

JMM 2016 Breakout Session Notes

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Sent: Monday, January 18, 2016 4:11 PM

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While Zvezda was wrapping up her Math Circle demonstration Bob took a smaller group of mathematicians into another room and debriefed any questions that they had about Math Circles.

Here is quick (not beautifully crafted, just quick notes taken in the moment) of what was discussed.

Total participants: 15ish

Q: Can there be a Circle for different levels of education

- highly adaptable and wide variation
- multiple levels all separated or all together
- Activities that are on the websites (mathcircles.org/mathcircles.org mathteacherscircles.orgmathteacherscircles.org) are all shared and reach diverse audience

Q: Do you have systems in place to have the time to have the aha! moment? How do you set it up to have a fun experience of discovery?

It's a lot about setting up the situation

One thing that really works is the Math Circle Pledge:

I solemnly swear (or affirm) that if I already know the answer to the math problem I will not yell it out loud but instead will challenge myself to take a different approach to the problem or think more generally about the problem so our whole Circle can experience the joy of learning.

Q: In a typical session how much time is the instructor talking?

varies widely

One example - the cookie jar problem - instructors doesn't say much at all.

Q: Typical setup

varies widely

given demand of students and knowing your volunteers

Ideas for building more community:

Mathey hour - Meet every-other-month in a local bar (opposite months of Math Teachers' Circle), share math problems/ games,

Coffee Chats - informally meeting on a Saturday to discuss curricular/ teaching issues/ ideas/ resources

Trying to create a community of problem solver - don't want it out of sight/ out of mind.

Regular/ fairly frequent - tuning community

site based after-school

Saturday in the community

kids in math circles are active - no good time

Idea: reaching out specifically to students that aren't already active

Use teachers to nominate students - not top math students, instead students that would be interested - send personalized letters of request. Teachers had a sense of what we're inviting them to.

This is a different experience than the students' experience in a common school day.

Word of mouth - sisters/ friends

Q: How fluid is the population

varies, some have a signed commitment and others have a grant requirement

block topics can happen if you have consistency

if you have more fluidity you'll want self-contained lessons

Idea: Incentivize - send students who consistently participate home with games

Idea: Stipend offered to teachers to participate to offset the cost of gas/ travel

I love this... Bob said, "Math Circles aren't rich but we can draw on gratitude"

Q: Mind Set: ARML/ Math Counts or Math Circles

There are competitive Circles. Some split the day

Idea: Invite the high AMC scorers or anyone come - really depends on the group of students that you want to serve

presumably there can be overlap

There is a good community out there that can provide support

Do kids want to be there?

If they don't then you need to have a frank conversation with parents

Q: Math Teachers' Circles - is there more success when there is separate from math curriculum work

Teachers like it if it's something that they can use it but we want them to understand the process of doing mathematics

Take off your teachers' hat and experience mathematical learner.

There are a lot of professional development out there that is classroom ready for the next day, this is meant to be.

Content based professional development - it's a mathematics spa for the teacher

Carve out space to have this discussion/ Provide space to discuss

Bob -dissertation - identities as doers of mathematics and identities as math teachers.

the findings show that it's not a clear separation

Elgin Johnston - decimals and fraction activity - repeating decimal pattern

[http://www.mathteacherscircle.org/resources/mathematical-materials/\[mathteacherscircle.org\]](http://www.mathteacherscircle.org/resources/mathematical-materials/[mathteacherscircle.org])

[http://www.mathteacherscircle.org/assets/session-materials/EJohnstonRepeating%20Decimals%20I.pdf\[mathteacherscircle.org\]](http://www.mathteacherscircle.org/assets/session-materials/EJohnstonRepeating%20Decimals%20I.pdf[mathteacherscircle.org])

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