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Dear Friends and Supporters,

Our lives are fundamentally different from the lives of our grandparents and great-grandparents. We have new medicines, new modes of transportation, new ways of communicating, and new forms of entertainment. The innovations that have transformed almost every aspect of our lives, however, have bypassed our classrooms. For nearly two centuries, education in America has looked and felt remarkably similar: A teacher teaches 20 to 30 students in a classroom; all the students learn the same material at the same time; and students are tested intermittently to measure how much they have mastered.

America has not maintained this model because it has proven to work. On the contrary, there is abundant evidence that it is not working for students. Only 9% of low-income students end up graduating from college. High-income students are falling further behind their similarly situated peers in other countries. Overall, roughly a third of U.S. high school students end up graduating from high school ready for college or careers.

We created New Classrooms because we believe there is a better way.

Our first personalized instructional model, Teach to One: Math, reimagines education, leveraging the combination of the talents of teachers and modern technology to deliver personalized instruction to each student each day. Teach to One: Math aims to meet each student at his or her own academic level and then accelerate learning through a recommendation engine that helps to determine what skill each student is ready to learn and the instructional approach that is most likely to be successful.

We believe that by partnering with schools to provide this powerful, integrated instructional model, we can transform students’ learning trajectories so that more are able to finish the eighth grade prepared for advanced high school level math like algebra and geometry. That’s important because students who successfully pass algebra in the ninth grade and geometry in the tenth grade prepared for advanced high school level math like algebra and geometry. That’s important because students who successfully pass algebra in the ninth grade and geometry in the tenth grade — and faced the greatest challenges in math — achieved the strongest gains.

During the 2012-13 school year, we partnered with seven schools nationally for the full year — four in New York City, two in Chicago, and one in Washington, D.C. We partnered with each school’s existing teaching staff to replace its traditional, textbook-based math program with Teach to One: Math. In all, we served around 3,000 students in grades 6-8.

While we are still early in our work, we are beginning to see encouraging results on proficiency-based exams. In the one school where we worked with students for all three years of middle school, exiting eighth graders improved from performing 1 percentage point below the citywide average in 2011 to 11 percentage points ahead of the citywide average by 2013.

We are also seeing promising gains on growth-based assessments such as the Northwest Education Alliance’s (NWEA) Measures of Academic Progress (MAP). A study by Teachers’ College at Columbia University across all seven New Classrooms schools found that the students in Teach to One: Math classrooms achieved almost 1.2 years of growth in the 2012-13 school year — or 20% more than the average student nationally. While noting that the results are too young to carry final conclusions, the study finds that the students who entered the school year below grade level — and faced the greatest challenges in math — achieved the strongest gains.

These early results are a reflection of the joint efforts by New Classrooms and the administration and staff at each of our partner schools. Teach to One: Math provides schools with the opportunity to personalize learning for each student each day, but it is participating teachers who bring Teach to One: Math to life and who help us to improve the model through their experiences, suggestions, and ongoing feedback.

We’ve come a long way, but there is still a great deal for us to learn and improve upon. We are taking this opportunity to describe what we do, why we do it, our progress to date, and our goals for the coming years. We believe it is important to assess our early results, to understand the strengths and weaknesses of our model, and to be transparent with our data and our learning. We also hope that this analysis can help to inform a broader, education-related policy agenda that is focused on innovation.

We are eager to share our story and the most recent results and welcome feedback from partners, supporters, or people we haven’t yet had the chance to meet. We hope you will choose to join us on our quest to create new models for America’s classrooms — and to help more children succeed in school and beyond.

Sincerely,

Joel Rose
Chris Rush

Dominick D’Angelo, Principal, I.S. 228

This is a game changer. We are changing the way we do the business of education, of teaching, and of learning. We are focusing on the learning of every student.


6. Dominick D’Angelo, Principal, I.S. 228


6. Dominick D’Angelo, Principal, I.S. 228

Our Roots

We launched New Classrooms Innovation Partners as a 501(c)(3) nonprofit organization in June 2011 in order to bring transformative innovation to K-12 schools. We believe that personalization is not simply about new software, technology, or teacher training, but instead requires thoughtfully reimagining and reconfiguring all that goes into the classroom experience.

New Classrooms was founded by much of the same team that created School of One for the New York City public schools. The NYC Department of Education launched its School of One pilot in the summer of 2009. By November, the model was named one of the top inventions of 2009 by TIME magazine. It also received positive recognition in The New York Times, Huffington Post, Atlantic Monthly, Education Next, and Education Week.

After School of One’s incubation at the Department of Education, cofounders Joel Rose and Chris Rush established New Classrooms in 2011 to build a new model using the lessons they had learned and bring personalized instruction to more schools and districts across the United States.

In 2012-13, New Classrooms implemented its first personalized instructional model, Teach to One: Math, for around 3,000 students in grades 6-8. The model was adopted by seven schools around the country, including one New York City school that has been operating as a School of One site since 2010.

Today, Teach to One: Math has replaced traditional mathematics instruction in 15 schools around the country and is serving more than 6,000 students in grades 5-8.

The Problem We’re Solving

Our nation’s current system of schooling — with one teacher and between 20 and 30 students in a factory-model classroom — has gone relatively unchanged for well over a century. It is an approach that assumes all students come to school at the same academic starting point and learn at the same rate and in the same way.

This assumption simply does not reflect reality. In all types of classrooms and across all income levels, there is great variability of incoming performance levels, learning rates, and individual learning styles. This presents teachers with the nearly impossible challenge of meeting dozens of individual students’ separate and unique needs simultaneously each day.

New students’ wide range in skills and knowledge is the clearest example of this challenge. For example, at one of our partner schools, participating sixth graders took an assessment (NWEA’s Measures of Academic Progress) at the beginning of the school year to determine their incoming academic proficiency level. The chart below shows the distribution of scores in this one grade of students.

As the chart shows, some students can enter a sixth-grade class at a fourth-grade level alongside some peers at a second-grade level and others at a seventh-grade level. To address this range in students’ academic starting points, educators often use a technique called ‘differentiated instruction.’ It is an educational strategy that requires the classroom teacher to provide different types of instruction to different types of learners. In theory, the approach makes great sense: the only way for an individual teacher to meet each student’s unique needs is to develop different strategies and lessons for different students.

Incoming Distribution of Math Knowledge

According to national norms, the average sixth grader enters at this level.

Figure 1. Students who are in the same grade can enter with very different skill sets.
In practice, however, expecting a teacher to do this every day — while also following a school district’s standard curriculum — is almost impossible. A teacher can teach only one lesson at a time. And even if a teacher aspires to use technology tools and other resources to meet each student’s needs, the time and effort required to plan even one day of differentiated instruction is enough to dissuade most teachers from making it routine.

Our Solution

We believe there is a better way. Over the last quarter century, digital technology has helped to transform and advance nearly every other industry. Yet previous efforts to leverage technology to support teachers have largely tinkered at the margins of the classroom itself — three computers in the back of the classroom, an interactive whiteboard instead of a chalkboard, and access to on-demand videos, to name just a few.

These innovations have largely failed to solve the fundamental challenge of differentiated instruction. Most are simply tools for teachers to use within the same, standard, factory-model classroom. That’s why our efforts focus less on designing technology-based tools and more on redesigning the classroom experience itself in ways that leverage both the talents of teachers and the power of technology. We call this approach a “personalized instructional model.”

At New Classrooms, we design personalized instructional models that reimage the use of time, talent, technology, and physical space in order to support personalized learning. We then support the implementation of these models within existing schools while sharing in the accountability for student outcomes.

Teach to One: Math is our first personalized instructional model. Over time, we expect to design new models for different subjects and different grade levels.

Dr. Shawn Jackson, Principal, Spencer Technology Academy

The partnership between Spencer Technology Academy and Teach to One shows students that we care about education. They see the investment right away when they walk in the room. They’re able to have opportunities to collaborate quickly, rather than waiting for a teacher-centered model of instruction. It’s fast paced. And it’s how students learn in the 21st century.
Innovative design empowers teachers and accelerates student learning.

Our Values
Our organizational strength is rooted in our core values. As we pursue a vision to personalize learning for each student, these values guide us through the little decisions and the big ones.

A Student-Centered Orientation:
Everything we do is focused on helping students learn more in ways that are personalized, engaging, meaningful, and measurably effective.

Support for Great Teaching:
We believe that great teachers are vital to our work, and we are committed to innovations that help teachers spend more time focusing on the quality of their instruction.

Bold Solutions for Schools:
We are committed to innovations that are more than tools for educators. Rather, we aspire to develop new models for instruction that are both bold in their design and flexible in their adaptability to schools.

Responsible Growth:
We believe in learning by doing. We incubate early-stage innovations in lower-stakes environments such as in summer school and after-school contexts where we can rapidly iterate, troubleshoot, and closely measure impact. We believe widespread scale should come only once these innovations have been validated.

A Culture that Fosters Innovation and Learning:
We are committed to learning from our experiences, from our partners, and from the students we serve. We are a team that values imaginative thinking, superior execution, and open and purposeful collaboration.

Our Team
Our team is composed of individuals committed to our core values and dedicated to helping New Classrooms achieve its vision. Our work ranges from direct, hands-on work with teachers and students to assessing the value of different lessons to designing, deploying, and managing technology. Accordingly, members of our team have experience in education, technology, law, finance, operations, design, and data systems in the public, private, and not-for-profit sectors.

In all, our team includes more than 60 employees who work in the field with our partner schools and in our central office supporting the research, development, academic, technical, and logistical support of our programs.

New Classrooms is divided into five core groups: academics, field, technology and operations, business administration, and external.

Our academics team is responsible for designing our academic framework and content by determining what students should be learning and how they should be experiencing Teach to One: Math. This means designing content; forging partnerships with content creators; identifying skills; and developing and refining assessment questions.

Our field team is responsible for coaching teachers, troubleshooting issues that arise at the school level, overseeing implementation, and working to support schools and students.

Our technology and operations team produces, refines, and manages IT products and services and oversees daily central operations to power our model.

Our business administration team is responsible for finance, human resources, recruiting, contracting, and office operations.

Finally, our external team manages our expansion and partnership efforts, communications, and fundraising.

Our Leadership

Joel Rose is the cofounder and Chief Executive Officer of New Classrooms. Previously, he was the Chief Executive Officer of School of One. Prior to conceptualizing and leading School of One, Joel served as Chief Executive for Human Capital and as Chief of Staff to the Deputy Chancellor at the New York City Department of Education. He has been involved in education for more than 15 years, first as a fifth grade teacher in Houston and later as a senior executive at Edison Schools, where he served as the company’s Associate General Counsel, Chief of Staff, General Manager, and Vice President for School Operations.

Christopher Rush is the cofounder and Chief Program Officer of New Classrooms. Most recently, he led the overall conceptualization, design, and implementation of School of One, as well as leading design and development of Wireless Generations’ (now Amplify) mCLASS reporting systems. Additionally, Chris worked with the NYC Department of Education, co-leading the design of the initial versions of the parent, teacher, and principal data system. Previously, Chris specialized in financial management and IT development services at IBM. Chris started his career as an Outdoor Education Specialist at an environmental education center in Pennsylvania.
Model Design

We create personalized instructional models designed to enable schools to meet the unique needs of each student each day. By coherently integrating academics, operations, and technology into a holistic approach to instruction, our models are designed to make better use of time and other school resources by maximizing the full potential of teachers and technology.

To create the most effective models, we leverage national philanthropic support to conduct extensive research and development. The costs of developing new models can be high because significant academic, operational, and technical hurdles must be addressed and iterated upon over multiple years of trials. However, the investment pays off: once a new model is fully developed, it can be implemented in schools across the country, affecting thousands of students over multiple years.

Teach to One: Math is our first personalized instructional model.

School Implementation

Once New Classrooms designs a new model, we work in close collaboration with principals, teachers, school management organizations, administrators, local philanthropy partners, and other stakeholders to ensure the model fits into the DNA of each new partner school.

After selecting our school partners, our team consults extensively with schools about space planning, school programming, and other operational details. We also implement a robust on-site support model that includes extensive training and instructional support for participating staff members and on-site support for technology and program logistics.
School Partnerships

During the 2012-13 school year, Teach to One: Math replaced the traditional mathematics instruction for around 3,000 students in seven schools across NYC, Chicago, and Washington, D.C. In the 2013-14 school year, we expanded to serve a total of more than 6,000 students across 15 schools, including new implementations in Charlotte, NC; Perth Amboy, NJ; Elizabeth, NJ; and Newark, NJ. Teach to One: Math is currently available for students in grades 5-8.

New Classrooms is a nonprofit organization that strives to keep our program as affordable as possible for schools and districts. Costs to schools include two types of expenses: (1) fees to New Classrooms to implement and operate Teach to One: Math on a daily basis, and (2) school-based investments in technology and infrastructure to redesign space and upgrade hardware to operate our model. The precise costs vary from school to school, and we work closely with our school partners to ensure that the program can be implemented at a reasonable cost while maintaining operational fidelity.
Personalizing the Traditional Classroom to Accelerate Learning

New Classrooms’ first model is Teach to One: Math, a personalized middle school math program that leverages a combination of live, online, and collaborative learning modalities to provide students with personalized learning each day.

Teach to One: Math is designed to help participating students complete middle school prepared for advanced high school mathematics courses such as algebra and geometry. Academic research makes it clear that algebra and geometry are the gateway for students’ success not only in higher-level mathematics but also in college and careers. A 2008 study from the Annenberg Institute at Brown University found that “success in algebra opens doors to more advanced math, a college preparatory high school curriculum, higher college going rates, and higher college graduation rates.” Another study found that 80% of students who both passed Algebra in 9th grade and Geometry in 10th grade attended college, and that passing these courses more than tripled the odds of attending college.1

For some students who enter middle school well behind their national peers, this approach has students focus on the foundational skills required to succeed in ninth grade algebra. For more advanced students, the model enables them to master subjects such as algebra by the end of eighth grade.

How the Model Works

Step 1: Source the Lessons
Our team of experienced educators carefully reviews thousands of educational lessons for a number of key qualities:

- Does the lesson include high-interest contexts and visuals appropriate for middle school students?
- Does the lesson provide students with opportunities to practice with supports?
- Does the lesson provide connections to previous units or other subjects within real-world contexts?
- Does the lesson provide opportunities for students to demonstrate their communication skills (either written or oral)?
- Can the lesson be completed within a 30-40 minute window (to align with how the model works)?
- Do lessons include pictures, photos, and other visuals to support English Language Learners?

We aim to understand the characteristics of each lesson so that we can later find the ideal course for each student.

To date, we have reviewed more than 50,000 lessons by publishers and digital content developers such as Pearson, LearnZillion, and Houghton Mifflin Harcourt, and have built an advanced database that easily identifies a lesson on a particular topic, with particular characteristics.

Step 2: Assess Students
Throughout the school year, we continually assess each student’s skills. Which students are ahead of their peers? Which are struggling? Which specific skills have they already grasped? Which skills are “gaps” that we have to address?

In the elementary and middle school grades, students gather up a set of important “building blocks” that form the foundation they will need to learn more advanced math skills — like algebra and geometry — in high school. In assessing students, it is our goal to figure out which of the building blocks each student already has, and which ones each student still needs.

Skill: Measure Volume
(cones, cylinders, spheres)

Figure 5. It is important to build foundational skills before advancing to the more advanced skills necessary to achieve algebra readiness.

These are just some of the content partners that teachers and students have access to through Teach to One: Math.
Step 3: Change the Classroom

Next, we reimagine the physical classroom by combining multiple individual classes of students and teachers into a large, shared classroom experience, which we call a Math Center. In a small, traditional classroom, there are a few students who are far behind their peers in a particular skill and a few who are ahead; others fall along the continuum. It is a distribution that might change from day to day and from skill to skill. Ben might be advanced with fractions but struggling with decimals and Madison might be great with decimals but confused about fractions. In combining the classrooms, there are more students who share common sets of skills and needs at any one point in time. In this combined model, the classroom is more flexible. It becomes possible to tailor instruction to meet the individual needs of students.

Step 4: Match Each Student to the Optimal Lesson

At the end of each class, students take a short computer-based quiz (called an “exit slip”) on the material they learned that day. We use this and other assessment information to determine if students have mastered the skills and can move ahead, or if they need to keep learning the same skills but in different ways. All student assessments are individualized to what students are learning, and information from these assessments is constantly being updated and analyzed to help determine what skills children have mastered and what they should work on or review next.

Combined, we developed an integrated solution that leverages our extensive database of lessons and assessment results to create recommended custom schedules for each student each day.

Multiple Instructional Modalities

- **Teacher-led Instruction**: Students work with a teacher to explore a particular concept or skill. Teachers can use lessons suggested by Teach to One: Math or use their own approaches.
- **Collaborative Learning**: Students work collaboratively to solve a math problem, or work to teach one another strategies to solve a math problem.
  - Small Group Collaboration
  - Peer to Peer
- **Virtual Instruction**: Students can also learn new skills, work with a live tutor, or practice and reinforce concepts through digital learning sessions.
  - Coached Virtual Instruction
  - Virtual Reinforcement
  - Virtual Live Tutor
- **Independent Learning**: A student may work alone to practice a specific skill. These include in-class sessions and out-of-class resources for students to review concepts or get ahead.
  - Independent Practice
  - Jolts
  - Prove-Its
As we select new skills to focus on and lessons to suggest, our philosophy is to ensure that students have mastered foundational skills before moving them up to more advanced skills. Since math skills build on each other, it doesn’t make sense to advance to higher-level skills without first mastering the basics. For some students, this can mean going back and fortifying skills that were initially taught in the third, fourth, and fifth grades to ensure a sufficient level of conceptual understanding for more advanced concepts. For other students who have mastered foundational skills, the model is designed to enable them to both accelerate and deepen their learning in preparation for advanced high school mathematics.

As a result, students with significant learning gaps with pre-grade skills may not be exposed to each and every grade-level skill that is included on the relevant end-of-year state summative assessment. However, as these students master pre-grade basic skills, they will be able to accelerate their learning throughout the middle school years so that by the time they complete the eighth grade, they are more prepared for algebra or other advanced high school mathematics courses than they otherwise would have been.

At the same time, this approach also enables high-performing students to accelerate beyond the skills that would otherwise be included on end-of-year state summative assessments. For example, even though Teach to One: Math was serving a high-needs population, 11% of our eighth grade students were learning ninth and tenth grade skills by the end of the 2012-13 school year.

Figure 8. If a student enters 6th grade without learning multiple 5th grade skills (noted by the dotted blue outlines), Teach to One: Math ensures students fill in the blanks so that there is a solid foundation for higher-level skills.
Step 5: Pulling It All Together

In practice, students and teachers experience Teach to One: Math through something we call “Rounds,” which are two-week periods in which students learn a sequence of new and interrelated skills. Each student has the same task session teacher throughout a round.

- **Pick-up Session**: Single lessons focused on teaching and/or practicing a single skill. Students can have a different teacher for each pick-up.

- **Task Session**: Projects that take place over multiple days and allow students to use two or more related skills by applying them to real-world problems. Each student has the same task session teacher throughout a round.

- **Exit Slip**: A short computer-based quiz students take at the conclusion of each class day to determine whether they have mastered the skill they learned that day and can move on — or if they need more time to work on the skill. Students take their exit slip in their Math Advisory group.

- **Task Demonstrations (Demos)**: In the final Task session, students are required to demonstrate what they learned and the solution that they came up with through a presentation.

- **Playlist Quiz**: At the end of each round, students take a quiz that is customized to the skills worked on during the round.

- **Math Advisory**: Consistent groups of students meet with the same teacher throughout the school year; these sessions are designed to provide a place for students to set goals and reflect on their math learning.

- **Prove-Its**: Five-question assessments that a student can request when they feel able to pass them.

- **Jolts**: Lessons available to students outside of scheduled class time. They can be used to help a student practice and review their current skill or to help prepare them for a Prove-It.

Students, parents, and teachers can see real-time schedules and progress during a round in an online portal. Teachers can access information about individual students and groups of students, as well as the lessons that are suggested by New Classrooms. Students and their parents can access information about their own performance, as well as access resources that help them to practice and get ahead.

Out-of-Classroom Learning

- **Pick-up Session**: Single lessons focused on teaching and/or practicing a single skill. Students can have a different teacher for each pick-up.

- **Task Session**: Projects that take place over multiple days and allow students to use two or more related skills by applying them to real-world problems. Each student has the same task session teacher throughout a round.

- **Exit Slip**: A short computer-based quiz students take at the conclusion of each class day to determine whether they have mastered the skill they learned that day and can move on — or if they need more time to work on the skill. Students take their exit slip in their Math Advisory group.

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Figure 10. Learning in Teach to One: Math is organized into approximately two-week rounds.

Joshua Krupitsky, Teacher, I.S. 381

*The daily individualized scheduling ensures that math class never moves too fast or too slow.*
Teacher Role in Teach to One: Math

Teachers in Teach to One: Math work together and share responsibility for all students’ learning. Students may be assigned to individual lessons supervised by any of the teachers in the Math Center. However, one teacher, a student’s Math Advisory (MA) teacher, will meet consistently with the same group of students throughout the school year and will be responsible for grading homework and monitoring those students’ progress over time.

In a Teach to One: Math classroom, each teacher has more time to devote to delivering high-quality instruction. Our teacher portal provides teachers with up-to-date information about student performance, access to high-quality instructional content, and unique daily schedules to help them plan and deliver personalized instruction for each and every student in the classroom. This leaves more time for teachers to develop strategies for delivering material in a teacher-led format, support students during and outside of class through targeted interventions, and devote more energy to parent outreach.

Most teachers embraced the Teach to One: Math experience, with nearly 80% saying they would welcome the chance to use the model for another year and with more than 80% of teachers who participated in the 2012-13 school year returning for the 2013-14 school year.

Q&A with Aaron Kaswell
Teacher, J.H.S. 88 in Brooklyn, NY

What makes Teach to One* different?

AK: Teach to One individualizes the student program, and each student feels they are being attended to, which is why student engagement is so high.

How has Teach to One changed your role as a teacher?

AK: Teach to One does an amazing job providing creative content for me to work with and relieving me of administrative functions. I can now spend time on how best to deliver the content for these students — who are coming from different backgrounds and learning styles — and figure out what types of questions I should ask them, how to push their thinking. That’s what a teacher’s role should be, and Teach to One is designed in a way that makes this a reality.

How has Teach to One affected student learning?

AK: I’ve never seen higher student engagement in any classroom … Students are on their toes because the program keeps things new and fresh each day.

* Teach to One: Math powers the School of One program in New York City.
Taylor, 8th Grader, Gray Elementary School

In 7th grade and lower, I was really bad in math. I never understood it, and I would always fail my classes… And now since we got Teach to One, I started doing everything.

Because our model serves different types of schools with students who start at different academic levels, we caution against comparing the results of participating schools to one another.8 All schools are different, and their overall performance is a reflection of several factors beyond the adoption of Teach to One: Math. What matters to us is whether we can help to accelerate learning within a partner school so that far more students are prepared for advanced, high school mathematics than their previous academic trajectory would have suggested.

Lesson 1: Teach to One: Math Shows Promising Early Signs of Accelerating Math Achievement on State Assessments

In the 2010-11 school year, I.S. 228 in Brooklyn first implemented School of One, an early approach to personalized learning. It is a diverse school that serves about 800 students. More than 80% of the students qualify for free or reduced-price lunch. 14% of the school is black, 24% is Hispanic, 34% is Asian or Native American, and 28% is white. Almost one in five of the students qualify for special-education services.

We feature I.S. 228 in this report because it is the only partner school in our network for which we can assess our model’s impact for a cohort of students that participated throughout their entire three-year middle school experience.9 By comparing overall student performance to the citywide average over that period, we can begin to see how students performed in relation to other New York City students over time.

As shown in Figure 12, we saw that this cohort of students gradually improved its performance in relation to the New York City-wide average over the course of middle school. In 2010-11, the percent of I.S. 228 sixth graders who scored proficient or advanced on the New York State assessment was 1 percentage point below the citywide average. When this same cohort of students finished eighth grade, the percent of students scoring proficient or advanced on the state’s assessment grew to 11 percentage points above the citywide average. Note that in 2012-13, New York State adopted new and more rigorous assessment based on the Common Core standards.

Summary of Year 1 Results

Teach to One: Math is focused on ensuring that substantially more students finish middle school ready for, or having completed, algebra than would otherwise be the case. It is important to note that our organization does not manage the school itself. Rather, participating schools simply replace their traditional, textbook-based math programs with Teach to One: Math.

Lesson 2: Teach to One: Math Is Accelerating Student Learning

Our goal is to accelerate learning so that more students are prepared for advanced high school mathematics than their previous academic trajectory would suggest. To measure student growth, we use the Measures of Academic Progress (MAP), a standardized online exam created by the Northwest Education Alliance (NWEA) and used by all KIPP schools, Chicago Public Schools, and the Ohio Department of Education, among others. The MAP is aligned with the Common Core State Standards and is grade-level agnostic (meaning that students in the sixth, seventh, and eighth grades take the same exam) and adaptive (meaning students get a harder question if they answer something correctly, and an easier question if they answer something incorrectly). Thus, unlike state assessments that focus on measuring proficiency against grade-level skills, MAP can help to measure the learning gains that students make over the course of a school year regardless of their starting points.

To analyze MAP results, we worked with the Center for Technology and School Change at Columbia University’s Teachers College to complete an independent evaluation of the first-year MAP results of Teach to One: Math.

The researchers found that students participating in Teach to One: Math made significantly more progress in math than the national average over the course of the school year. The report states: “If we understand the national norms to represent one year of academic growth, TIO students achieved almost 1.2 years of growth in each grade, or 28% more than the typical student nationally.” In addition, the report said, “Considering the relatively disadvantaged backgrounds of TIO students, the fact that their academic gains were above the national norms is noteworthy.”

In the fall of 2012, students who participated in Teach to One: Math schools scored more than one half of a year behind the national average on MAP.

By the spring of 2013, participating students achieved average gains in each grade that exceeded the average national gain by 20%. In other words, Teach to One students learned the equivalent of 1.2 years worth of math in a single school year.
Lesson 3: ELLs and Special Education students also show progress

English Language Learners and Special Education Students also showed stronger gains than the national average. ELLs gained, on average, 1.1 years using the model (10% faster than the national average for all students), and Special Education Students gained, on average, 1.3 years using the model (30% faster than the national average for all students).

Lesson 4: Struggling students demonstrate the largest gains

TTO students who started the year below grade level learned more math over the course of the 2012-13 school year than students who started the year on or above grade level as measured by the MAP. Students who began the year below grade level showed gains that were 1.6 times the national average of all students (not just low performing students).

Figure 14. English Language Learners and students with Special Education

Lesson 5: We need to do more to accelerate learning for students at or above grade level

Teach to One: Math strives to help students master the basics before presenting them with more advanced skills. We believe that in 2012-13, we may have spent too much time reinforcing foundational skills with students who started the year on or ahead of their peers. On average, these students made one year of progress, compared to 1.2 years of progress for all students in the Teach to One: Math program. We have been modifying our model to ensure these students are now more challenged.

Looking Forward: Building on Early Successes

While we are encouraged by these early results, we know we have much more to learn as we continue to evolve Teach to One: Math and improve upon the 1.2 years of growth that our partnership schools made last year. We have many reasons to believe that this is possible.

1. Teach to One: Math is far more developed today than it was a year ago. Over the past year, we’ve added new content, refined our algorithms, improved our technology, and significantly enhanced the supports we provide to partnership schools.

2. This was the first year of Teach to One: Math for each participating school. 15, 228, which began as a School of One site in 2010, also began implementing this new model for the first time in 2012-13. It can take time for teachers to grow accustomed to any new program, but especially one that is as different as Teach to One: Math. Unlike last year, when students in all three grades were new to this approach, only incoming students and students at new partner schools now need to learn about how the model works.

3. In 2012-13, because each participating student completed a daily assessment, we accumulated more than 3 million academic data points on student learning. Each data point we gather helps us to recognize patterns and to identify the most effective lessons in our system overall and for different student profiles. More data means we are better able to determine the most efficient and effective lesson for each student each day.

Innovation is a process. Figuring out how best to personalize learning for each student each day requires sustained R&D efforts, pioneering district and school partners, a combination of both successes and failures, and patience.

We are committed to continuing to grow, learn, and improve. We are also hopeful that our early experiences with personalized learning will inspire other organizations and entrepreneurs to consider how they might engage in the sustained research and development efforts required to develop thoughtful personalized instructional models. Our current approach with Teach to One: Math is just one way of enabling personalized learning. The possibilities for other ways of designing personalized instructional models are endless.

Steven, 8th Grader,
Spencer Technology Academy

Teach to One feels almost like it’s a tutor, but I’m in school... It feels like the program itself wants you to do better and to make sure... you are secure in the subject.
The accomplishments outlined in this report would not have been possible without the advocacy, generosity, and strategic guidance of our early supporters. We thank you for joining us on this journey and look forward to your continued support.10

The following institutions and individuals have made single or multi-year commitments of $1 million or more.

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Bezos Family Foundation
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Carnegie Corporation of New York
Bill & Melinda Gates Foundation
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NewSchools Venture Fund

Implementations in our partner districts are supported by the following individuals and organizations:
The Chicago Public Education Fund
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Robin Hood Foundation
NewSchools Venture Fund
CityBridge Foundation
Target*
Malott Family Foundation
Helen Zell

In addition, we would like to thank all of our supporters who sustained our work during the 2012-13 fiscal year. These partners include:

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Janine & William Sigpigno
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Jaime Weinsier Gruber
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Sandra Zieve

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President, Woodrow Wilson National Fellowship Foundation
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Founder and CEO, The New Teacher Center
Wes Moore
Author; CEO, FrontCort
Appendix A: 2013-14 New Classrooms Schools

<table>
<thead>
<tr>
<th>School Name</th>
<th>City</th>
<th>Launch Date</th>
<th># Students</th>
<th>Grades</th>
</tr>
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<tbody>
<tr>
<td>Spencer Technology Academy</td>
<td>Chicago, IL</td>
<td>Fall 2012</td>
<td>212</td>
<td>6-8</td>
</tr>
<tr>
<td>William P. Gray Elementary School</td>
<td>Chicago, IL</td>
<td>Fall 2012</td>
<td>535</td>
<td>5-8</td>
</tr>
<tr>
<td>Marquette School of Excellence</td>
<td>Chicago, IL</td>
<td>Fall 2013</td>
<td>365</td>
<td>5-8</td>
</tr>
<tr>
<td>I.S. 228 David A. Brody</td>
<td>Brooklyn, NY</td>
<td>Fall 2012*</td>
<td>880</td>
<td>6-8</td>
</tr>
<tr>
<td>J.H.S. 088 Peter Rouget</td>
<td>Brooklyn, NY</td>
<td>Fall 2012</td>
<td>324</td>
<td>6-8</td>
</tr>
<tr>
<td>I.S. 381</td>
<td>Brooklyn, NY</td>
<td>Fall 2012</td>
<td>383</td>
<td>6-8</td>
</tr>
<tr>
<td>I.S. 2 George L. Egbert</td>
<td>Staten Island, NY</td>
<td>Fall 2012</td>
<td>270</td>
<td>6-8</td>
</tr>
<tr>
<td>I.S. 49 Bertha A. Dreyfus</td>
<td>Staten Island, NY</td>
<td>Fall 2012</td>
<td>250</td>
<td>6-8</td>
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<tr>
<td>I.S. M286 Renaissance Leadership Academy</td>
<td>Manhattan, NY</td>
<td>Fall 2013</td>
<td>180</td>
<td>6-8</td>
</tr>
<tr>
<td>Charles Hart Middle School</td>
<td>Washington, DC</td>
<td>Fall 2012</td>
<td>503</td>
<td>6-8</td>
</tr>
<tr>
<td>McGinley Middle School</td>
<td>Charlotte, NC</td>
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<td>803</td>
<td>6-8</td>
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<tr>
<td>University Heights Charter School</td>
<td>Newark, NJ</td>
<td>Fall 2013</td>
<td>150</td>
<td>5-7</td>
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<tr>
<td>Speedway School</td>
<td>Newark, NJ</td>
<td>Fall 2013</td>
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<td>5-8</td>
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<td>William C. McGinnis Middle School</td>
<td>Perth Amboy, NJ</td>
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<td>1,000</td>
<td>6-8</td>
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<tr>
<td>iPrep Academy School No. 8</td>
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<td>184</td>
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<td>Total Enrollment Fall 2013</td>
<td></td>
<td></td>
<td>6,164</td>
<td></td>
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* Note that I.S. 228 began operating School of One in the 2010-11 school year. For the 2012-13 school year, the Teach to One: Math model began powering School of One at I.S. 228.

Appendix B: School Data Sheets

School Data Sheets

The test result data included in this report were drawn from the implementations of Teach to One: Math at seven partner schools during the 2012-13 school year. At each participating school, students in Teach to One: Math took two assessments: one that measures growth (MAP) and one that measures student performance relative to grade level standards (annual state math exams).

Measures of Academic Progress (MAP) Growth Assessments

In order to measure student growth, New Classrooms administers NWEA’s MAP assessment to students in the fall and spring. The MAP is aligned with the Common Core State Standards. Students who take the MAP receive a RIT score, which is assigned against a curriculum scale that uses the difficulty of individual questions to estimate student achievement. Individual student RIT scores have the same meaning independent of a student’s grade level, but these scores can be compared to national averages for a given grade, and gains can be compared to the national average gain made from fall to spring for students in a given grade, as determined and released by NWEA. NWEA has also determined that a RIT score of 235 indicates algebra readiness, which is a benchmark New Classrooms also uses internally to help us evaluate our effectiveness.

Because these exams measure growth, only students who were present for both the fall and spring administrations of the MAP exam were included in the MAP data sample for each school. Furthermore, to help ensure data integrity, only students who were present for at least 70% of the school year in the Teach to One: Math program and who spent at least 6 minutes completing both the fall and spring MAP exams were included in the MAP data sample.

To learn more about the MAP, visit nwea.org/node/98

State Exams

Students participating in Teach to One: Math across the seven partner schools also took state-mandated exams specific to their school’s home state:

Students in New York City took the New York State Math Exam. In 2012-13, New York State adopted new and more rigorous assessment based on the Common Core Standards. As such, the test administered in the 2012-13 school year was entirely new, and the state has advised against comparing previous results to the most recent set of data.

Students in DC took the DC-CAS, and students in Chicago took the ISAT. Neither DC nor Illinois has yet adopted Common Core-aligned assessments.

Only students who were present for the state exams were included in the state exam data samples for each school. Where possible, we also only included students in the sample who were present for at least 70% of the school year in the Teach to One: Math program.

Because our model serves different types of schools with students who start at different academic levels, we caution against comparing the results of participating schools to one another. We also caution against comparing state test results between states — since each state has different standards — or, in some cases, within a city. We hope that the following School Data Sheets will help further our goals of transparency and shared learning.
### State Math Exams**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
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<td>30.2</td>
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<tr>
<td>7th</td>
<td>912</td>
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<td>7.2</td>
<td>9.4</td>
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<td>26.6</td>
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<tr>
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### Overall (by subgroup)*

<table>
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<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
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<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Proficient</th>
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<td>32.6</td>
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<td>229.2</td>
<td>25.2</td>
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<td></td>
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<tr>
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<td>32</td>
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<td>30.6</td>
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<tr>
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<td>12.6</td>
<td>25.8</td>
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<tr>
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<td>11.0</td>
<td>32.6</td>
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<td></td>
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<tr>
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<tr>
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<td>228</td>
<td>233.6</td>
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<td>27.0</td>
<td>52.3</td>
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### New York State Math Exam**

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<th>Grade</th>
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<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Proficient</th>
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<tr>
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<td>106</td>
<td>212.8</td>
<td>229.2</td>
<td>25.2</td>
<td>2.2</td>
<td>5.2</td>
<td>30.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th</td>
<td>912</td>
<td>28.2</td>
<td>40.9</td>
<td>21.2</td>
<td>7.3</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>28.2</td>
<td>40.9</td>
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</table>

### Overall (by grade)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>746</td>
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<td>39.9</td>
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<td>11.0</td>
<td>32.6</td>
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<td></td>
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<tr>
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<td>212.8</td>
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<td>25.2</td>
<td>2.2</td>
<td>5.2</td>
<td>30.8</td>
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<tr>
<td>All Students</td>
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<td>12.2</td>
<td>30.6</td>
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<tr>
<td>American Indian/Alaskan Native</td>
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<td>3.0</td>
<td>13.3</td>
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<td>1.3</td>
<td>12.6</td>
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<tr>
<td>Asian/Pacific Islander</td>
<td>266</td>
<td>32</td>
<td>39.9</td>
<td>21.6</td>
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<td>1.0</td>
<td>22.6</td>
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<td></td>
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<tr>
<td>Free/Reduced Lunch Recipient</td>
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<td>233.6</td>
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<td>1.0</td>
<td>27.0</td>
<td>52.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**The sample of students included in this analysis are those who were present for both the fall and spring administrations of the MAP exam and spent at least 5 minutes on the administration of both exams and who were present for at least 70% of the School Year in the TTO program.

**The sample of students included in this analysis are those who were present for at least 70% of the School Year in the TTO program and who had a State Test Score.

**N/A is used where a subgroup sample size was too small to draw a conclusion from.
## Appendix B: School Data Sheets

### New York State Math Exam**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
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<td>60.1</td>
<td>25.7</td>
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<td>Black</td>
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<td>71.7</td>
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<td>12</td>
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<td>Free/Reduced Lunch Recipient</td>
<td>62</td>
<td>226.0</td>
<td>225.9</td>
<td>3.3</td>
</tr>
</tbody>
</table>

### New York State Math Exam**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 8th Graders</td>
<td>218</td>
<td>60.1</td>
<td>25.7</td>
<td>8.3</td>
</tr>
<tr>
<td>Black</td>
<td>92</td>
<td>71.7</td>
<td>19.6</td>
<td>12</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
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<td>89.6</td>
<td>10.4</td>
<td>0</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
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<td>89.6</td>
<td>37.1</td>
<td>52.5</td>
</tr>
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<td>Free/Reduced Lunch Recipient</td>
<td>62</td>
<td>226.0</td>
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<td>3.3</td>
</tr>
</tbody>
</table>

* The sample of students included in this analysis is those who were present for both the fall and spring administrations of the MAP exam and spent at least 6 minutes on the administration of both exams and who were present for at least 70% of the School Year in the TTO program.

** The sample of students included in this analysis are those who were present for at least 70% of the school year in the TTO program.

### Overall (by subgroup)*

<table>
<thead>
<tr>
<th>Group</th>
<th>% Proficient</th>
<th>% Level 4</th>
<th>% Level 3</th>
<th>% Level 2</th>
<th>% Level 1</th>
<th>% Total # of Students in TTO</th>
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</thead>
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<td>38.8</td>
<td>49.9</td>
<td>11.2</td>
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<td>12.2</td>
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</table>

*The sample of students included in this analysis is those who were present for at least 70% of the School Year in the TTO program.

**The sample of students included in this analysis are those who were present for at least 70% of the School Year in the TTO program.

### Overall (by grade)**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
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<td>60.1</td>
<td>25.7</td>
<td>8.3</td>
</tr>
<tr>
<td>Black</td>
<td>92</td>
<td>71.7</td>
<td>19.6</td>
<td>12</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
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<td>10.4</td>
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</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>28</td>
<td>89.6</td>
<td>37.1</td>
<td>52.5</td>
</tr>
<tr>
<td>Multirace</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Free/Reduced Lunch Recipient</td>
<td>62</td>
<td>226.0</td>
<td>225.9</td>
<td>3.3</td>
</tr>
</tbody>
</table>

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### Overall (by subgroup)*

<table>
<thead>
<tr>
<th>Group</th>
<th>% Proficient</th>
<th>% Level 4</th>
<th>% Level 3</th>
<th>% Level 2</th>
<th>% Level 1</th>
<th>% Total # of Students in TTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>301</td>
<td>37.5</td>
<td>45.4</td>
<td>13.3</td>
<td>3.8</td>
<td>101</td>
</tr>
<tr>
<td>All 6th Graders</td>
<td>93</td>
<td>49.5</td>
<td>46.2</td>
<td>4.3</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>All 7th Graders</td>
<td>102</td>
<td>25.5</td>
<td>42.2</td>
<td>27.9</td>
<td>3.8</td>
<td>101</td>
</tr>
<tr>
<td>All 8th Graders</td>
<td>98</td>
<td>38.8</td>
<td>49.9</td>
<td>11.2</td>
<td>1</td>
<td>12.2</td>
</tr>
</tbody>
</table>

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**The sample of students included in this analysis are those who were present for at least 70% of the School Year in the TTO program.
### MAP RIT Scores by Grade and Subgroup*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 6th Graders</td>
<td>103</td>
<td>210.0</td>
<td>227.7</td>
<td>17.7</td>
</tr>
<tr>
<td>Black</td>
<td>12</td>
<td>241.8</td>
<td>259.0</td>
<td>17.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17</td>
<td>215.3</td>
<td>238.5</td>
<td>23.2</td>
</tr>
<tr>
<td>Multi-race</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Free/Reduced Lunch Recipient</td>
<td>103</td>
<td>227.5</td>
<td>230.6</td>
<td>3.1</td>
</tr>
</tbody>
</table>

### New York State Math Exam**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Overall (by grade)</th>
<th>Total Students</th>
<th>Fall</th>
<th>Spring</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 6th Graders</td>
<td>103</td>
<td>210.0</td>
<td>227.7</td>
<td>17.7</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>12</td>
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***N/A is used where a subgroup sample size was too small to draw a conclusion from.
### Appendix B: School Data Sheets

#### New Classrooms Annual Report 2013

<table>
<thead>
<tr>
<th>Grade and Subgroup*</th>
<th>Overall (by subgroup)*</th>
<th>Overall (by grade)</th>
<th>Illinois Standard Achievement Test (ISAT)**</th>
<th>MAP RIT Scores by Grade and Subgroup*</th>
<th>MAP RIT Scores by Grade and Subgroup*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Students</td>
<td>Fall</td>
<td>Spring</td>
<td>Gain</td>
<td>Total Students</td>
</tr>
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<td>All 8th Graders</td>
<td>62</td>
<td>1.6</td>
<td>53.2</td>
<td>37.1</td>
<td>8.1</td>
</tr>
<tr>
<td>All 7th Graders</td>
<td>72</td>
<td>5.6</td>
<td>56.9</td>
<td>36.1</td>
<td>1.4</td>
</tr>
<tr>
<td>All Students</td>
<td>203</td>
<td>8.9</td>
<td>56.2</td>
<td>31.5</td>
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</tr>
<tr>
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