RM CASE STUDY

rm math
FRAMEWORK EDITION

Product: RM Math Framework Edition
School District: Narragansett Regional School District, Baldwinville, MA

Adoption of RM Math Framework Edition at NRSD

In September, 2004, the Narragansett Regional School District Case was the recipient of a $200,000 grant from the Massachusetts Department of Education. The grant had been written around an ambitious program to transform the teaching and learning of math at the Middle School, and involved a major infusion of new technology, including 60 mobile computers and the deployment of a number of state-of-the-art interactive whiteboards. At the center of the technology vision for NRSD was **RM Math Framework:** RM Educational Software's award-winning middle and high school math program.

Middle School Principal Rob Rouleau explains why NRSD chose RM Math Framework Edition for the project. "We were searching for **an innovative program that would engage and motivate all of our students,** and address all different learning styles. Kids today learn in totally different ways, and we needed a program that would reach out to them and involve them. RM Math Framework Edition does just that. In fact, taste is probably the only sense that they aren't using when they're interacting with this program."

The tight integration of State Standards within RM Math Framework Edition, including tools that enable NRSD to monitor and assess the performance of students by State standards, was also a critical element in choosing the program. "Something that would help our staff to deliver the Massachusetts Curriculum Framework was crucial, because that's where the rubber hits the road", said Rouleau, gesturing towards boxes of test papers that were secured in his office in readiness for the forthcoming State-wide assessments.

Hugely Impressive Results for Students.... and Staff

The focus of the program in the first year of the grant was the 6th-grade students, with the goal of rolling it out to the rest of the Middle School in subsequent years. Results, derived from a series of both formal and informal measures, have been hugely impressive. In their formal evaluation report to the Massachusetts DOE, for example, NRSD reported that the number of Massachusetts test items on which their 6th-grade students scored above the State average had almost doubled. AGS (American Guidance Service) Math-Level Indicator Scores were similarly impressive with 52% of students increasing their scores.

"Test items on which 6th-grade students scored above the State average almost doubled".

Bill Miganowicz, a former teacher within the District, who was hired to lead a comprehensive professional development effort as part of the implementation of the program, puts a good deal of this success down to increased student motivation and a generally improved attitude toward math. **"Some of the activities within the program are spectacular"**, says Miganowicz, "and the motivation levels among students is extremely high. Students are just very excited about using this technology." Results from a survey, examining students' attitude toward math, support what Miganowicz and his colleagues observed in the classrooms. The student survey showed that students' liking for math and confidence in their ability "to do well in mathematics" were both improved, and that they felt more resilient when confronted with challenging math concepts. IT Director Mike Wakefield puts a lot of stock in a less informal measure that he calls his 'Restroom Index'. "It's very noticeable how few students want to take a restroom break when they are using this program," he notes. "It's a very intangible measure, but to me it's highly indicative of how students feel about their math instruction now".

Principal Rouleau says that all students have benefited from RM Math Framework Edition, but that the program has had a particular impact for the School's special educational needs students. This has been important in helping to improve overall test performance and State scores. "To put it bluntly," he says, "all administrators will tell you that in order to improve your test scores, you need to find a way to impact your SE scores. We run a very inclusive SE program at NRSD", he says, "and this program puts both our goals for inclusion and our goals for better test scores within reach". But as well as helping to deliver on some of his pragmatic goals, Rouleau has observed a change that he finds even more profound and which excites him even more than improved test scores. "RM Math Framework Edition helps to create a level playing field for all of our students," he says. **"I challenge anyone to go into a math classroom at the School now and identify which students have an IEP (Individual Education Program)".**

Massachusetts Framework State Test Items	2003	2004	2005	2006*
Items with percentage above state average	9	11	9	17
Items with percentage below state average	30	28	29	19
Items with percentage equal to state average	0	0	1	3

"Math Unwired: Evaluation Report for Year 2 — September, 2006 NRSD"

Teaching staff have also seen significant benefits from the program. "The student improvement data is very encouraging", says Wakefield, "but we've probably noticed **as big an impact on the quality of teaching at the School.** The quality of the resources, the planning features of the program, and the ability for teachers to provide differentiated instruction were some of the key features of the program that teaching staff identified as having made the biggest difference to their performance and productivity. A number of teachers called the program "transformational" in terms of its impact on their math lessons. In the year following adoption of the program, there was also a big jump in the number of teachers who identified themselves as Advanced users of technology, up from 12% in 2005 to 43% in 2006 (Source: NRSD Teacher Technology Use Survey). "It's definitely a tool that can be used to build better teaching," says Wakefield.

*NRSD went live with RM Math Framework Edition towards the end of the 2005 school year and so 2006 was the first full school year in which the program was deployed.

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Implementation & Best Practice

Mike Wakefield cautions that the program doesn't have an 'Easy' button. "RM Math Framework Edition is a very powerful program," he says, "but there are a lot of pieces that need to be in place if you want to implement this program successfully". NRSD identified their critical success factors as: professional development; clear objectives for the program (backed up by strong leadership and advocacy); and attention to detail in terms of providing a consistently reliable hardware infrastructure for the end users. "I've only been in technology for 30 years," says Wakefield wryly, "and so I don't know everything about technology, but I do know that if it isn't reliable, then users will abandon it very quickly". In practical terms, this means a good degree of careful planning and fine tuning the implementation model from time to time in order to try to continually improve the experience for the end users.

"For example, when we first purchased the interactive whiteboards, they were deployed on mobile stands", Wakefield says. "It quickly became apparent that this was an impediment to their being properly utilized. When we mounted the whiteboards permanently in the classrooms, the change in terms of utilization and teachers' confidence with the technology was quite significant". Wakefield says that it was also important to have an "open door policy" to address any technical issues that arose without delay. "Teachers know that they can come into my office at any time, and if we can address a problem right then and there, we will," he says.

Both Rouleau and Wakefield agree that the investment that NRSD made in professional development, and specifically, the appointment of Bill Miganowicz to lead the implementation of the program, has been easily the most important decision they made in terms of the success of the project. "**The training program has been absolutely key," says Rouleau.** "And we absolutely would not be where we are today with this program without Bill".

"Bill is 'embedded' with the teachers," says Rouleau. This means that he works alongside the math staff helping to support them with their implementation of the technology and uses the planning tools and the RM Math Framework Edition resources to model lessons. "After-school training was important initially," says Miganowicz, "in order to get the program up and running, and to get teachers familiar with the basics of the software, but the embedded in-classroom model has really made the difference". Miganowicz is the common thread between all of the teaching staff and so as well as providing in-classroom know-how, he can also help to disseminate best practice, and share winning strategies among the teaching staff. **"The sharing of best practice is one of the hidden gems of this program,"** says Miganowicz, "RM Math Framework Edition enables us to share exemplar lessons and materials in a way that isn't possible with paper-based resources".

Pictured from left to right, Rob Rouleau, Bill Miganowicz and Mike Wakefield provided strong leadership and advocacy for the implementation of RM Math Framework Edition within the NRSD.

What else can other schools learn from the experience of NRSD? "We've come a long way with this program", says Miganowicz, "but even two years in, we are probably only utilizing 25% of its potential". Wakefield agrees. "You need to phase in this program incrementally", he says. **"You shouldn't expect to use every feature from day one... and maybe not even in 5 years!"**

Going forward, NRSD has invested in some additional subject modules for the RM Easiteach software application (RM Easiteach is one of the software programs included with RM Math Framework Edition), and they have now started to deploy the software across other subject areas. "We purchased some of the other RM Easiteach subject toolbars", says Wakefield, "and so we're now starting to use the software and the technology across the curriculum. **It's very exciting and very gratifying to think that we can impact the whole school** with this software and technology, and not just the math department".

Further Information

If you are interested in learning more about how RM Math Framework Edition can help to transform the middle and high school math programs within your school or school district, please contact us to arrange a free onsite presentation, or visit our website at www.rmeducation.com.

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