Strengthening Rochester City School District's Early Childhood Programs with the COMET® Data Management System

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Even 45 years after the inception of Head Start, and nearly 15 years since the advent of Universal Prekindergarten (UPK), the question remains:

Is the promise of early childhood education being fulfilled?

One large urban school district and its community partners decided to bring data and technology to bear on the question, to crack the code of early childhood education and student success. The proof? The district program's ranking, based on Early Childhood Environment Rating Scale-Revised (ECERS-R) score data, is one of the highest performing (Mean>6 on the total ECERS-R) in the Western Hemisphere.

Early education on the line

Rochester (N.Y.) City School District (RCSD) has a long tradition of early childhood education. It began in the 1930s with its "guided observation" program. It then helped to implement Head Start in 1967 and Universal Prekindergarten (UPK) in 1997. Today the District serves approximately 1,900 children in its UPK program in RCSD schools, community organizations such as the YMCA, Volunteers of America, and other independent child care centers.

The program's goal, said Robin Hooper, Ed.D., executive director, RCSD Department of Early Childhood, is to "help children be prepared to be lifelong learners and to gain the academic, social, emotional, and motor skills so vital for early school success." That's not so easily done, however. The City of Rochester has a very high child poverty rate–11th in the nation–which brings with it multiple issues affecting children's development.

A pivotal moment in RCSD's early childhood education efforts came as a result of a 1990 district kindergarten screening of five factors important in school success.

These screenings were state mandated and comprised vision, hearing, cognition, language, and motor skills. Ten years earlier, in 1980, the Rochester City School District was made up of mostly middle class students; 22.4% received free or reduced-price lunch (a key indicator of poverty). At that time, kindergarten screening data closely mirrored national averages, based on the Metropolitan Achievement Test.

By 1990, just one short decade later, nearly three in four students (72.1%) received free or reduced-price lunches. The consequences of this poverty were revealed in the significant deterioration in the condition of incoming kindergarteners, with 61% having one or more problems on the screening, more than 33% having multiple problems on the screening, and 41% of boys of color having multiple problems. Some areas of Rochester, like the northeast part of the city, had even higher problem rates.

Those dire numbers galvanized organizations in the community that supported the pre-K program to consider another question: *"We're spending millions of dollars on early childhood education. To what degree is it working and for whom?"*

Taming the issues

A community-wide partnership, the Early Childhood Development Initiative (ECDI), emerged to tackle the question. Among its members:

- Rochester Area Community Foundation;
- United Way of Greater Rochester;
- Monroe County;
- Rochester City School District;
- The Center for Governmental Research;
- Action for a Better Community;
- Monroe Community College;
- More than 25 community based organizations, such as Head Start, YMCA, settlement houses, Volunteers of America, community action partnership organizations, child care centers;
- Children's Institute, a non-profit research center that has worked for more than 50 years with school districts nationwide improving children's social and emotional health.

ECDI's aim was finding a valid, data-informed way to target the vital resources directed at early childhood education in the region. After four years of study and work, the result in 1996 was the launch of a system that Children's Institute helped to develop, and managed, called Rochester Early Childhood Assessment Partnership (RECAP). A continuous-improvement system for early education and pre-K programs, RECAP collects information on programs and children to gauge impact on children's outcomes. It was designed, said Andrew MacGowan, MS, project administrator, RCSD Office of Accountability, as a "low-stakes model that would give teachers and directors the tools they needed to improve." It would also change reports and assessment protocols to meet their needs.

To do this, RECAP involves (among other features):

- Gathering data from assessments and evaluations from programs and children and reporting feed back quickly;
- Providing usable reports to teachers and directors that help inform instruction;

- Training teachers to use child assessment questionnaires and to interpret the results;
- Training teachers and observers to implement ECERS-R.

According to A. Dirk Hightower, Ph.D., executive director of Children's Institute, RECAP's guiding principle has always been to systematically promote and ensure high-quality early childhood and pre-K classroom experiences: "RECAP's real benefit is that it allows providers to use data to make informed decisions that improve child, program, and system outcomes."

RECAP initially offered several assessments: Teacher-Child Rating Scale (T-CRS); Child Observation Record (COR); and the ECERS-R scale. Today, RECAP incorporates measures from multiple sources, collecting 1,200 early childhood variables on each child. Yearly, some 2,500 three-, four- and five-year-olds and their parents, 220 classrooms, and 180 teachers participate in RECAP.

Bringing technology to bear

By 2004, RCSD's superintendent of schools and experts at Children's Institute realized they needed to improve how RECAP delivered assessment information. They had seen dropping response rates from teachers completing assessments and, when they investigated, found that teachers felt frustrated: "Teachers told us that the reports from the collected data often took too long to reach them, making the results irrelevant and unusable," explained Hightower. "Not surprisingly they asked, 'Why should I collect the data if I can't use it?'"

To address the issue, Children's Institute partnered with SophiTEC, a software development company, to design The COMET® System, a web-based data collection and management system. Now a product of COMET Informatics LLC, the COMET® System quickly converts a wealth of assessment data into meaningful information to help drive the improvement and outcomes of students, teachers, and programs.

Key benefits of the COMET® System include its ability to:

- Gather, store, and organize data from hundreds of assessment instruments and other measures, and offer more than 500 easily understandable reports.

- Link data from various assessments, allowing teachers and other providers to get a full picture of each child, from academic progress and skill levels, to social and emotional factors and more.
- Instantly show information on individual children, classrooms, and programs.
- Provide real-time feedback, allowing teachers, directors, and administrators to make fully informed decisions on improving children's outcomes.

The school district implemented the COMET® System deliberately and carefully. It undertook a planning process with 360° input from participants, and then began a small-scale pilot in which parents completed an assessment online. Also, all teachers taking part in RECAP were invited to attend training on the COMET® System. Thirty pre-K teachers volunteered to test the COMET® System, completing academic and social-emotional assessments online.

The success of the pilot convinced RCSD administrators to implement the COMET® System throughout all early childhood providers in 2008. By fall 2009, 100 percent of RECAP teachers were happily using the COMET® System. Said Hooper, "People love it. Teachers like the instant access to data so they can zero in on what they need to do now. We [program administrators] meet twice a month and use the data to track where we are."

Using data, making improvements

With the data from the COMET® System, RCSD has been able to make meaningful changes in its pre-K program, changes that affect not only children, but also teachers and curricula. A key benefit of the COMET® System, said MacGowan, "is that we can link everything and get to what matters most."

The district is especially impressed with the ability of the COMET® System to provide data in immediate and usable ways, giving teachers a clear-cut road map for how to improve. For instance, they can track the progress of students from pre-K to kindergarten, no

matter where (district school, community organization, or child care center) the student came from.

Said Hooper, "When you don't have rapid turnaround of results, teachers just don't use the data. RECAP got us to a 10-day turnaround and with the COMET® System, it's even faster." As a result, pre-K teachers are becoming data driven: "Now they can see how effective they are with hard data."

Examples of other changes that resulted from data analyzed by the COMET® System:

- The COMET® System has made the use of new curriculum more meaningful by highlighting the strengths and area for implementation improvements.
- The UPK Professional Development Committee for schools, agencies, and community child care centers uses the COMET® System in planning its continuing education calendar for the coming year. "Having the data so quickly helps in the planning," said Hooper.
- Data from pre- and post-summer assessments of children just out of UPK revealed performance gaps that led to an early summer program for entering kindergarteners and curriculum/instruction changes to add more active learning to engage boys.

Driving outcomes

The district's use of RECAP with the COMET® System has shown concrete and measurable results as well as, yet no less important, intangible results.

Concrete, tangible results are shown by the impressive ECERS-R score. Rochester's program remains one of the highest ranked independently and reliably documented pre-K systems. The RCSD program achieved an ECERS-R that reflects an average annual rating of 6.1 of more than 100 classrooms. These exceptionally strong ECERS-R scores have been observed in Rochester since 2001. National and international averages remain at a 4.3 level.

According to Hightower, "Rochester continues to stand at 1.8 standard deviations above the national and Western European averages."

Other results:

- From 1999 to 2005, the district more than doubled its proportion of children meeting the new NYS Standards on the English Language Arts 4 test. The performance at the lowest level decreased from 18.6 to 7.9 percent. MacGowan commented: "As The Children's Agenda's executive director, Dr. Jeffrey Kaczorowski, said, 'If this were a medical intervention, it would be on the front page.' These measures set a standard."

- A decrease in the time necessary for teacher mastery in the classroom (as measured by ECERS-R) from 10 years to six has been achieved.

- Data generated by the COMET® System has influenced the decisions of policy makers by providing summary information on multiple levels of (or on the overall) early childhood system. For instance, RECAP data helped state policy makers target funding to help pre-K students with disabilities by tracking their progress. "We found through RECAP that students with disabilities came in at lower levels, which is not surprising, but we also found that they were growing developmentally at lower rates," explained MacGowan.

Though it is not as quantifiable a measure, RECAP with the COMET® System has also reduced "thorny administrivia," according to MacGowan. "The testing department here loves it because they no longer have to hunt down and collect all the forms and deliver them for processing." For instance, teachers at all locations can all access the system to input data into academic and social emotional assessments and get instant profiles of their students.

Shaping the future for children's outcomes

The COMET® System will continue to play a role in the RCSD. New York State mandates that a "new entrants screening" be conducted for students above pre-K, along with the added measurement domain of social-emotional wellness. Screening results will affect district eligibility for future funding.

"Using the COMET® System for this is important," said Hooper. "Our turnaround time is short to get that final report submitted by the end of the school year, and the COMET® System greatly facilitates the analysis." What the state requests can also change frequently, so "institutional agility is necessary," she added, "and the COMET® System provides it."

In addition, each district high school will use the COMET® System for various assessments and measures, including the CDC-sponsored Youth Risk Behavior Survey, which the district conducts every other year. All high school students will complete the survey online through the COMET® System, saving the district thousands of dollars associated with printing, distributing, collecting, scanning, and reporting the survey (in Spanish and English), and improving the information's use by administrators and others.

RCSD's success with RECAP with the COMET® System means the district and its constituents–students, teachers, parents, administrators, and policymakers–will continue to benefit from usable trend data that assists them in decision making.

"RECAP with the COMET® System makes our data usable for anyone; you can see the data from many different levels," Hooper said. Perhaps most important, however, she asserted that RECAP with the COMET® System has helped the district establish the value of early childhood education in Rochester and helped preserve the district's UPK funding. "We know pre-K is effective but it has always been on the chopping block," she added. "Now we have the data to support it."

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