



Brown University and The  
Met School  
Applied Math Partnership



- The Met Center is a network of six small, public high schools in Providence, RI. All Met students have tailored curricula and apply their academic learning at internships in the community. To date, The Met has inspired a national network of 30 similar schools, all founded by [The Big Picture Company](#).
- <http://www.themetschool.org>



# The Big Picture Company

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One  
Student  
at a Time

- The Big Picture Company's mission is to catalyze vital changes in American education by generating and sustaining innovative, personalized schools that work in tandem with the real world of their greater community.
- We design break-through public schools, research and replicate new designs for education, train educators to serve as leaders in their schools and communities, and actively engage the public as participants and decision makers in the education of our youth.
- We believe that true learning takes place when each student is an active participant in his or her education, when his or her course of study is personalized by teachers, parents and mentors who know him or her well, and when school-based learning is blended with outside experiences that heighten the student's interest. In a country obsessed by "test-score accountability," we promote "one student at a time accountability."
- <http://www.bigpicture.org/>



## Major Aspects of the Partnership:

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- Brown/Met math tutoring and exploration program
- Met student internship in Brown University's Applied Mathematics Department
- Met teacher/advisor math software research



# Brown/Met math tutoring and exploration program

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- Objectives: expose students to the uses of applied math and technology in the real world, reduce students' math anxiety, and increase the chance students will choose internships in math-related fields.

## 2006-2007 Met Student Survey Data:

- 62% had poor middle school experiences with math
- 50% felt their middle school teachers were helpful with math
- 75% responded that they need help in all areas of math
- 100% wanted to do further math work as part of the Brown/Met math program

# Spring 2007 Activities

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- Tour of 3-D “CAVE”
- Teambuilding between Brown and Met students
- Interactive math lessons led by Met staff and Brown undergraduates
- Visit by educators from Bronx Guild, a Big Picture school in New York City





## Activities Planned for Fall 2007

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- Brown student orientation at The Met
- Five whole group sessions planned to address algebra skills
- Excel training
- Four one-on-one sessions between Met students and their Brown tutors
- Pre and post-program assessments

# Math Education Research

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- Courtney Jacobs, a Met teacher/advisor, conducted research during summer 2007 to find and analyze math software.
- The goal of this research was to find programs that might be utilized with Courtney's 11<sup>th</sup> grade students to improve their math comfort and skills.





# Math Research Findings

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Organization	Contact	Software available	Software comments	Next Steps
MIT Education Arcade	Scot Osterweil	<b>Zoombini's Logical Journey</b>	The skills addressed include problem solving, logic, and combinations. Students are asked to identify characteristics that are similar and different and make combinations based on these characteristics and logic. The point of the journey is not very clear and the animation makes the game look like it's for much younger kids. It is also slow moving and repetitive. I see the students being bored by the exercises/game.	None
MIT Education Arcade	Scot Osterweil	<b>Zoombini's Mountain Rescue</b>	This program is much the same as Zoombini's Logical Journey. It appeals to a young (1st-3rd grade) audience and is boring to play. It asks the players to sort, identify patterns, and problem solve.	None
MIT Education Arcade	Scot Osterweil	<b>Zoombini's Island Odyssey</b>	This program is much the same as Zoombini's Logical Journey. It appeals to a little older audience but it is also a slow moving game. It asks the players to notice rate and to problem solve. While some of the challenges are more interesting than those in the other two games, they are not engaging over time.	None



# Math Research Findings

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MIT Education Arcade	Scot Osterweil	<b>Zoiks</b>	This program appears to appeal to an older audience than the Zoombini programs but the skills addressed are much the same. Logic, problem solving, and patterns are emphasized. The game gets boring quickly, though, and is very repetitive. I had Kip and Katherine (math staff) try the game and they found the same to be true.	None
Tabula Digita	Dan (tech help) Veronica (sales)	<b>Dimension</b>	Demo: The graphics on this game make it look more like a video game. In the demo, students are asked to make their way to different stations on a graph to download information. Students have a first person view of the graph on the ground and they use knowledge of coordinates to make their way to stations. Along the way they are asked to identify their coordinates and the graph quadrant numbers. When they get the answer wrong, they are prompted to try again. The first few times I tried this game my computer shut down to a lined screen. I am seeking an answer to why this happened and also to try out the different missions which are part of the game. The first mission is fairly introductory and repetitive in terms of addressing the graph reading skills.	Ordered 1 copy of 2 of the programs. Tech will install them and students will begin testing them.



# Math Research Findings

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Tom Snyder Productions		<b>FASTT MATH</b>	Demo: This software appears to be an effective and easy way to allow students to practice their addition, subtraction, multiplication, and division skills in small chunks each day (10-15 minutes). While the graphics and games seem targeted to younger students, I think that students who recognize the need for fact practice would be willing and eager to try using this program each day.	Ordered two copies to be installed on computers in the advisory. I am surveying students to get a group together to use it three times a week. Assign computers to the students who will use the program each day
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# Visitors, Outreach and Community Connections

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We would like to thank the following people and organizations for their support:

- Brown University Applied Mathematics Department
- Ben Castleman
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- The Met School
- Scot Osterweil, MIT Education Arcade