improve practices that support children’s health and safety.

Classroom Assessment Scoring System (CLASS)

The Classroom Assessment Scoring System – Pre-k (CLASS) (Pianta, La Paro, & Harme, 2008) is an observational tool used to investigate the complex ways in which the relationships among pre-kindergarten children, their peers, their teachers, and the classroom environment affect students' instruction and learning. Feedback loop quality is 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.

Independent observers use the CLASS to assess program quality by rating classrooms on 10 dimensions from which three domains were empirically derived: *Emotional Support*, *Classroom Organization*, and *Instructional Support* (Pianta et al., 2008). CLASS dimensions are rated on a 1-to-7 scale, with 1 indicating the dimension being rated is minimally characteristic of low quality, and 7 as highly characteristic of excellent quality. (Note: For this report the *Negative Climate* dimension is reverse scored so that a higher value is indicative of a higher quality program, making it consistent with the other 9 dimensions.)

The CLASS provides the standards and assessment protocol needed to enhance the overall understanding of how high quality early childhood programs should function. The CLASS also provides teachers, school district administrators, and others in early childhood education with additional information regarding the interactive climate of early childhood classrooms. Use of the CLASS enhances RECAP's understanding of those classroom quality domains which are not rigorously assessed as part of the ECERS-3. Using both the CLASS and the ECERS-3 provides a more comprehensive picture of the classroom quality and facilitates greater efficiency in identifying and addressing areas of classroom quality which need improvement as well as areas of strength.

CLASS UPK and EPK Combined Results

This is the seventh year since the CLASS was fully implemented in all UPK (n=108) classrooms; it was the fourth year that the CLASS was fully implemented in all EPK (n=78) classrooms. Combined results of EPK and UPK (n=186) are provided in the remainder of this section and disaggregated results from 3 year-old EPK and 4 year-old UPK classes are discussed in subsequent sections.

The Overall CLASS mean for EPK and UPK classrooms combined remained unchanged from the previous school year, at 5.7 (see Figure 4). The *Emotional Support* domain mean was within the excellent range at 6.6, indicating that Rochester community early childhood teachers provide a very nurturing, caring, and warm learning environment for children. The *Classroom Organization* mean was 6.2, which is also excellent. This indicates that pre-k teachers maintain

a productive classroom environment within which children are able to follow the daily routine with few classroom behavior issues.

The *Instructional Support* domain dropped slightly from 4.4 to 4.3. This was even after a greater emphasis was placed on focused Instructional Support professional development for Rochester teachers. A focused, concise, and collaborative professional development initiative was implemented this academic year as a means to provide teachers with a greater understanding of concept development, language modeling, and quality of feedback tools to be implemented during daily instructional and non-instructional times.

The 2018-19 school year marked the seventh consecutive year the CLASS observational instrument was used to assess all RECAP UPK classrooms. Similar to the previous year, an exemption process was included for RECAP teachers that met the following criteria:

1. Complete at least 90% of their Child Observation Record Advantage Items (COR+)
2. Complete student Brigance assessments
3. Complete student T-CRS assessments
4. Maintain at least a 6.2 CLASS Overall mean for three consecutive years, and
5. Maintain at least a 5.0 Instructional Support Domain mean for three consecutive years.

Overall, 10 RECAP teachers attained CLASS exemption status for the 2018-19 school year.

Figure 4. RECAP Combined EPK and UPK CLASS Domain Outcomes Over Three Years

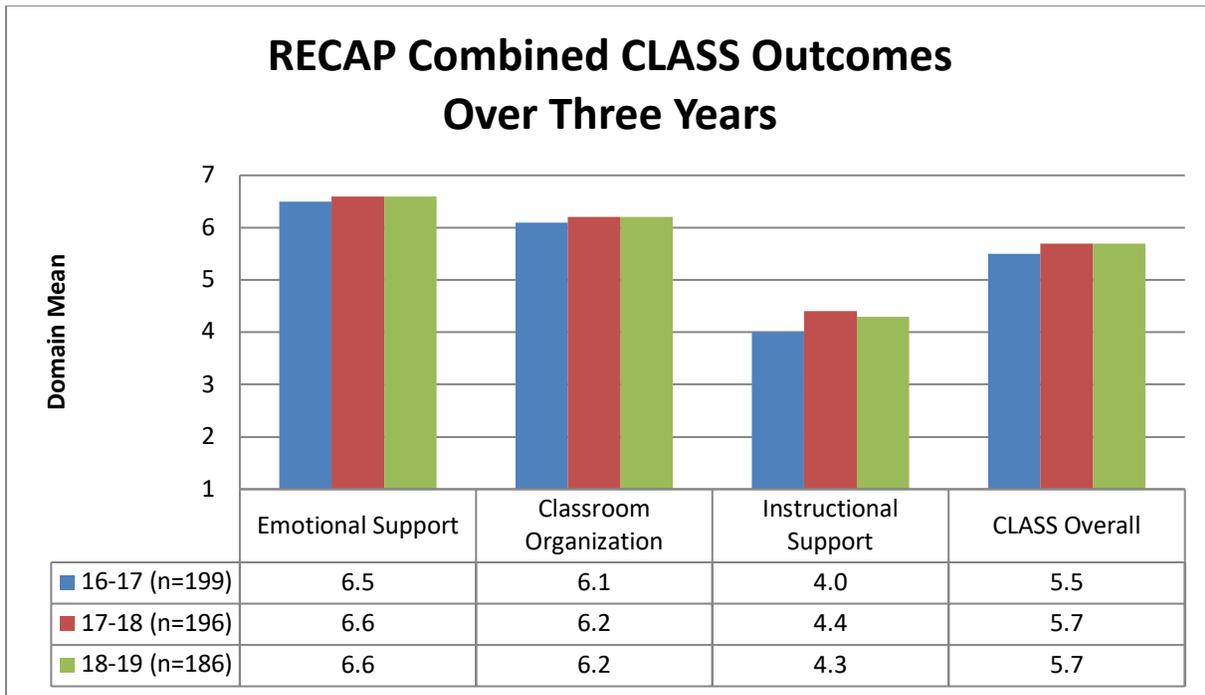
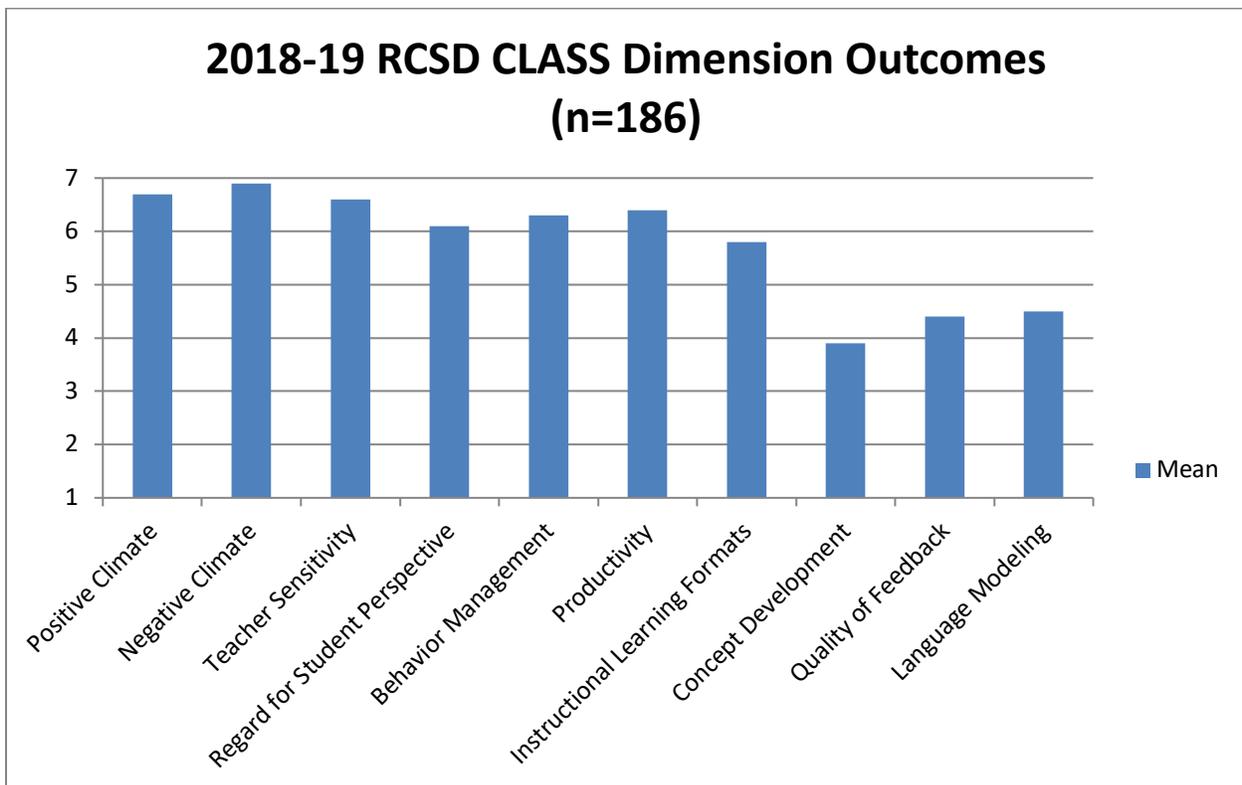


Figure 5. 2018-19 RECAP Combined EPK and UPK CLASS Dimensions



EPK CLASS Performance

The 2018-19 academic year was the fourth year CLASS was used to assess RECAP EPK classrooms. In total, 78 EPK CLASS observations were conducted across Rochester City School District (RCSD) and community based organizations (CBOs). Figure 6 shows EPK CLASS domain mean scores over the past three years. Overall, EPK classroom quality was observed to be high. The *Emotional Support* domain mean was 6.6, a slight increase from the previous year. The *Classroom Organization* domain mean rose to 6.2, while the *Instructional Support* domain mean also grew by .3, up to 4.1 from the previous year. The *Overall* CLASS mean for the 78 EPK classroom observations was 5.6, a slight increase from the previous two years. The consistency of EPK CLASS domain scores, in part, can be attributed to the ample amount of professional development offerings and orienting training offered to new RECAP teachers. Also, the ongoing support for new teachers provided by Technical Support Teachers (TSTs) in RCSD is critical assistance for new and veteran teachers.

Similar to last year, due in part to the recent implementation of full-day three-year old programming by New York State Education Department, CLASS outcomes from other school districts were unavailable at the time this report was written. Therefore, we are unable to report comparisons of Rochester's EPK classroom quality with other communities in New York State. However, comparisons of Rochester to other communities and systems are discussed in the *Threshold Quality* section below.

Figure 6. 2018-19 EPK CLASS Domain Means Over Three Years

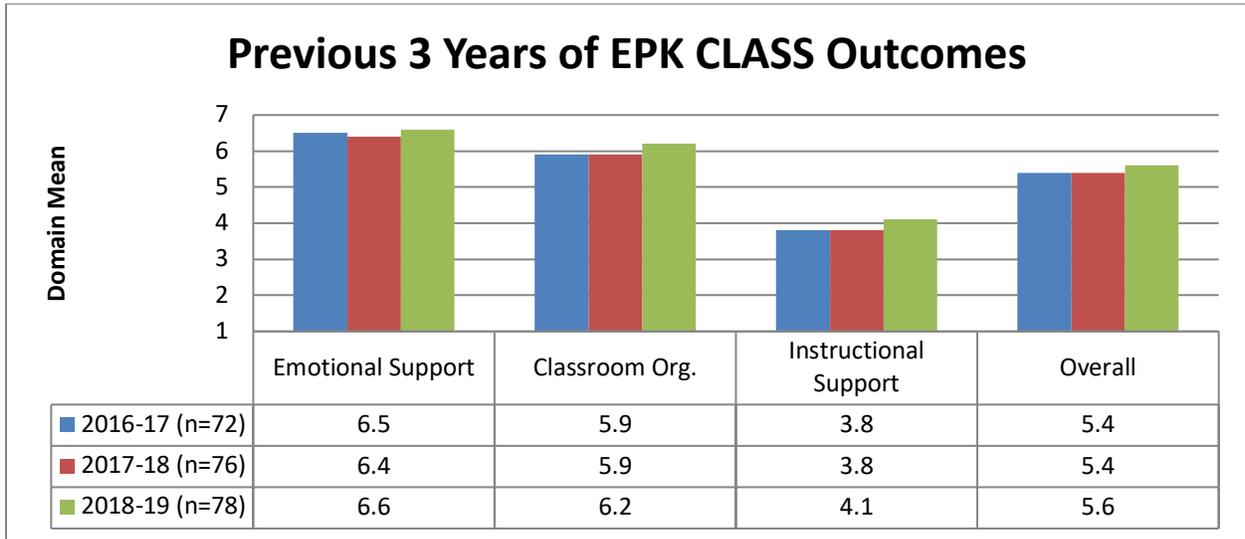
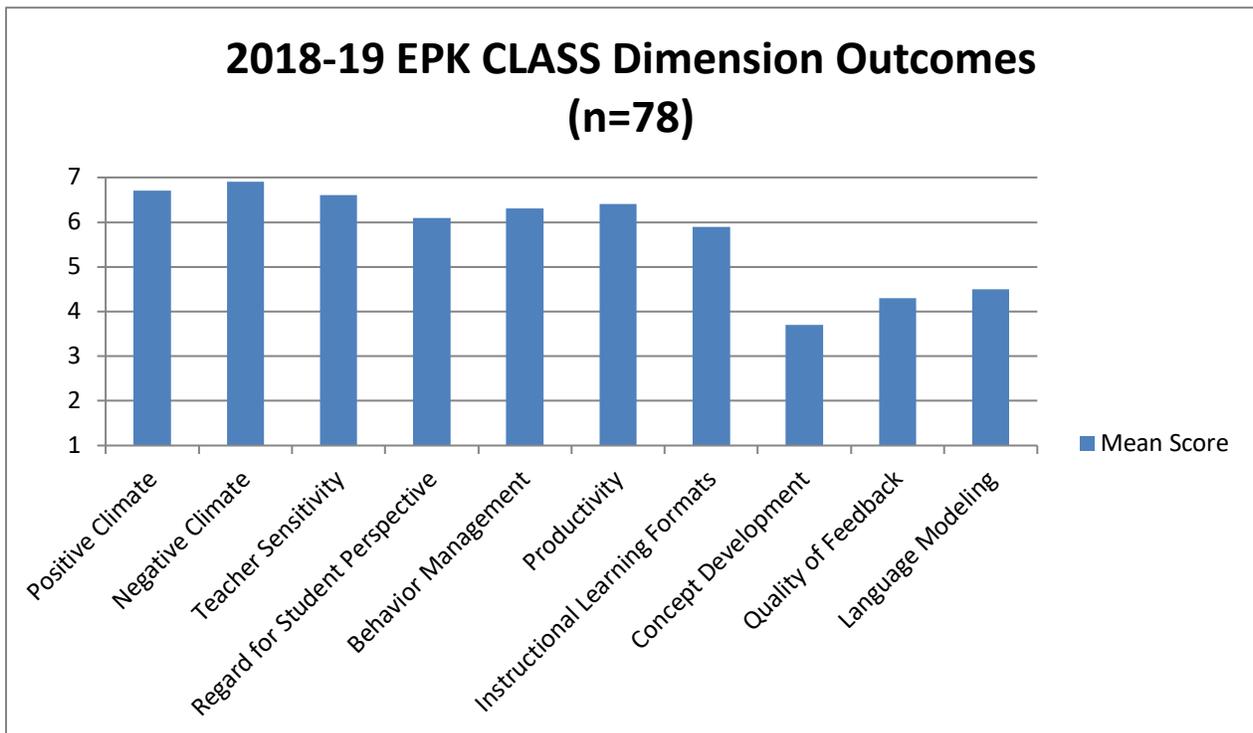


Figure 7. 2018-19 EPK CLASS Dimension Means



UPK CLASS Performance

Figure 8 represents the three year comparison of CLASS scores in the Rochester community for UPK classrooms (RCSD and CBO combined). In 2018-19, the *Emotional Support* domain remained the same, with a score of 6.6. The *Classroom Organization* domain score dropped slightly, by .1, to 6.2. In 2017-18, great growth was exhibited in the Instructional Support domain, with scores reaching an all-time high of 4.6. However, in 2018-19, Instructional Support domain scores dropped by .3 to 4.3. The *Overall* CLASS mean dropped slightly to 5.7 from the previous year of 5.8. With the inclusion of imputed teacher exempt scores, the UPK CLASS *Overall* mean remained the same, at 5.8. Figure 9 depicts CLASS dimension scores for the 2018-19 school year.

Figure 8. 3 Years of UPK CLASS Domain Means

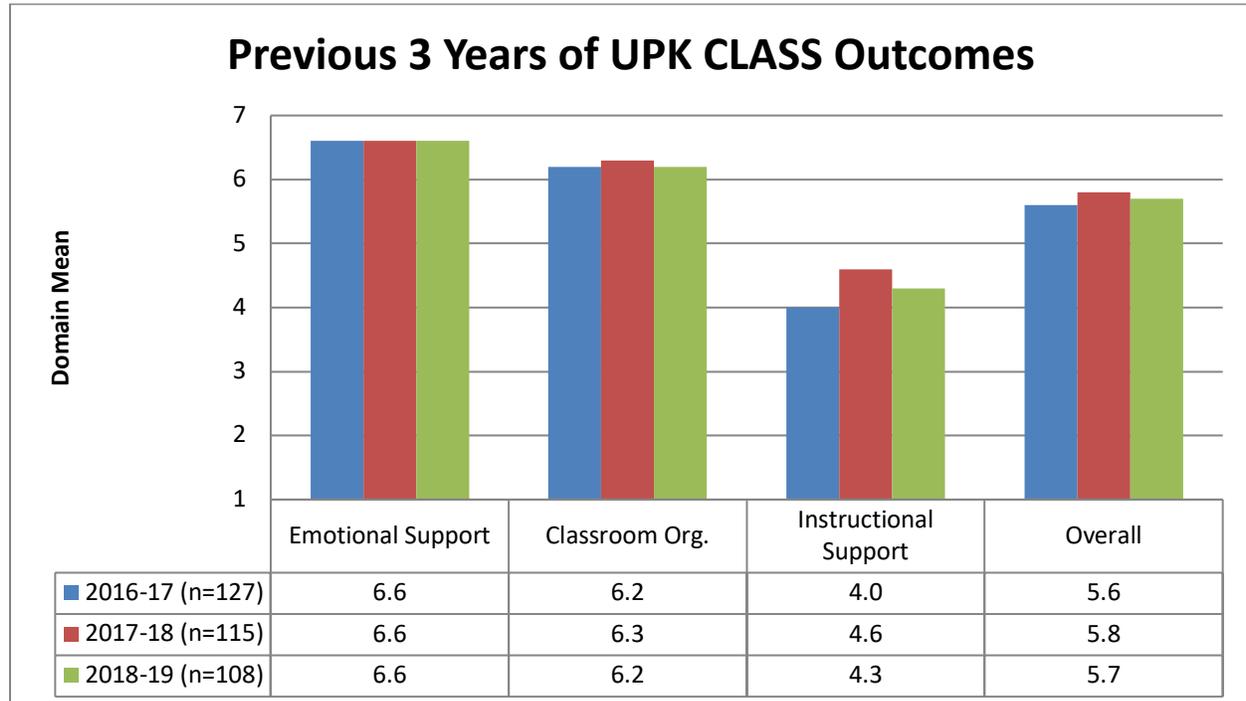
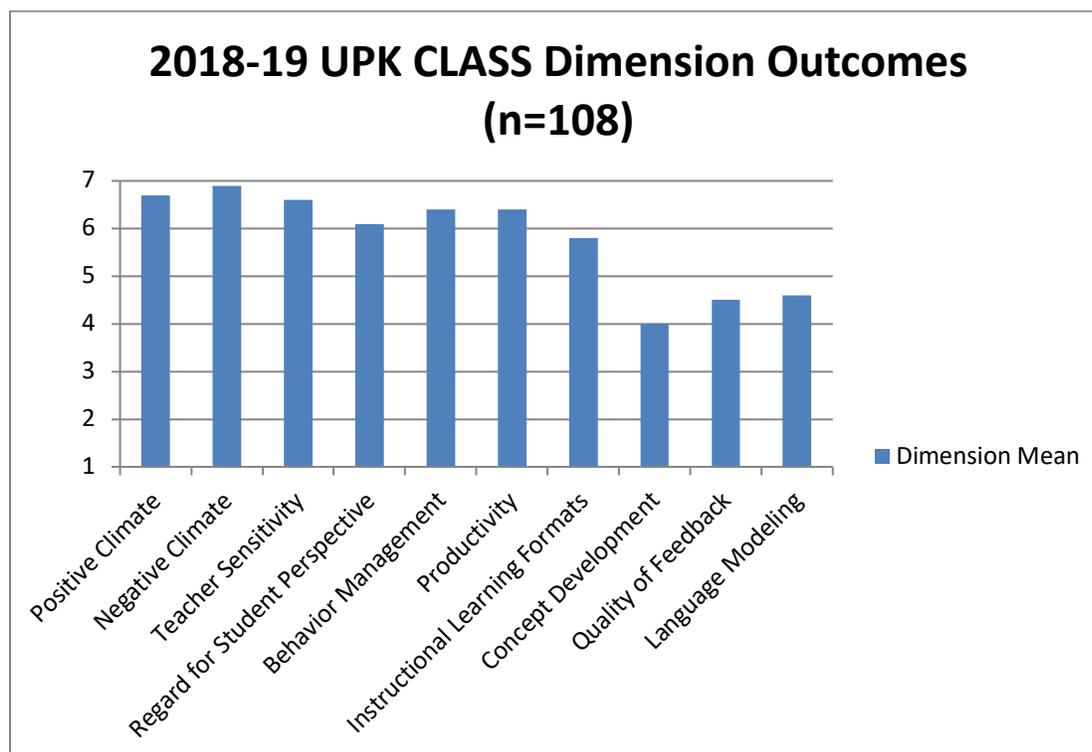


Figure 9. 2017-18 UPK CLASS Means by Dimension



Rochester CLASS Outcomes Compared to National Early Childhood Systems

Across the country, a large emphasis has been placed on the importance of high-quality professional development for early childhood educators (Mashburn et al., 2008; Moiduddin et al., 2012; Peisner-Feinberg et al., 2012; Early et al., 2017; Infurna et al., 2018). This emphasis can in part be due to the reported low quality of early childhood programming (Love et al., 2003; Mashburn et al., 2008; Yoshikawa et al., 2013; Early et al., 2017).

In 2018-19, classroom quality, as measured by CLASS, remained high across RECAP classrooms. Notably, in the EPK program, 2018-19 marked the highest level of quality observed in the *Emotional Support*, *Classroom Organization* and *Instructional Support* domains, as well as the *Overall CLASS* mean. The growth in EPK programming may be attributed to collaborative community programming efforts including, 1) the expansion of new teacher training professional learning opportunities, 2) on-going support from Technical Support Teachers (TSTs), and 3) the continuity of teaching teams in programming.

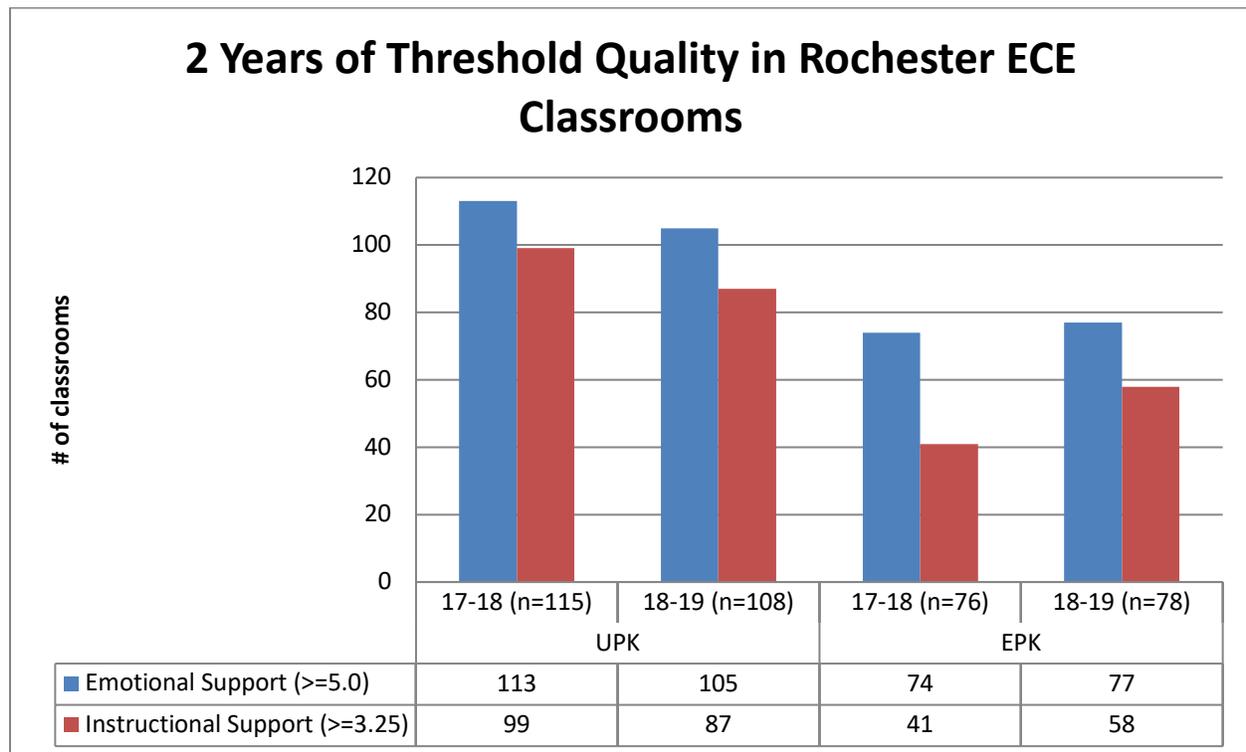
Within the national early childhood education community, Rochester's EPK and UPK system far exceeds others in regard to classroom quality and teacher-child interactions. In 2008, Mashburn and colleagues found the *Instructional Support* domain mean to be low compared to Rochester with a mean = 2.1 out of 7 in an 11-state study. Similarly, a national Head Start study found teacher-child interactions measured by *Instructional Support* to be just as low (mean = 2.3; Moiduddin, Aikens, Tarullo, West, & Xue, 2012). Most recently, research conducted in Georgia's Pre-K programming found similar results (mean = 2.5; Peisner-Feinberg, Schaaf, Hildebrandt, & Pan, 2015).

In comparison, Rochester's *Instructional Support* 4.3 and 4.1 in UPK and EPK respectively are approximately 2 points greater than others, which is a significant achievement in comparison to these national multi-state studies.

Threshold Quality of CLASS

Figure 10 depicts two years of Rochester’s threshold quality as measured by the CLASS in UPK and EPK programs. Threshold quality is defined as the minimum observed CLASS scores in which cognitive growth and development are needed for student growth to occur throughout the course of the academic year (Early et al., 2017). Early and colleagues (2017) define threshold quality of that in which classrooms have observed Emotional Support domain scores greater and greater than 3.5 on Instructional Support.

Figure 10. 2 Years of Threshold Quality in Rochester Classrooms



Across the country, a large emphasis has been placed on the importance of high-quality professional development for early childhood educators (Mashburn et al., 2008; Moiduddin et al., 2012; Peisner-Feinberg et al., 2012; Early et al., 2017; Infurna et al., 2018). This emphasis can in part be due to the reported low quality of early childhood programming (Love et al., 2003; Mashburn et al., 2008; Yoshikawa et al., 2013; Early et al., 2017).

Teacher Experience - CLASS and ECERS-3

Early childhood education teacher turnover is a topic that has been discussed the past couple of years in the Rochester community, especially in CBO classrooms. Over the past couple of years, over 80 new teachers have been hired by RCSD and CBO programs to fill classroom needs. A question that arose when reviewing new teacher training was in regards to how classroom quality as measured by the CLASS and ECERS-3 was, if at all, affected by the number of new teachers hired into EPK and UPK classrooms.

The following section will discuss RECAP teacher experience as it relates to CLASS and ECERS-3 outcomes. New classroom teachers are defined as teachers new to RECAP. Returning teachers are defined as having been in RECAP the previous year (2017-18 academic year).

Table 4. CLASS results for new and experienced RECAP teachers

CLASS Domain	Comparison of CLASS results for new and experienced RECAP teachers			
	Group*			
	New Teachers (n=44)		Returning Teachers (n=130)	
	Mean	Std Dev	Mean	Std Dev
Emotional Support	6.5	0.5	6.6	0.5
Classroom Organization	6.2	0.7	6.2	0.7
Instructional Support	4.2	1.2	4.2	1.1
CLASS Overall	5.6	0.7	5.7	0.7

Note: * Teachers were placed in one of two groups based on their previous RECAP experience. For our sample of teachers in the Rochester community, 44 teachers were brand new to RECAP. Similarly, 130 teachers returned from the previous academic year (2017-18) that had received a CLASS observation.

Table 5 reports on *t*-test results of RECAP experience and ECERS-3 outcomes for the 2018-19 school year.

Table 5. Results of *t*-tests by RECAP Experience on the ECERS-3 Observation

ECERS-3 Subscale	Comparison of ECERS results for new and experienced RECAP teachers			
	Group*			
	New Teachers (n=44)		Returning Teachers (n=140)	
	Mean	Std Dev	Mean	Std Dev
Space and Furnishings	5.0	0.8	4.8	0.9
Personal Care Routines	4.6	1.2	4.7	1.2
Language and Literacy	5.6	1.0	5.7	1.1
Learning Activities	4.9	0.9	4.9	1.1
Interaction	6.3	0.7	6.2	1.0
Program Structure	6.0	1.3	6.1	1.1
ECERS-3 Overall	5.4	0.7	5.4	0.8

Note: * Teachers were placed in one of two groups based on their previous RECAP experience. For our sample of teachers in the Rochester community, 44 teachers were brand new to RECAP. Similarly, 140 teachers returned from the previous academic year (2017-18) that had received an ECERS-3 observation.

There are no statistically significant differences between first year RECAP teachers and teachers who have been in the RECAP system for at least one year on both CLASS and ECERS outcomes for the 2018-19 school year. It is noteworthy that for teachers new to the RECAP experience, a new teacher training series of professional development was offered. Teachers employed by RCSD and CBOs received the same series of new teacher trainings, as well as receiving on-going professional support provided by Technical Support Teachers (TST's). However, at the conclusion of the new teacher training, EPK and UPK teachers had the choice to select professional learning opportunities offered throughout the course of the academic year. New York State policy mandates that school district teachers attend at least 24 hours of professional development throughout the course of the academic year. These professional learning hours are tracked by school district personnel. It is unclear how many hours of professional development EPK and UPK teachers attended because RCSD tracks professional learning opportunities provided by RCSD staff and the staff of Children's Institute. Professional learning opportunities provided by CBO staff are not always tracked by RCSD personnel, therefore it is difficult to account for professional learning opportunities offered in the Rochester community. Also, because CBO teachers are not employees of a public school district, they are not required to attend the minimum 24 hours of professional learning. However, they are required to meet minimum regulatory requirements for annual professional development according to federal, state or county standards. It is also unclear how many hours of professional development CBO teachers receive from personnel within their sites/locations. This information is not reported to Children's Institute. Therefore, it is unclear to what extent the role professional development and new teacher mentoring plays in relationship to the predictability of performing well on the CLASS and ECERS-3.

High quality on-going professional development opportunities, along with mentoring and coaching, can positively influence the quality of early childhood programming. More specifically, professional development focused on the *Emotional Support* and *Instructional Support* domains of the CLASS have been linked to increases in those scores (Early et al., 2017). The focus of professional development efforts on these two domains in particular was suggested by research indicating that an *Emotional Support* domain score greater than 5.0 and an *Instructional Support* domain score greater than 3.25 is needed for pre-k programming to meaningfully contribute to cognitive and social-emotional functioning of three and four year old children (Burchinal, Vandergrift, Pianta, & Mashburn, 2010). As demonstrated in Figure 10, the Emotional Support and Instructional Support domains of the CLASS in Rochester are mostly above the threshold quality reported in the current empirical literature (Early et al., 2017; Peisner-Feinberg et al., 2015).

The observed classroom quality in Rochester over the past decade has been very good (Infurna et al., 2018). Even though new classroom teachers are hired every year, scores as measured by the CLASS and ECERS-3 remain quite high compared to what has been reported in the recent literature (Early et al., 2017; Burchinal et al., 2010). However, it is still unclear how much professional learning opportunities and mentoring of new and veteran teachers plays a role in the growth of CLASS and ECERS-3 scores within the Rochester community. Although some empirical studies employ a randomized control methodology of which specific teachers participating in studies receive coaching and some of which do not, their findings provide evidence that very focused and specific professional learning opportunities attentive to a teacher's lesser strengths does indeed increase classroom quality over the course of an academic year (Zan & Donegan-Ritter, 2014; Son, Kwon, Jeon, & Hong, 2013; Lonigan, Farver, Phillips, Clancy-Menchetti, 2011).

Student Performance - Academics

Brigance® Early Childhood Screen III (Brigance III)

Areas assessed by the Brigance III include *Language Development, Academic and Cognitive Skills*, and *Physical Development and 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

EPK teachers administered the Brigance III to 1055 students. Table 6 depicts the frequency distribution and percent of students functioning in each of the four screening status levels. Overall, 73% of entering EPK students are within the normal range or possibly gifted and talented; 27% are developmentally at potential risk.

Table 6. EPK Brigance III Screening Results for 2018-19

2018-19 RCSD EPK Brigance Screening Status Outcomes				
Screening Status	Count	Percent	Cumulative Frequency	Cumulative Percent
1- Determine need for formal evaluation	250	24	250	24
2- Monitor closely	30	3	280	27
3- Functioning in normal range	701	66	981	99
4- Possibly gifted and talented	74	7	1055	100

Table 7. Five Years of UPK Brigance III Results

Brigance III UPK Results by Percent for Five Consecutive Years					
Screening Status	2014-15 (n=1475)	2015-16 (n=1707)	2016-17 (n=1813)	2017-18 (n=1747)	2018-19 (n=1742)
1 - Determine Need For Formal Evaluation	31	32	30	30	30
2 - Monitor Closely	5	5	5	5	4
3 - Functioning in Normal Range	55	56	56	56	58
4 - Possibly Gifted and Talented	9	7	9	9	8

Similar to previous years (Infurna et al., 2018), about a third (34%) of four year old students were already showing signs of risk for delayed developmental readiness, which compares to only about a fourth (27%) for three year olds. This is a 7% loss in developmental readiness over a year! This remains an area of concern that needs to be addressed.

COR Observation Record – Advantage (COR+)

The following text and tables report the growth of EPK and UPK RECAP cohorts on the COR+ for the 2018-19 school year.

COR+ and Expanded Pre-Kindergarten (EPK)

The 2018-19 school year marked the third consecutive year the COR+ was used to assess three-year old child growth within RECAP. Table 8 reports EPK student performance at fall, winter, and spring assessments.

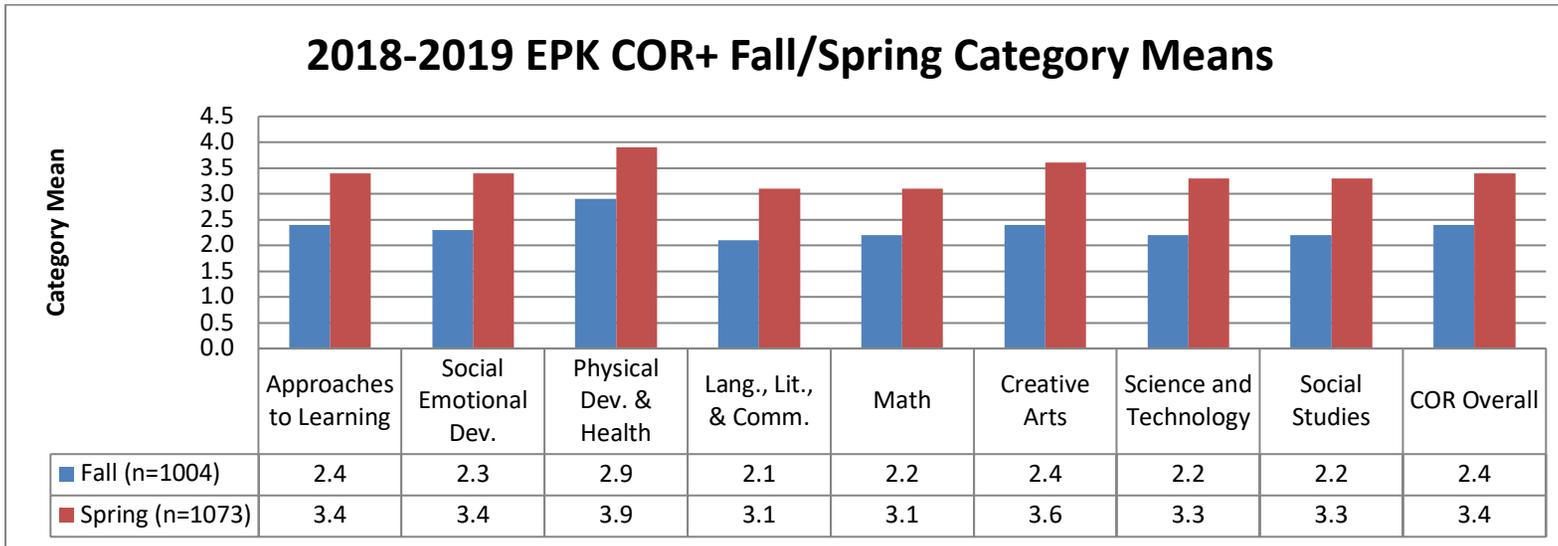
Table 8. 2018-2019 EPK COR Advantage Student Performance

2018-2019 EPK Fall, Winter, Spring, & Change Scores													
Category	Fall 2018			Winter 2019			Spring 2019			Change (Fall-Spring)			Effect Size d
	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	
Approaches to Learning	1037	2.4	0.7	1011	3.0	0.8	1117	3.4	0.9	925	1.0	0.9	1.4
Social Emotional Dev.	1052	2.3	0.8	1018	3.0	0.8	1115	3.4	0.9	930	1.1	0.8	1.4
Physical Dev. & Health	1053	2.9	0.8	1002	3.5	0.8	1102	3.9	0.7	922	1.0	0.7	1.3
Lang., Lit., & Comm.	1047	2.1	0.6	991	2.7	0.6	1085	3.1	0.7	908	0.9	0.6	1.5
Math	985	2.2	0.7	953	2.8	0.7	1053	3.1	0.7	856	1.0	0.8	1.4
Creative Arts	1025	2.4	0.8	979	3.1	0.8	1076	3.6	0.9	876	1.2	0.8	1.5
Science and Technology	975	2.2	0.8	960	2.9	0.8	1056	3.3	0.7	850	1.1	0.8	1.4
Social Studies	1002	2.2	0.7	997	2.9	0.8	1095	3.3	0.9	883	1.0	0.8	1.4
COR Overall	1004	2.4	0.6	967	3.0	0.7	1073	3.4	0.7	874	1.0	0.6	1.7

And, for the third consecutive year, EPK students score highest on the *Physical Development & Health* category across the fall, winter, and spring reporting periods. This category is made up of three items; 1) gross-motor skills, 2) fine-motor skills, and 3) personal care and healthy behavior. It is evident that for the past three years Rochester three-year old children enter and leave the EPK year with age-appropriate skills in this category (Infurna et al., 2018).

However, there are still concerns across categories that capture cognitive growth and functioning, including; *Language, Literacy, and Communication, Math, Science and Technology, and Social Studies*. Historically, three-year old children entering EPK programming have scored low on these four categories at fall entry. As is evident by Table 8 however, great growth occurs throughout the EPK for our children. By the end of the year, all eight of the category means at the of the EPK year are greater than 3.0, which HighScope (2014) suggests is appropriate for children in this age group. Figure 11 depicts EPK student fall/spring outcomes.

Figure 11. 2018-2019 EPK Fall/Spring Category Means



UPK Student COR+ Outcomes

The 2018-19 school year marked the fifth consecutive year the COR+ was implemented within UPK programming. The following tables and figures depict four-year old student social-emotional and cognitive outcomes.

Table 9 depicts UPK student fall, winter, and spring outcomes.

Table 9. 2018-2019 UPK COR Advantage Student Performance

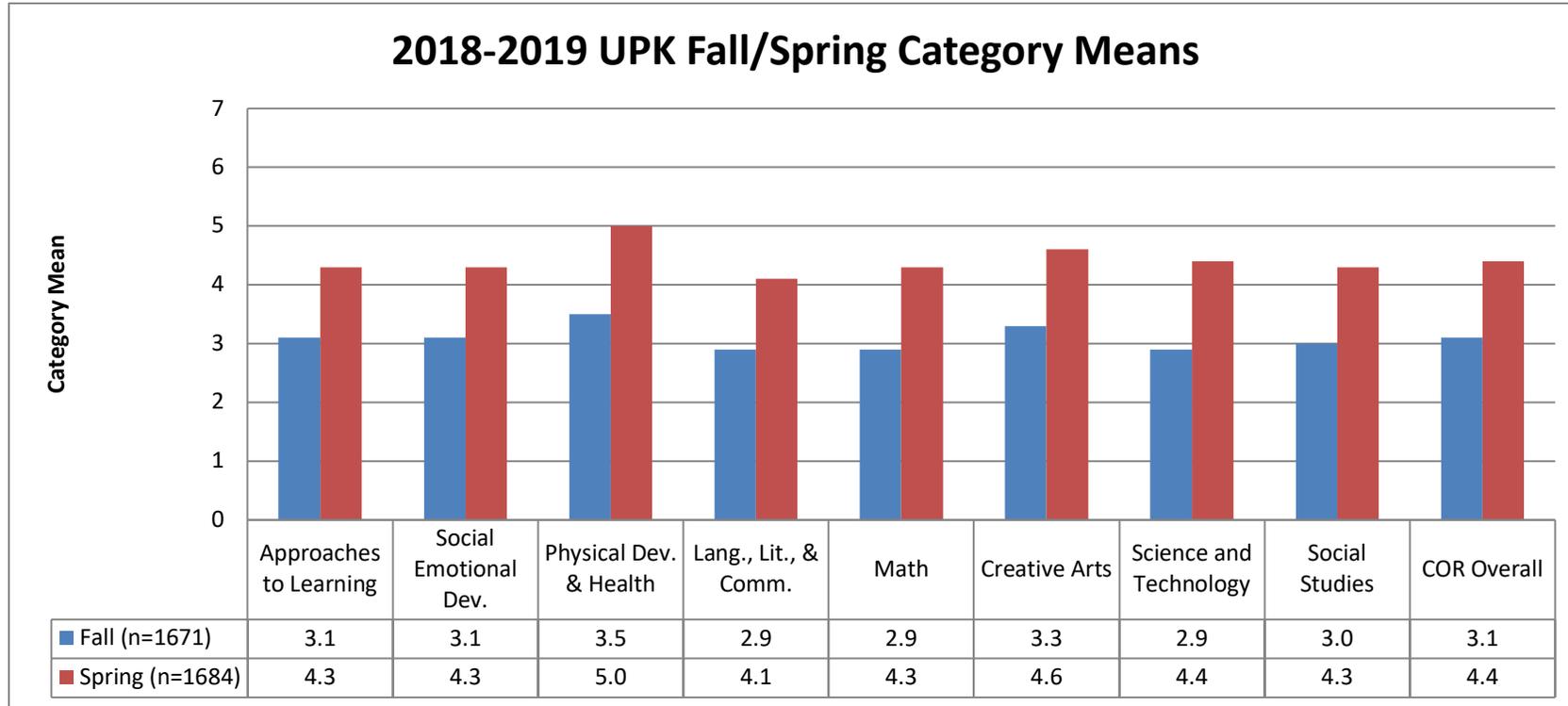
2018-2019 UPK Fall, Winter, Spring, & Change Scores													
Category	Fall 2018			Winter 2019			Spring 2019			Change (Fall-Spring)			Effect Size
	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	d
Approaches to Learning	1793	3.1	0.7	1716	3.7	0.8	1773	4.3	0.9	1597	1.3	0.9	1.9
Social Emotional Dev.	1772	3.1	0.7	1735	3.7	0.8	1792	4.3	0.9	1608	1.3	0.8	1.9
Physical Dev. & Health	1821	3.5	0.7	1725	4.3	0.8	1772	5.0	0.9	1617	1.5	0.9	2.1
Lang., Lit., & Comm.	1758	2.9	0.6	1691	3.6	0.7	1764	4.1	0.8	1602	1.2	0.7	2.0
Math	1674	2.9	0.6	1605	3.7	0.8	1695	4.3	0.9	1507	1.4	0.8	2.3
Creative Arts	1686	3.3	0.7	1597	4.0	0.7	1681	4.6	0.9	1508	1.4	0.9	2.0
Science and Technology	1604	2.9	0.7	1586	3.7	0.8	1681	4.4	1.0	1449	1.5	0.9	2.1
Social Studies	1714	3.0	0.7	1663	3.7	0.9	1695	4.3	1.0	1486	1.4	0.9	2.0
COR Overall	1671	3.1	0.6	1633	3.8	0.7	1684	4.4	0.8	1499	1.4	0.7	2.3
School Ready	26 2% are ready			298 18% are ready			834 50% are ready						

Similar to previous years, four-year old children are observed to score the highest in the *Physical Development & Health* category. Like three-year old children, it is evident four-year old children enter the UPK year having a firm grasp of gross motor, fine motor, and personal care routine items. UPK students also exhibit the greatest growth over the course of the academic year in *Physical Development & Health, Math, and Science and Technology*.

Like their EPK children, UPK students enter programming low in *Language, Literacy, and Communication, Math, Science and Technology, and Social Studies*. Related to previous years, four-year old children exhibit immense growth over the course of the academic year. Effect sizes across the eight categories and COR+ Overall in 2018-19 mirror those from the previous school year (Infurna et al., 2018). Unfortunately, due to the lack of nationally reported empirical results, we cannot compare Rochester students with their four-year old peers across the country.

Figure 12 depicts four-year old student fall/spring category means.

Figure 12. 2018-2019 UPK Fall/Spring Category Means



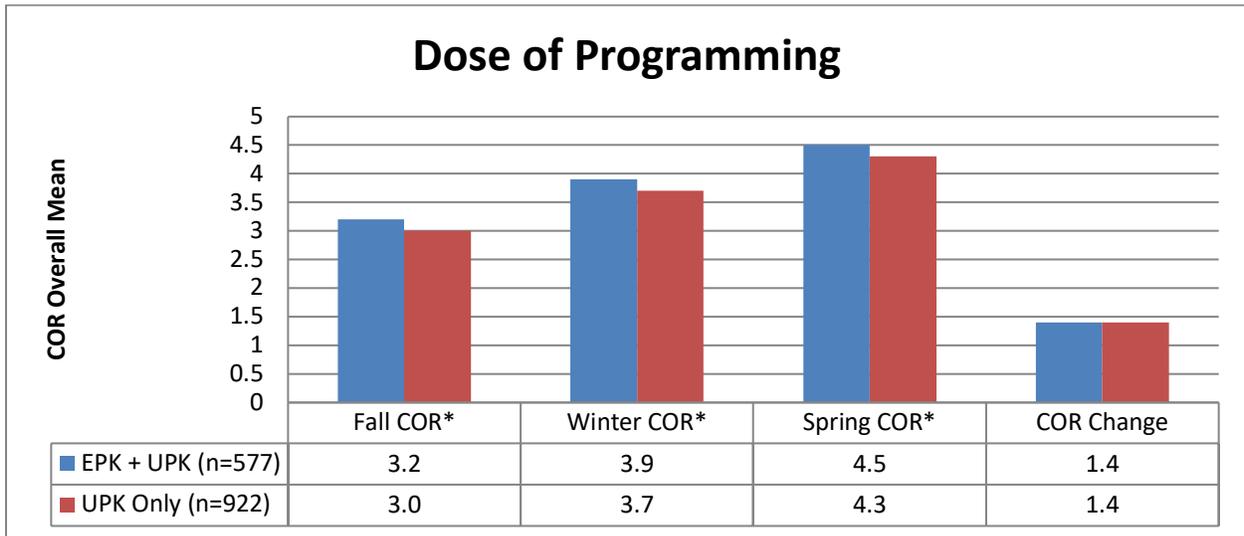
Dose of Programming

Dose of Programming and Child Observation Record-Advantage Outcomes (COR+)

The 2018-19 school year provided RECAP with additional “dose of programming” information that followed the 2017-18 cohort of EPK children into UPK programming in 2018-19. Overall, approximately 1000 children from the 2017-18 EPK cohort had sufficient calculated COR+ outcomes (see Table 8 of the 2017-18 RECAP Annual Report; Infurna et al., 2018). Of the total number of students in the 2017-18 EPK cohort, 837 had matching fall/spring COR+ data. For the purpose of the following narrative and overview of dose of programming, the EPK students that had matching data in 2017-18 were included into our 2018-19 dose of programming analyses. EPK students in the 2017-18 cohort that did not have matching fall/spring COR+ data were not included in the following analyses. The students that were enrolled in the 2017-18 EPK cohort that were also captured in the 2018-19 UPK COR+ dataset will be called EPK+UPK. Students only enrolled in UPK programming for the 2018-19 school year will be referred to as UPK.

Of the 837 EPK students that had matching fall/spring data in 2017-18, 577 (69%) also had matching fall/spring COR+ data in 2018-19. The following tables and figures will depict outcomes, as measured by the COR+, relative to dose of programming. Figure 13 depicts dose of programming outcomes as measured by the overall COR+ mean at fall, winter, and spring as well as student overall growth. Table 10 informs school readiness outcomes based on dose of programming.

Figure 13. Dose of Programming on COR+ Overall at Three Times of Reporting



Note: * significant $p < .0001$

Figure 13 depicts results from a *t*-test that compared EPK + UPK students to UPK only students. Similar to last year (Infurna et al., 2018) EPK + UPK students outperformed their UPK only peers at three time points during the school year. EPK + UPK students entered UPK ahead of their UPK only attending peers. EPK + UPK students maintained their academic advantage throughout the course of the school. At both winter and spring-time points of reporting, EPK + UPK students maintained their advantage, however both groups of students were observed to grow at the same rate. Similarly, the UPK only group entered lower in the fall, yet they grew the same as their peers. Their full year of UPK was not enough to bring them up to their EPK + UPK peers. Table 10 depicts school readiness outcomes based on dose of programming.

Table 10. School Readiness Based on Dose of Programming

Student Type	Kindergarten Ready*	Not Ready	Total	% Ready
EPK + UPK	327	250	577	57%
UPK Only	459	463	922	50%
Total	786	713	1499	

Note: * HighScope (2014) defines school readiness by achieving ≥ 3.75 in each of the eight COR+ categories and having an overall COR+ mean ≥ 4.0 .

Table 10 reports school readiness based on dose of programming. Students were included in this analysis only if they had matching fall/spring COR+ data. This in-turn would allow us to create change scores, or growth over the course of the academic year for students. Again, similar to previous findings (Infurna et al., 2018), students in the EPK + UPK group were more school

ready at the end of the year than their UPK only peers. In total, 57% of EPK + UPK students achieved the HighScope (2014) definition of school readiness compared to only 50% of the UPK only group. For two consecutive years RECAP has reported that students attending two years of full-day preschool programming before transitioning to kindergarten have outperformed their UPK only attending peers on the COR+ and school readiness.

Student Performance – Social Emotional

Teacher-Child Rating Scale (T-CRS)

Assessing social and emotional functioning of three and four-year old children is an integral part of the RECAP assessment system. RECAP uses the Teacher-Child Rating Scale (T-CRS) for this purpose. The TCRS consists of 32 items that assess both positive and negative aspects of a child’s social-emotional make-up. 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 screening tool that identifies students with teacher-observed social-emotional needs to track population trends, changes in students’ social and emotional development, and the impact of pre-k programs in Rochester.

Table 11 reviews EPK student matched subscale outcomes. Table 12 depicts EPK student matched risk counts between pre and post teacher observations. Student risk count is calculated by subscale percentile score and gender. Students whose scores fall below the 15th percentile threshold (approximately one standard deviation) are considered to be at risk with regard to that particular subscale.

Table 11. EPK Matched T-CRS Subscale Outcomes

2018-19 EPK T-CRS Matched Subscale Scores (n=802)							
Subscale	Pre		Post		Change		<i>Effect Size</i>
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	
Task Orientation	26.8	6.1	27.6	6.3	0.8	4.8	0.13
Behavior Control	25.9	7.2	25.9	7.4	0.0	5.4	0.00
Assertiveness	27.7	6.0	29.4	5.7	1.8	4.8	0.30
Peer Social Skills	29.1	6.1	30.3	6.2	1.1	4.8	0.18

Overall, EPK students with matched pre and post subscale scores exhibited moderate growth in the *Assertiveness* and *Peer Social Skills* subscales. It can be inferred that a full year of EPK programming made a positive impact on three-year old student observed Assertiveness and Peer Social Skills. Similar to previous years, EPK student *Task Orientation* growth was minimal, but an important gain (Infurna et al., 2018).

It is interesting to note that there was no observed growth in the *Behavior Control* subscale. This is thought-provoking for a couple of reasons. First, for most three-year old children in Rochester, full-day EPK programming is their first exposure to a structured cognitively and socially stimulating program. One might anticipate that in a full year of full-day programming a three-year old would exhibit some behavioral growth over the course of the school year. That cannot be said for this cohort of students. Second, developmentally (cognitively and social-emotionally) would we as a community expect to see significant growth for children over the course of an academic year in regards to their behavior in their first experiences within a structured academic setting? Teachers did not observe a loss in *Behavior Control*, but we are not certain why there was not a significant amount of growth in the behaviors of three-year old children.

Table 12. EPK Student Matched T-CRS Risk Count

2018-19 EPK T-CRS Matched Risk Count (n=802)				
# of risk	Pre	Percent	Post	Percent
0	477	59	512	64
1	168	21	159	20
2	86	11	79	10
3	48	6	34	4
4	23	3	18	2

Overall, 59% of three-year old children enter programming with no observed risks as measured by the T-CRS. However, 41% of children, when compared to a national sample, are observed to have at least one risk. Students with matched pre and post data with relationship to risk count are depicted in Table 12. As is exhibited by Table 12, over the course of the academic year student risk counts decrease. Even though student risk counts drop from pre to post, it is important to note that there are still 16% of students that leave the EPK year with at least two observed risks.

Table 13. UPK Matched T-CRS Subscale Outcomes

2018-19 UPK T-CRS Matched Domain Scores (n=1490)							
Domain	Pre		Post		Change		Effect Size
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	
Task Orientation	27.5	6.7	28.9	6.9	1.3	5.7	0.20
Behavior Control	26.7	7.4	27.7	7.8	1.1	5.8	0.15
Assertiveness	28.7	5.9	30.7	5.7	2.1	4.8	0.35
Peer Social Skills	29.9	5.9	31.5	5.9	1.6	5.1	0.28

Table 13 illustrates UPK student matched T-CRS subscale means with effect size. Similar to outcomes observed in EPK children, UPK students exhibited small to moderate growth over the course of the academic year on two subscales, *Assertiveness* and *Peer Social Skills*. These effect sizes are similar to those reported in previous years (Infurna et al., 2018). The *Task Orientation* and *Behavior Control* subscales saw small, but important observed growth over the course of the academic year.

It is evident that four-year old children, much like three-year old children, grow in terms of their assertiveness skills in relationship to the way they interact with their peers in the classroom. The four positively scored items on the *Assertiveness* subscale are: 1) the student participates in classroom discussions, 2) is able to verbalize a point under pressure, 3) is able to share their thoughts about a topic without being prompted, and 4) are comfortable leading (Perkins & Hightower, 2002). A positive outcome of full-day programming for both three and four-year children is that the students are given opportunities in the classroom to advocate for themselves by verbally sharing their thoughts.

Similarly, the *Peer Social Skills* positively observed items are; 1) makes friends easily, 2) classmates enjoy sitting next to them, 3) has many friends, and 4) is well-liked by their classmates (Perkins & Hightower, 2002). Another positive outcome of full-day programming for both EPK and UPK students is that they are able to flourish as individuals, express their wants and needs (both verbally and physically) while developing skills which are transferable through adolescence and adulthood.

Table 14. UPK Student Matched T-CRS Risk Count

2018-19 UPK T-CRS Matched Risk Count (n=1490)				
# of risk	Pre	Percent	Post	Percent
0	1096	74	1164	78
1	195	13	181	12
2	110	7	98	7
3	63	4	37	2
4	26	2	10	1

Table 14 reports on UPK matched UPK student risk count. Similar to EPK student reported findings, there is minimal change observed between the pre and post reporting period. In total, approximately 13% of students enter UPK with two or more observed risks. At the end of the UPK year, 10% of students still have at least two or more observed risks.

Family Perspectives

Family and Provider/Teacher Relationship Quality Measures

In the fall of 2016 RECAP began using the Family and Provider/Teacher Relationship Quality (FPTRQ) measures, developed by early education researchers at Westat and Child Trends, replacing the surveys previously used to gather families' feedback. To read about the history of RECAP adopting the use of these measures, please see the Rochester Early Childhood Assessment Partnership 2016-2017 Twentieth (Infurna et al, 2017) and 2017-2018 Twenty-First Annual Reports (Infurna et al, 2018).

Early education researchers (Kim et al., 2015) posited that the relationship between families and teachers is bi-directional, stating "...families may be more likely to become engaged and involved in their children's development and learning activities when they feel supported, understood, and empowered by programs and providers/teachers and when they are better able to balance work and family responsibilities. At the same time, providers and teachers may become more sensitive and responsive to the needs of families as parents become more involved and engaged in programs." The authors' literature review also identified a small body of research suggesting that family and provider/teacher relationships can contribute to the child's school readiness (Dunst, 2002; Dunst, Boyd, Trivette, & Hamby, 2002; Mendez, 2010) and improve parent-child relationships and parental self-efficacy (Dunst, 2002; Green, McAllister, & Tarte, 2004; Kaczmarek, Goldstein, Florey, Carter, & Cannon, 2004; Kossek, Pichler, Meece, & Barratt, 2008; Small, 2009). Subjects included in the FPTRQ field study and RECAP's population are similar (ethnically, racially, culturally, linguistically, and financially across different types of early care and education settings).

RECAP uses three of five questionnaires developed by the FPTRQ project: the Parent, Provider/Teacher, and Director measures. For simplicity and because Expanded Prekindergarten (EPK) and Universal Prekindergarten (UPK) have certified teachers, RECAP shortened the "provider/teacher" title to "teacher" and generalized the "parent" measure to be more inclusive by labeling it the "family" measure, thus changing the questionnaire title to *Family and Teacher Relationship Quality – Family* measure (*FTRQ – Family*).

The *FTRQ – Family* measure asks caretakers general questions about how they interact with their children's teachers; for example, how easy or difficult it is for them to reach their child's teacher and how comfortable they feel talking with the teacher. The *FTRQ – Teacher* measure asks teachers general questions about how they interact with their students' families; for example, how easy or difficult it is for parents to reach them and how often parents share information about their home life. The *FTRQ – Director* measure asks program directors and principals general questions about their ECE environment and about how the program supports family and teacher relationships; for example, how the program communicates with parents and information

provided to parents about services. Each of these measures, as well as subscale and construct definitions and computations, is discussed in detail in the Rochester Early Childhood Assessment Partnership 2016-2017 Twentieth (Infurna et al, 2017) and 2017-2018 Twenty-First Annual Reports (Infurna et al, 2018).

In 2018-19, the *FTRQ – Family* was distributed to each child enrolled in one of RECAP’s 209 prekindergarten classrooms. A total of 3,157 forms were distributed as a pre-assessment in November 2018 and 3,166 forms were distributed as a post-assessment in May 2019. The *FTRQ – Family* was made available in both English and Spanish.

In 2018-19, rates of return were approximately 33% in the fall and 20% in the spring. These percentages are down from 2017-18, where rates of return were approximately 42% in the fall and 30% in the spring.

Figures 14 and 15 present the *FTRQ - Family* average (mean) construct and subscale scores, respectively, for 2017-18 and 2018-19. The greatest numerical mean change from pre- to post-assessment among constructs is in *Practices* (All Subscales). The *Attitudes* (All Subscales) construct has the highest numerical score mean, but little change from pre- to post-assessment. Numerically, there has been no change over two years in the score means for *Attitudes/Understanding Context* and *Attitudes/Respect*. Pre-assessment scores were approximately the same for both years as were the post-assessment scores (numeric differences ≤ 0.1). Exceptions are *Practices/Responsiveness*, *Practices/Communication*, and *Practices/Family-focused Concern* which ended higher (numeric difference ≥ 0.2) in 2018-19 than in 2017-18.

Figure 14. *FTRQ – Family* comparison of fall and spring construct score means for 2017-18 and 2018-19

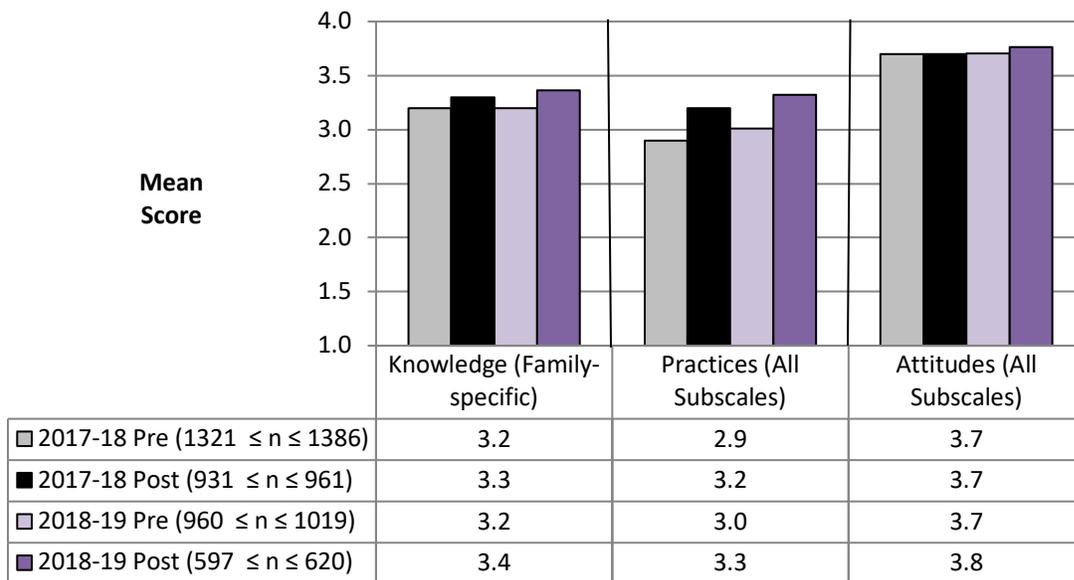
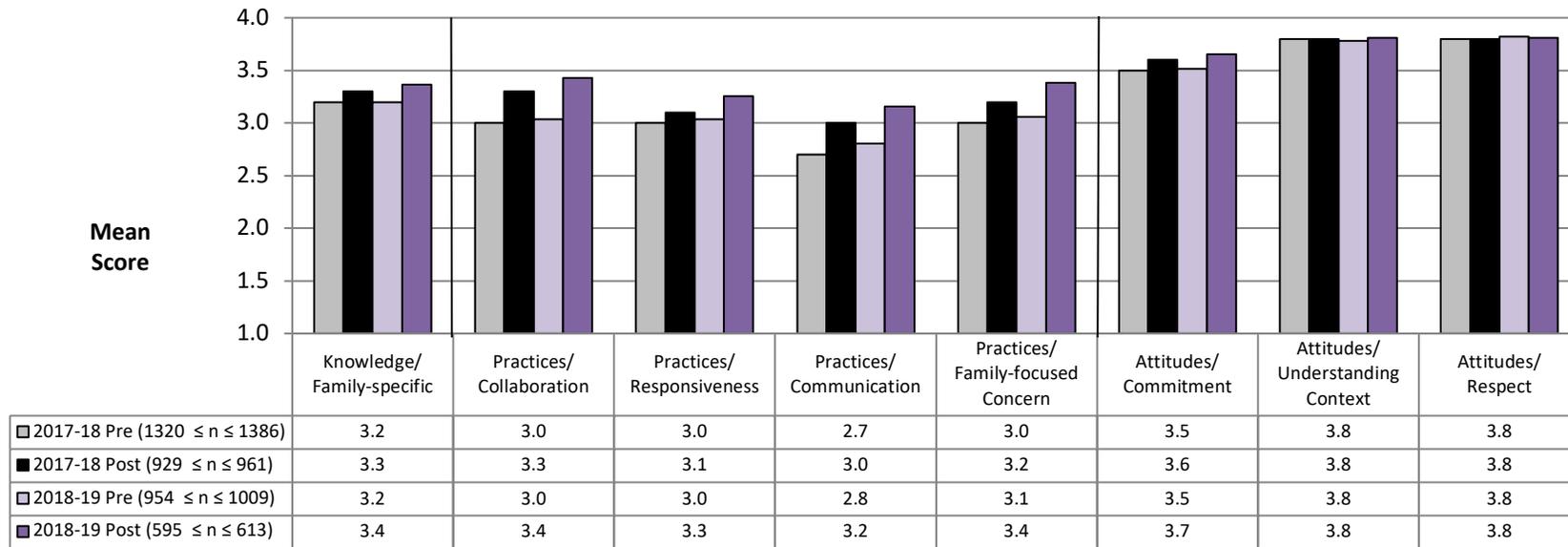
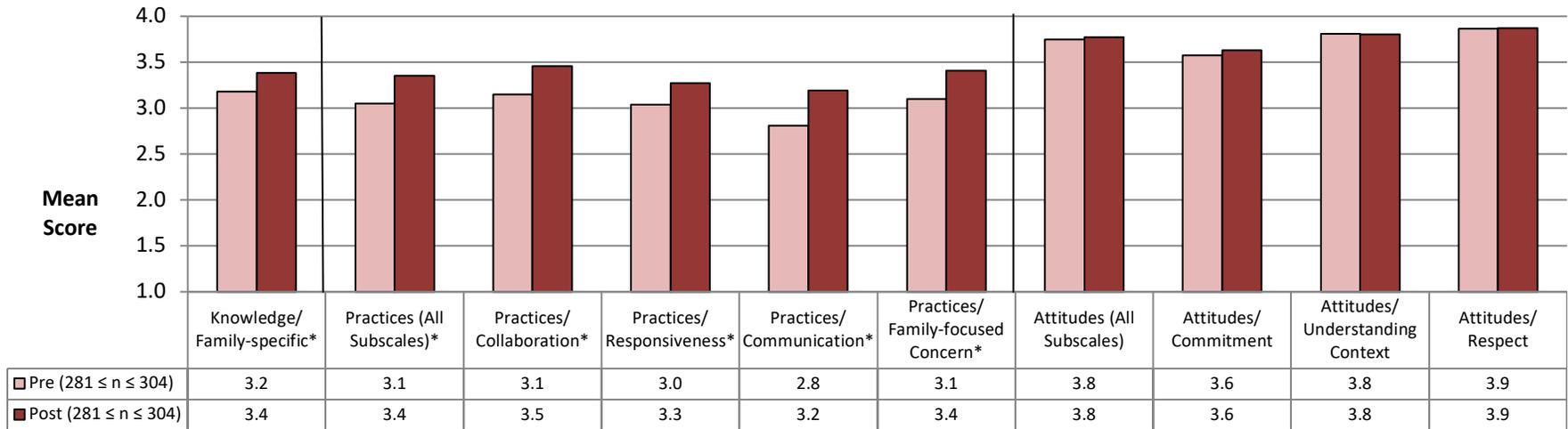


Figure 15. *FTRQ – Family* comparison of fall and spring subscale score means for 2017-18 and 2018-19



Analysis of the *FTRQ – Family* results, using data from only the families that submitted both a pre- and post-questionnaire (n=306) is presented in Figure 16. Comparison of the score means using the Wilcoxon signed-rank test, reveals statistically significant ($p < .05$) gains for all constructs and subscales except *Attitudes* (All Subscales), *Attitudes/Commitment*, *Attitudes/Understanding Context*, and *Attitudes/Respect*. This analysis was performed using Statistics Kingdom’s online tool.

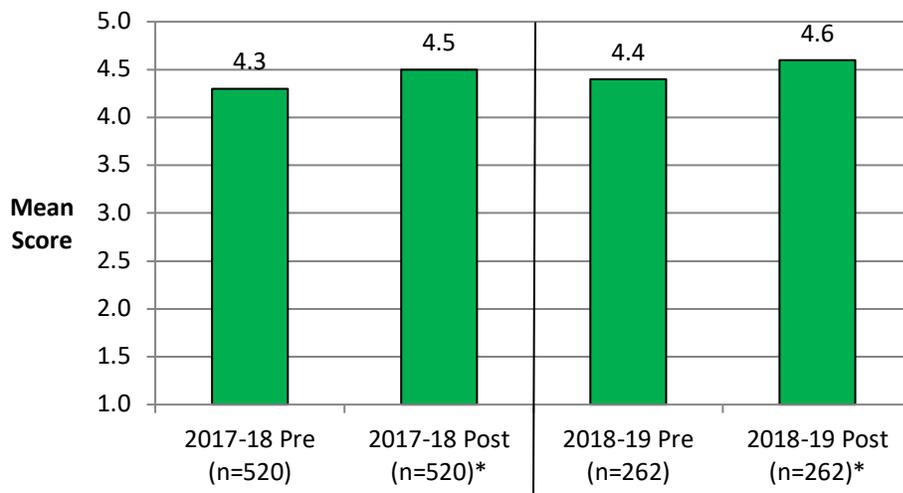
Figure 16. 2018-19 FTRQ – Family comparison of score means for matched questionnaires (fall and spring)



Note: * Difference in means from pre- to post-assessment is significant at $p < .05$

Caretakers were asked in the fall and in the spring how they would describe their relationship with their child’s teacher on a scale of 1-5 (1 being the worst and 5 being the best imaginable). Figure 17 shows the response means for the past two years, using only the data from families that submitted both pre- and post-assessment responses to this question (Q7). In 2017-18, comparison of the pre- and post-assessment scores using Student’s *t*-test revealed statistically significant ($p<.05$) gains for caregiver-reported relationship quality. In 2018-19, comparison of the pre- and post-assessment scores using the Wilcoxon signed-rank test revealed statistically significant ($p<.05$) gains for Q7 as well. Starting and ending means were numerically similar for both years.

Figure 17. *FTRQ – Family* comparison of score means for caregiver-reported family and teacher relationship quality using matched questionnaires in 2017-18 and 2018-19



Note: * Difference in yearly means from pre- to post-assessment is significant at $p<.05$

RCSD-specific Questions

RECAP’s Assessment Team developed 19 targeted questions (three more than the 2017-18 survey) which were added to the end of the *FTRQ – Family* measure to gather information about RCSD initiatives with regard to books, technology, and school relationships (Table 15).

Table 15. RCSD-specific Questions about Books, *ReadyRosie*, and School Relationships at pre- and post-assessment in 2018-19

RCSD-specific Questions (Books, <i>ReadyRosie</i> , School Relationships)	Percentage of families that:							
	Read to their child at least once a week	Read to their child daily	Receive books sent home at least monthly	Are satisfied or very satisfied with the books being sent home	Have never heard of <i>ReadyRosie</i>	Have never used <i>ReadyRosie</i>	Can talk to at least one person at their child's school about their concerns	Can talk to more than three people at their child's school about their concerns
Pre-assessment (November 2018)	96% (n=1019*)	35% (n=1019*)	86% (n=1004*)	85% (n=1008*)	62% (n=963*)	80% (n=971*)	91% (n=968*)	46% (n=968*)
Post-assessment (May 2019)	96% (n=617*)	33% (n=617*)	98% (n=606*)	96% (n=615*)	44% (n=583*)	69% (n=592*)	94% (n=584*)	50% (n=584*)

Note: * sample size denotes the total number of responses to the question

The families that reported having heard of *ReadyRosie* were most often informed by their child’s teacher; this is true at both pre- and post-assessment.

On a scale of A to F, where A is the best grade, families were asked to rate aspects of their child’s prekindergarten program. Results are presented in Table 16.

Table 16. RCSD-specific Questions - Grading the program at pre- and post-assessment in 2018-19

RCSD-specific Questions (Grading the program)	Percentage of families that gave a grade of A (Excellent) to their:			
	Teacher	Parent Contact	School Principal or Center Director	Prekindergarten program
Pre (November 2018)	73% (n=1013*)	50% (n=890*)	56% (n=997*)	66% (n=1011*)
Post (May 2019)	84% (n=617*)	60% (n=550*)	61% (n=604*)	74% (n=613*)

Note: * sample size denotes the total number of responses to the question

Teachers received the highest percentage of A's on both the pre- and post-assessment compared to the other categories. Parent contact is an umbrella term for Adult Family Educators, Parent Liaisons, Family Navigators, Parent Coordinators, etc. Parent contacts and principals or center directors were given the least number of A's and were the only two groups that received F's, but at very small percentages; all were $\leq 4\%$.

FTRQ – Teacher

The ***FTRQ – Teacher*** (developed by Kim et al., 2015) was distributed in conjunction with the ***FTRQ – Family*** in both the fall and the spring as an optional survey for teachers to complete. It is suggested by the measure's authors that when the ***Family*** and ***Teacher*** measures are examined at the same time, the quality of a relationship from two different perspectives can be compared, as the subscales are mostly the same.

In 2018-19, the rates of return were approximately 30% in the fall (62 of 206) and 28% in the spring (58 of 210). These rates of return are down from 2017-18, when approximately 38% of surveys were returned in the fall and 40% were returned in the spring.

Figure 18 and Figure 19 show ***FTRQ – Teacher*** average (mean) scores for two years, along with the FPTRQ field study results by construct and subscale respectively. The duration of teacher-family relationships in the field study is unclear, although the authors stated data were collected between January and April 2014. The length of family and teacher relationships would generally be 2 ½ months at the time of RECAP's pre-data collection and 8 ½ months at post-data collection.

In 2017-18, the ***FTRQ – Teacher*** survey was administered as the original (long-form) measure, but in 2018-19 the short form was used. In the figures below, the 2017-18 means have been modified to include only the questions from the short form for better comparison over these two years. It should be noted that the means found for the original measure given in 2017-18 and the extracted short form were virtually the same. The field study means are for the original measure.

In both 2017-18 and 2018-19, the lowest numerical means among constructs and subscales were in ***Knowledge/Family-specific*** and ***Attitudes/Respect***. The greatest numerical mean changes from pre- to post-assessment were in ***Knowledge/Family-specific*** and ***Practices/Collaboration*** in 2017-18 and 2018-19 and ***Practices/Communication*** in 2017-18 (change=0.2). Over all constructs and subscales, pre- and post-assessment scores were approximately the same for these two years. Field study results were similar to RECAP post-assessment results in 2017-18 and 2018-19. Field study results were numerically better (difference ≥ 0.2) than RECAP post-assessment results in ***Knowledge/Family-specific*** (2017-18 and 2018-19), ***Practices*** (All Subscales) (2017-18), ***Practices/Collaboration*** (2017-18), and ***Attitudes/Openness to Change*** (2018-19). RECAP post-assessment results were numerically better (difference ≥ 0.2) than field study results in ***Practices/Responsiveness*** (2018-19).

Figure 18. *FTRQ* – Teacher comparison of fall and spring mean construct scores for 2017-18 and 2018-19 with the FPTRQ field study scores

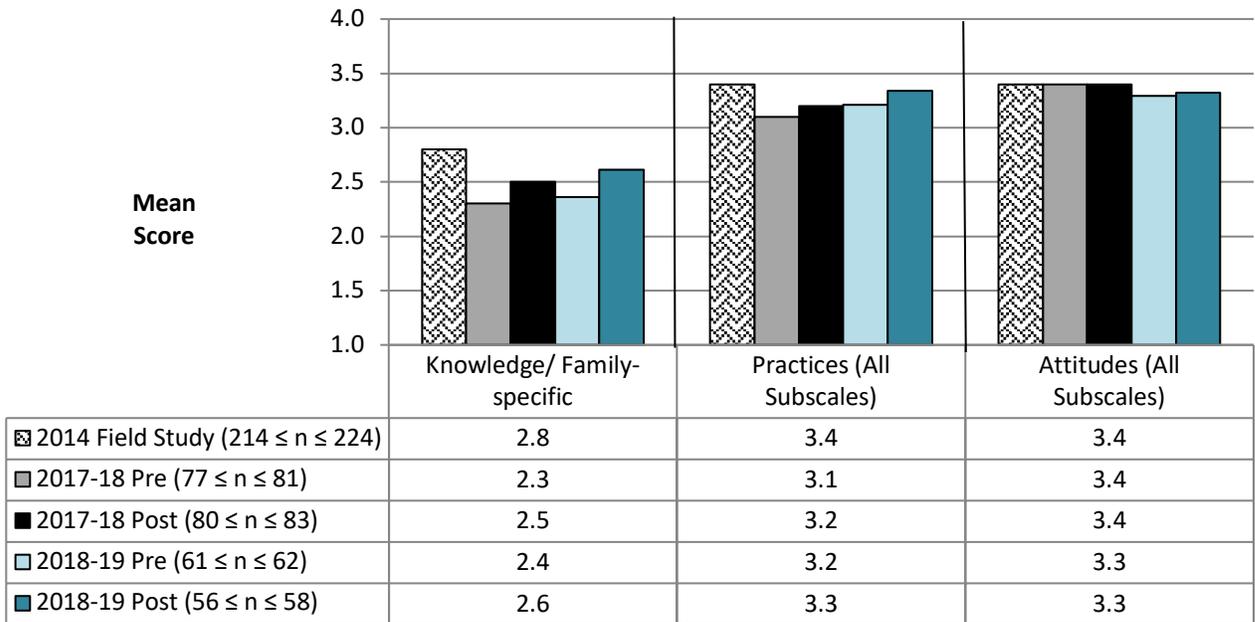
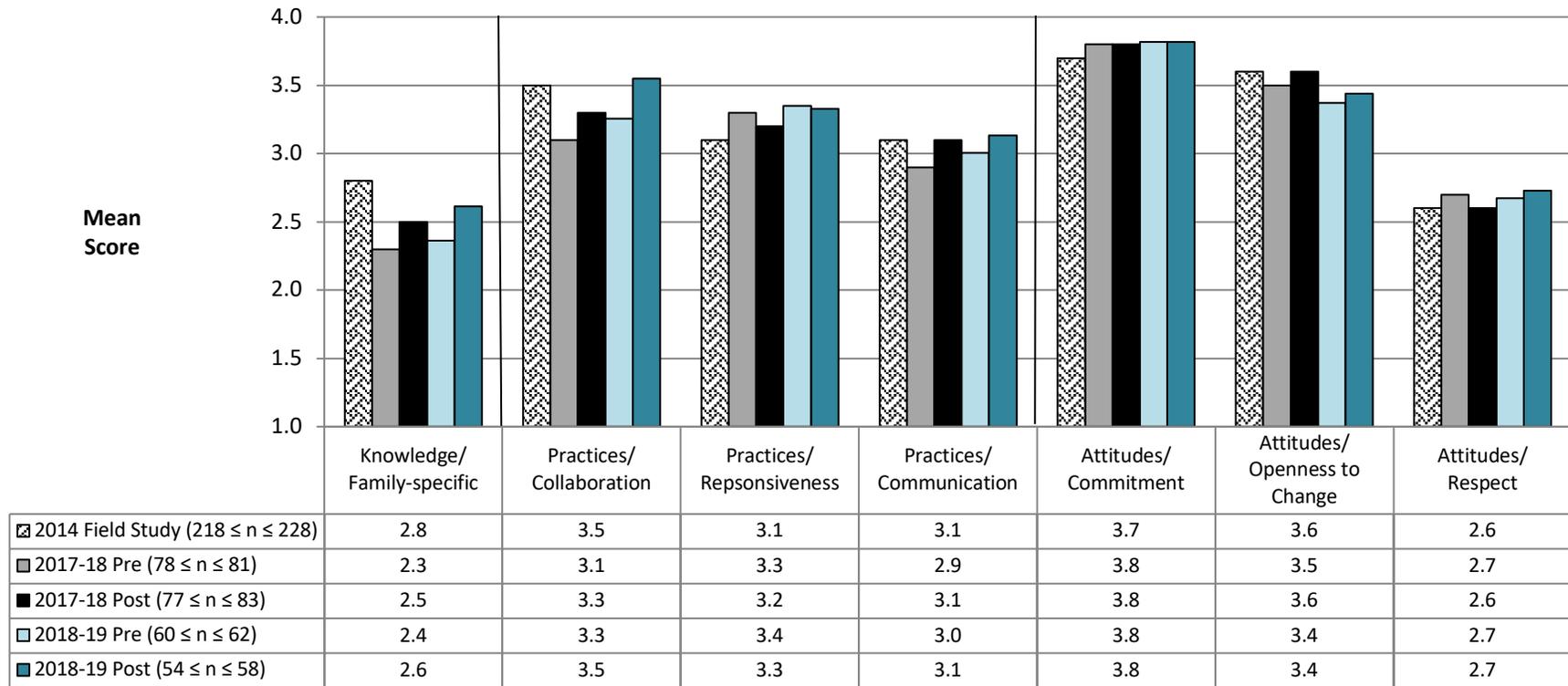
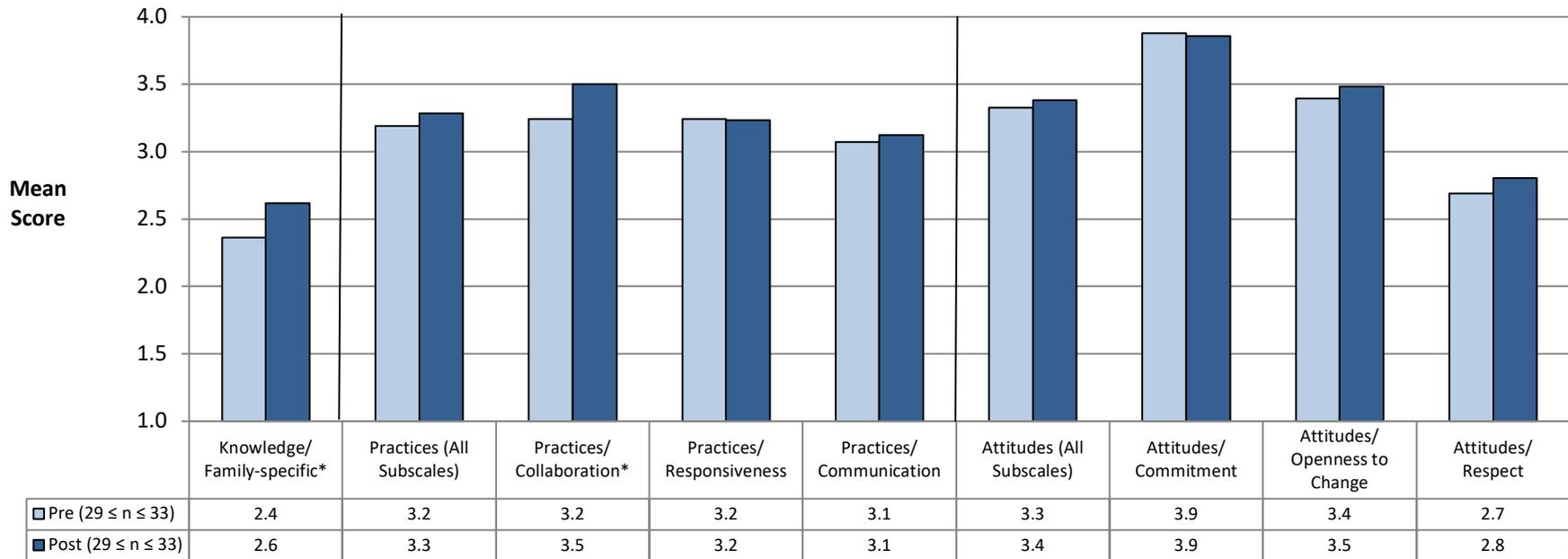


Figure 19. FTRQ – Teacher comparison of fall and spring mean subscale scores for 2017-18 and 2018-19 with the FPTRQ field study scores



Results of the *FTRQ – Teacher* analyses, using data from only the teachers who submitted both a pre- and post-questionnaire (n=33) are presented in Figure 20. Comparison of the pre- and post-assessment scores using the Wilcoxon signed-rank test, revealed statistically significant (p<.05) gains for *Knowledge/Family-specific* and *Practices/Collaboration*. All other constructs and subscales showed no concrete differences from pre- to post-assessment. Attention should be drawn to the fact that the sample size is relatively small. Analyses were performed using Statistics Kingdom’s online tool.

Figure 20. 2018-19 FTRQ – Teacher comparison of pre-test with post-test score means for matched questionnaires in fall and spring

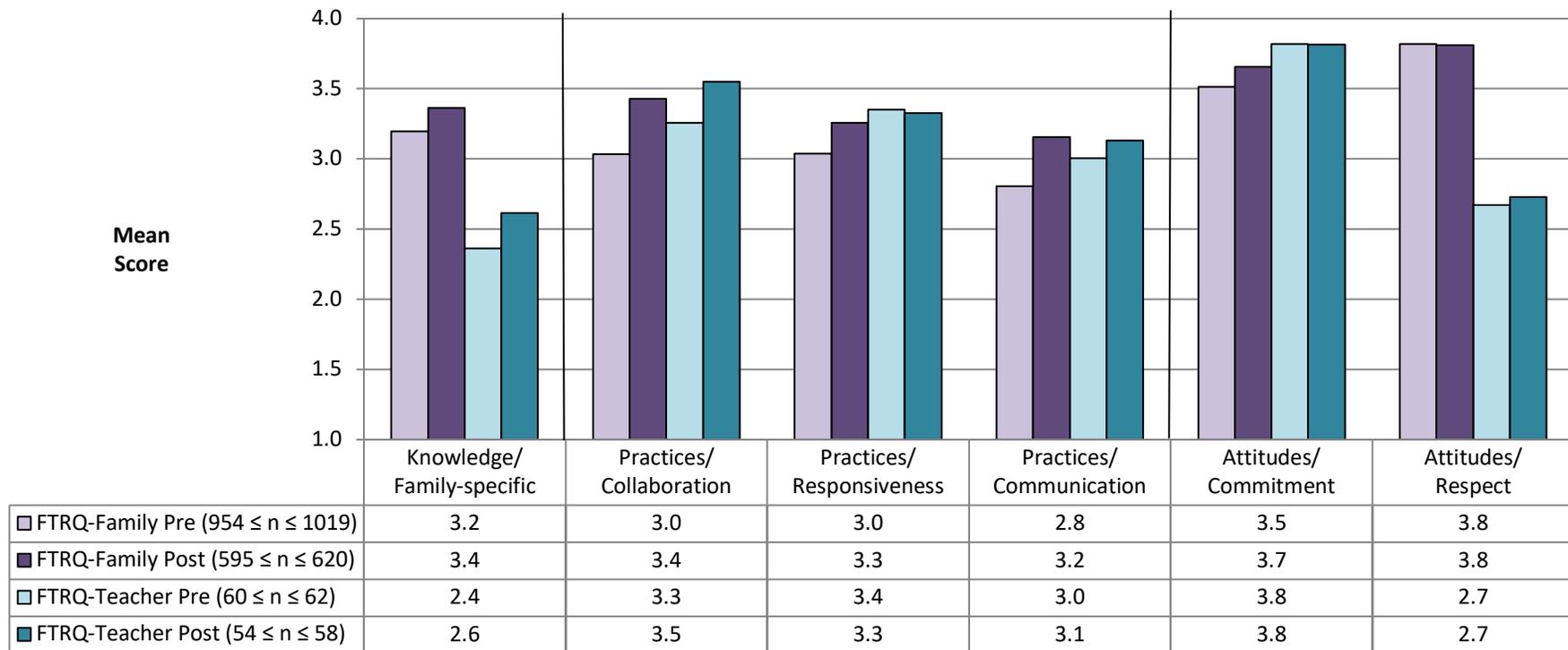


Note: * Difference in means from pre- to post-assessment is significant at p<.05

Several subscales for the *FTRQ – Family* and *FTRQ – Teacher* are the same. Please note any conclusions drawn from comparing these corresponding subscales are limited because families are completing the questionnaire about their child’s main teacher while the teacher is completing the questionnaire on an aggregate level about all the families of children in their classroom. Since the *FTRQ – Family* and the *FTRQ – Teacher* are not required, there may be initial differences between the families or teachers that submit a survey and those that do not submit a survey that cannot be accounted for at this time.

That being said, Figure 21 represents the family and teacher perspectives in corresponding subscales for the fall/pre- and spring/post-assessments. It would be natural to see growth from pre- to post-assessment for both the families and the teachers and to see means be roughly the same at each time point for both groups. *Practices/Collaboration* and *Practices/Communication* are the subscales that fit these expectations the best. For all other corresponding subscales, either there is little growth among families or teachers from pre- to post-assessment (see *Practices/Responsiveness* and *Attitudes/Commitment* where the *FTRQ – Teacher* pre- and post-assessment means remain about the same) or pre- and post-assessment means are not aligned between families and teachers (see *Knowledge/Family-specific* where the *FTRQ – Family* fall mean is 3.2 and the *FTRQ – Teacher* fall mean is 2.4) or both (see *Attitudes/Respect* where the *FTRQ – Family* mean remains about the same from pre- to post-assessment and this group’s fall mean is 3.8 while the *FTRQ – Teacher* fall mean is 2.7, a difference of more than one point).

Figure 21. 2018-19 FTRQ – Family and FTRQ – Teacher comparison of pre-assessment (November 2018) and post-assessment (May 2019) scores



A Mann-Whitney *U* test was performed using Statistics Kingdom's website on pre- and post-assessment data in 2018-19 and added to the results of significance testing done in previous years. Table 17 shows that over the past three years, families have consistently responded more positively to teachers' family-specific knowledge and respectful attitude than the teachers have responded about themselves. In 2016-17, caregivers rated teachers as being more collaborative than teachers rated themselves, this was flipped in 2017-18, and in 2018-19 the responses were not significantly different for the two groups. Like collaboration, responsiveness was seen as more positive by families in 2016-17, but this subscale has changed since then having teachers respond more favorably for the pre-assessment in 2017-18 and the pre-assessment in 2018-19, and having no significant difference between family and teacher responses at the time of the post-assessments in 2017-18 and 2018-19. Changes in means explained by chance are also possible for communication over all three years. In 2017-18 and 2018-19, teachers rated their commitment higher than caregivers rated the commitment of their children's teachers, a change from 2016-17 where there was no difference in means.

Table 17. Significant increases in means when comparing the *FTRQ – Family* and *FTRQ – Teacher* in 2016-17, 2017-18, and 2018-19 collected during the fall and spring

<i>FTRQ - Family</i> and <i>FTRQ - Teacher</i> Measures						
Significance comparison of mean question scores for 2016-17, 2017-18, and 2018-19 (pre and post)						
Pre 2016-17	Knowledge/ Family-specific*	Practices/ Collaboration*	Practices/ Responsiveness*	Practices/ Communication	Attitudes/ Commitment	Attitudes/ Respect*
Post 2016-17	Knowledge/ Family-specific*	Practices/ Collaboration*	Practices/ Responsiveness*	Practices/ Communication	Attitudes/ Commitment	Attitudes/ Respect*
Pre 2017-18	Knowledge/ Family-specific*	Practices/ Collaboration*	Practices/ Responsiveness*	Practices/ Communication	Attitudes/ Commitment*	Attitudes/ Respect*
Post 2017-18	Knowledge/ Family-specific*	Practices/ Collaboration*	Practices/ Responsiveness	Practices/ Communication	Attitudes/ Commitment*	Attitudes/ Respect*
Pre 2018-19	Knowledge/ Family-specific*	Practices/ Collaboration	Practices/ Responsiveness*	Practices/ Communication	Attitudes/ Commitment*	Attitudes/ Respect*
Post 2018-19	Knowledge/ Family-specific*	Practices/ Collaboration	Practices/ Responsiveness	Practices/ Communication	Attitudes/ Commitment*	Attitudes/ Respect*
*Differences in means between <i>FTRQ – Family</i> and <i>FTRQ – Teacher</i> are significant at $p < .05$						
No difference between Family and Teacher means						
Family means are greater than Teacher means						
Teachers means are greater than Family means						

FTRQ – Director

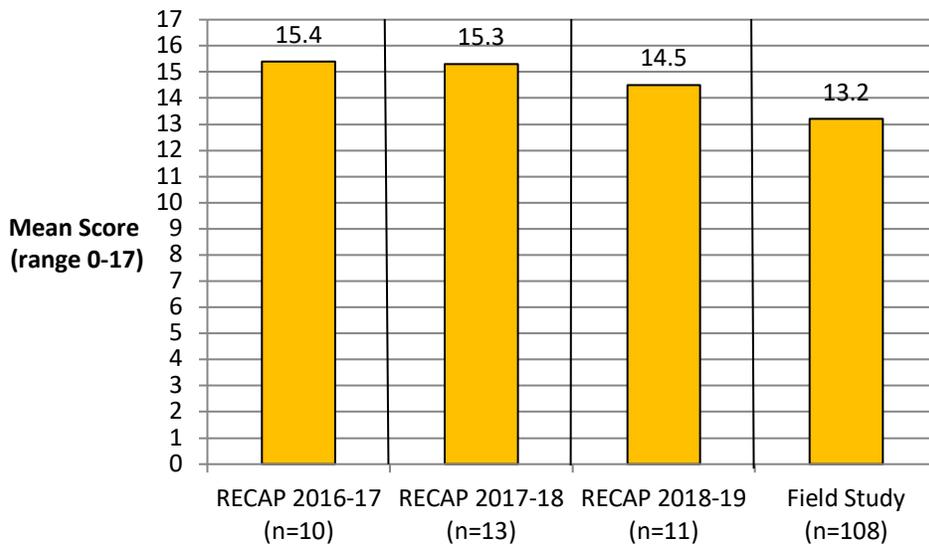
The ***FTRQ - Director*** asks questions about the educational and care environments, as well as program policies.

There are three constructs, containing six subscales that describe relationship quality from the director perspective.

In November 2018, the ***FTRQ - Director*** was completed by 11 of 62 administrators, a return rate of about 18%. Of the 11 respondents, seven (64%) were center directors of community-based organizations and four (36%) were school principals; this is a more even split than in past years. This same survey was completed by 108 directors in the national field study conducted by the measure’s authors.

We present the next figure for illustrative purposes only due to the small numbers of directors and principals who completed the questionnaire. Figure 22 displays ***FTRQ – Director*** results for 2016-17, 2017-18, and 2018-19 along with field study results.

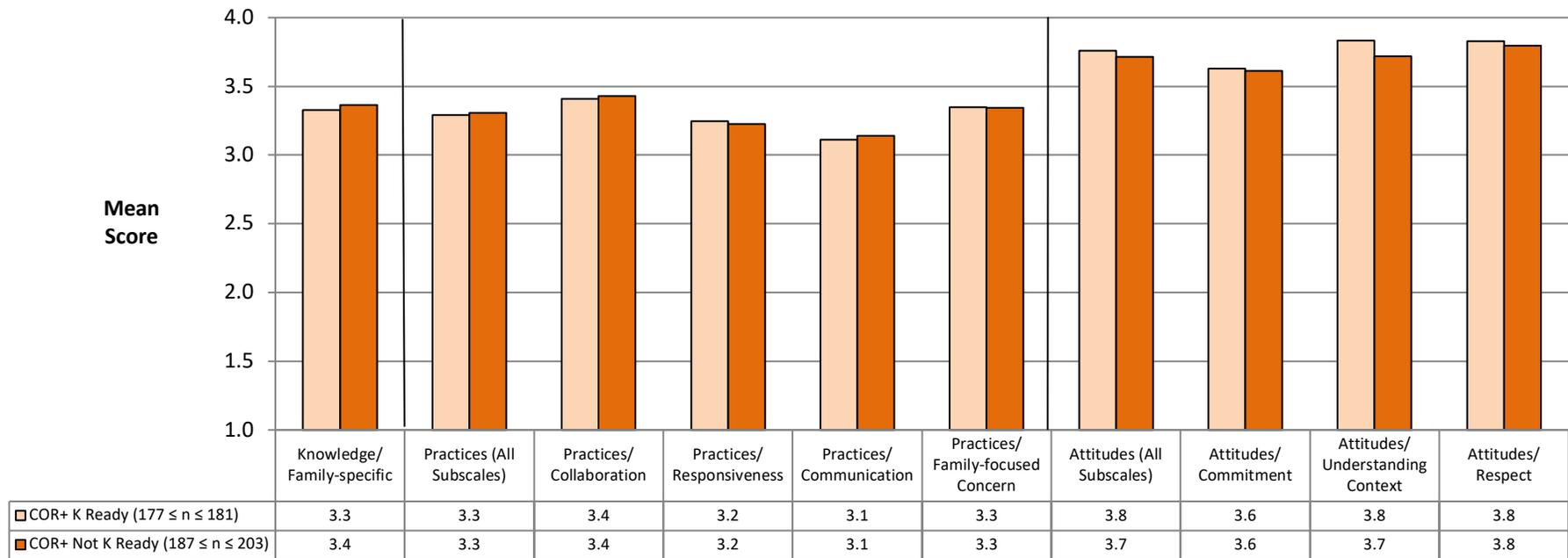
Figure 22. *FTRQ – Director* Comparison of mean scores for the *Environment and Policy Checklist* domain for RECAP in 2016-17 (pre-assessment), 2017-18, and 2018-19 with the FPTRQ field study (spring 2014)



Again in 2018-19, RECAP explored the association between positive family-teacher relationships and positive child outcomes. The constructs and subscales and caregiver-reported relationship quality of the *FTRQ – Family* post-assessment (the opinion survey completed by families) were used to measure the quality of family-teacher relationships. The COR Advantage (an academic measure completed by teachers) kindergarten readiness score at period 3 was used to measure child outcomes.

RECAP asked, “Is there a difference in scores of the *FTRQ – Family* constructs and subscales for students who are, and are not, considered kindergarten ready by the COR+?” This was investigated using data from UPK students with a kindergarten readiness score at COR+ period 3 (March - June 2019) and whose families completed *FTRQ – Family* measures at post-assessment (May 2019). The results are presented in Figure 23. In 2017-18, *FTRQ - Family* scores were greater for UPK students who were kindergarten ready in *Attitudes* (All Subscales), *Practices/Family-focused Concern*, *Attitudes/Commitment*, and *Attitudes/Understanding Context*. In 2018-19, using the Wilcoxon rank-sum test (conducted on mathcracker.com); no construct or subscale was found to have a statistically significant difference in means for UPK students who were kindergarten ready versus students who were not kindergarten ready.

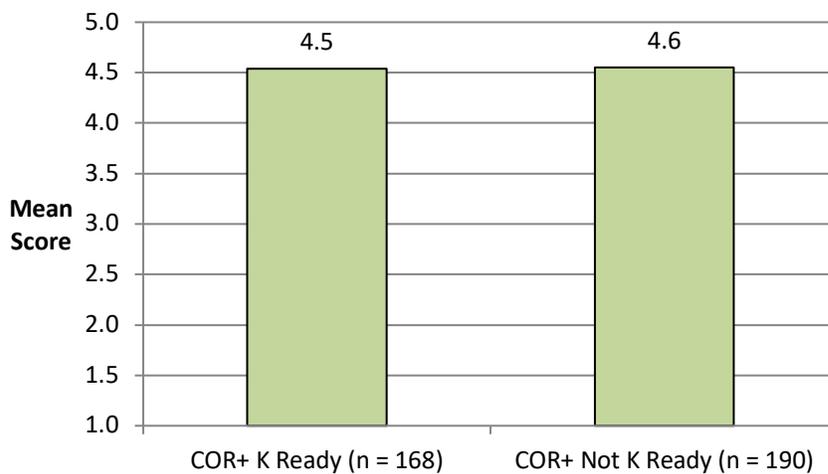
Figure 23. 2018-19 Comparison of mean scores on the post *FTRQ – Family* measure for UPK students that are ready and not ready for kindergarten as measured by COR+ at time 3*



Note: * Includes only UPK students with completed *FTRQ – Family* post-assessments

Similarly, RECAP asked, “Is there a difference in the mean score of the caregiver-reported relationship question (Q7) within the *FTRQ – Family* measure for students who are considered kindergarten ready by the COR+?” This was investigated using data from UPK students whose families had submitted *FTRQ – Family* post-assessments (May 2019) and had a kindergarten readiness score at COR+ period 3 (March - June 2019). The results are presented in Figure 24. Perceptions of relationship quality as rated by families of UPK students who were kindergarten ready did not differ from ratings by families of students who were not kindergarten ready. The Wilcoxon rank-sum test was utilized for the significance testing on the website mathcracker.com.

Figure 24. 2018-19 Comparison of mean score for the caregiver-reported relationship quality question (Q7) on the *FTRQ – Family* post-assessment for UPK students that were and were not considered kindergarten ready at COR+ period 3*



Note: * Includes only UPK students with completed *FTRQ – Family* post-assessments

In conclusion, RECAP found from these measures that:

- Families reported improved relationships with teachers in most areas by the end of the 2018-19 school year
- Teachers reported statistically significant improvement in relationships with families during the 2018-19 school year in two of the nine total constructs and subscales, down from three constructs and subscales in 2017-18
- When the perspectives of families and teachers are compared, these groups have differing opinions about the specific areas of relationship strength and weakness
- There was no difference in the mean scores in any construct or subscale of the *FTRQ – Family* or Q7 for UPK students that are deemed kindergarten ready by the COR+ versus those that are not kindergarten ready. In 2017-18 there were increases in the means of question scores for four out of ten constructs and subscales and for the caregiver-reported relationship score of the *FTRQ – Family* for UPK students who were kindergarten ready versus UPK students who were not kindergarten ready as defined by the COR.

Recommendations

Recommendations for 2019-2020

The efficacy of RECAP's continuous improvement system and feedback reports is evident. Below are recommendations for additional program improvements which may positively impact child outcomes. The following section details two recommendations that should be at the forefront of programming for the upcoming academic year.

Pyramid Model Implementation and Student Outcomes

Since 2016, EPK and UPK teachers have been participants of Pyramid Model training. Current RECAP teachers have participated in module 1, module 2, and module 3 offerings by Children's Institute staff members. The community is interested in analyzing the relationship Pyramid Model implementation taken to fidelity and the relationship with student social-emotional outcomes.

Teacher Self-Efficacy

The concept of self-efficacy refers to an individual's judgement of his/her capability to perform actions at the designated level (Bandura, 1997). Taken in the context of education, teacher self-efficacy refers to how comfortable classroom teachers feel about being able to positively influence student outcomes (Infurna, Riter, Schultz, 2018). Teachers that believe that they will be successful on a given classroom task are more likely to achieve their desired results because they allocate a great deal of effort, are persistent in the face of setbacks, and develop coping mechanism for managing any negative events (Bandura, 1997).

A link between teacher self-efficacy and classroom quality has previously been analyzed in Rochester. Infurna and colleagues (2018) reported that years of teaching experience outside of the B-2 setting had a negatively significant relationship with classroom quality as measured by the CLASS. Similarly, no significant differences were reported between teacher certification type and program of employment. Previous studies have established the importance of preschool teachers' self-efficacy to classroom quality and to fostering child academic achievement (Guo, Piasta, Justice, & Kaderavek, 2010; Justice, Mashburn, Hamre, & Pianta, 2008).

In 2019-20 we look to further examine preschool teacher self-efficacy in relationship to classroom quality, years of teaching experience, and student outcomes as measured by the COR+.

Presentations

Embt, K., Van Wagner, G., & Murray, L. (August 2019). *Rochester City School District Partners Forum: RECAP 2018-2019 CLASS and ECERS-3 Classroom Observation Outcomes and Trends*.

Hooper, R., MacGowan, A., Infurna, C. J., & Hightower, A. D. (2018). *Rochester Early Childhood Assessment Partnership 2017-2018 Twenty First Annual Report*. Presentation to Rochester City School District Board of Education.

Infurna, C. J., Strano, L., VanWagner, G., Breitung, D., & Perez, I. (2018). Presentation of RECAP 2017-2018 Annual Report to Early Childhood Development Initiative (ECDI).

Infurna, C. J., (2018). *Rochester Early Childhood Assessment Partnership 2017-2018 Twentieth Annual Report*. Presentation to RECAP Community Partners and the RECAP Community Advisory Council.

Infurna, C. J., (2018). *Rochester Early Childhood Assessment Partnership 2017-18 Twentieth Annual Report*. Presentation to RECAP A-Team members.

Infurna, C. J., (2019). *ECERS-3 and CLASS outcomes*. Presentation to Technical Support Teachers.

Infurna, C. J., (2019). *Student Outcomes and Classroom Quality Report*. Presentation to Elementary School Principals.

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