

## How to Alleviate Math Fears with a Math Fair!

By *Patricia Helmuth*

On two separate occasions, the Adult Program at Sullivan County BOCES (SC BOCES) has hosted a *Student Numeracy Adventures Day* that brought all our staff and students together for a day filled with math, pizza, prizes, and fun! We held the math fair during the week when classes are regularly scheduled and all teachers brought their students down to the math fair for a portion of, or for their entire class period. Prior to the events teachers participated in staff development sessions where they experienced the challenge of solving non-routine math problems and received numerous resources that detail strategies teachers can use in their classrooms to draw out student thinking as a catalyst to drive discussion and facilitate problem-solving.

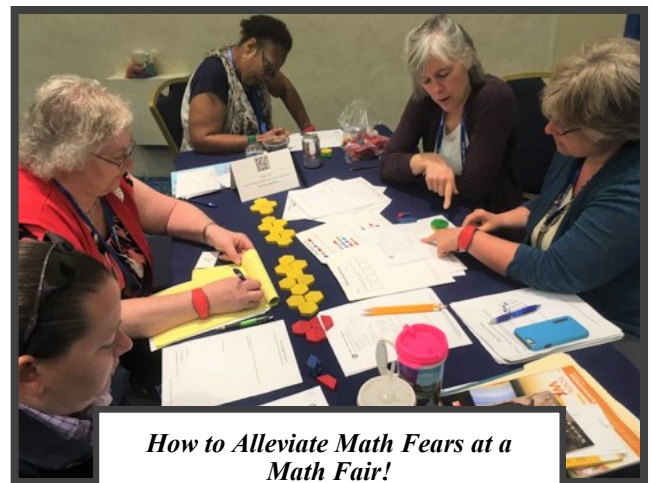


SC BOCES *Student Numeracy Adventures Day, 2015*

During a math fair, students at all functioning levels (ABE, HSE, and ESOL students) visit a variety of stations that include games, internet activities, and open-ended problem solving adventures that are challenging, fun, and align with the [Standards for Mathematical Practice](#) [1]. Providing manipulatives at most stations enables students to guide their own learning through a process of trial, error, and discovery. This can transform a student's attitude towards mathematics since the activities are student-directed, self-paced, and stress-free. Students need to experience non-threatening math adventures so they can begin to develop a [growth mindset](#) [2] in mathematics, where they honestly believe that they are capable of solving problems, can find a way into a mathematical situation, and can discover the continuity of a pattern and learn the connections within and between multiple math concepts and situations without necessarily knowing a formal rule or procedure. They need someone behind them whispering, "You are a math person. You can do this." Teachers become this whisperer when they prepare for and facilitate a math fair, where they learn about and gain experience in the art of questioning which then carries forward to their classroom practice. When teachers improve their instructional strategies, students benefit.

### How to Plan a Math Fair

As part of a mini-grant project with the NYSED/CUNY Teacher Leader program, I developed a [Math Fair How-To Guide](#) [3] that includes materials which will enable your program to prepare for and host a math fair. The guide includes resources for teacher preparation along with links to PD guides for the staff development sessions referred to above. The guide also consists of ready-to-print math fair activities, links to additional activities, and some templates you may find useful, such as a student video/photo release form and student survey. Numerous additional math fair resources and templates are available in a Dropbox linked to from [CollectEdNY](#) as part of the mini-grant project.



*How to Alleviate Math Fears at a Math Fair!*  
COABE 2017 National Conference

### What Teachers are Saying about Math Fairs

I have presented the math fair at multiple programs and conferences as a way to support mathematical mindsets and promote a problem-solving approach to teaching mathematics. One participant, who attended a

math fair workshop hosted by Wendy Bopp at a Greene Correctional Facility in Coxsackie, NY, had this to say:

*I'm sure others feel the same way but I wanted you to know that yesterday's Math Fair was the most useful training I've had over the past 12 years. Practical applications, fun exercises, small group tasks.....it's all going into my lesson plans.*

Todd Orelli, Math Teacher and Academic Coach from NYC DOE District 79, enthusiastically commented about a math fair that he and his colleagues recently hosted in May of this year, using the *Math Fair How-To Guide* for planning their event:

*Yesterday, we hosted our own Math Fair in Harlem using her guide [3] as our primary resource, and it was a HUGE success. My colleagues and the 200+ students were blown away with the level of engagement and even FUN that was had. When the pizza arrived for lunch, many students chose to keep doing math and not get pizza. I can't think of a higher endorsement.*

### **What Students are Saying about Math Fairs**

The comment that one student made after attending our first math fair lends a collective voice to the overall take-aways that we heard from most students who have attended our math fairs when he said, "I really don't normally like math, but I do it because I am trying to get my high school diploma. But today was fun, much more fun than I thought it would be. It was really good." [4]

Below you see the results of a student survey that was handed out to students at the second math fair hosted by Sullivan County BOCES. The survey asked the students if the math fair was (1) *Better than they expected*, (2) *Not what they expected*, or (3) *About what they expected*:

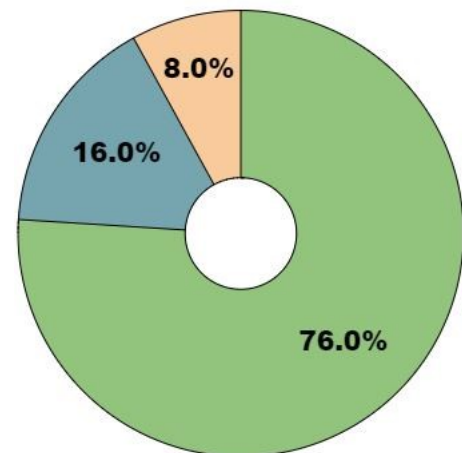
#### **76% - Better than I expected**

- I had a good day.
- Do it again next year
- This was a great idea! Thank you.
- It was really interesting and fun activities

#### **16% - Not what I expected**

- It was a new way of learning math for myself
- Not what I expected but it was great exercises for the brain
- They should have more of these math activities for us

#### **8% - About what I expected**



### **Boost the Math Confidence of Your Students**

Math fairs are a fun way to take the fear out of math for our students as we whisper confidence into our student's ears. They are well worth the time invested in teacher training and preparation for the actual event, as evidenced by the comments above. Watch the [Math Fair Workshop Video](#) [5] created by Andrew Carnright, Director of the Hudson Valley RAEN (NY), to catch the excitement of how a math fair can benefit your program. Finally, please reach out to me with any questions you may have about how to make a math fair happen at your program. I can be contacted at: [mathpractitioner@gmail.com](mailto:mathpractitioner@gmail.com). Happy Math Adventures!

[1] <http://www.corestandards.org/Math/Practice/>

[2] <https://www.youcubed.org/>

[3] <http://www.collectedny.org/wp-content/uploads/2017/05/Guide-How-To-Plan-a-Math-Fair.pdf>

[4] <http://www.hudsonvalleyraen.org/spotlight.cfm?sp=106&school=0>

[5] <http://www.hudsonvalleyraen.org/resources.cfm?subpage=1590>