Study of Math Identity in After-School

Andrea Beesley, IMPAQ International
Ben Dworken, FHI 360

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What is Math Identity?

• How students think about themselves in relation to math.
• Beliefs about math ability, importance of knowing math, and challenges and opportunities in math classrooms.

Recent research shows that math identity plays a crucial role in students’ decisions to engage in math learning.
Activity Information

- Fun
- Real world math
- Inquiry-based
- Build essential math skills and concepts
- Based on NCTM standards; meets career and college-ready standards
- Strategies for inclusion of all students
Activities Help Students...

• Find math in everyday experiences
• Improve math skills
• Have positive experiences with math
• Increase engagement and comprehension
Theme One: Jump Rope Math

- Students learn essential skills while jumping rope, having fun and exercising
- Create bar graphs, line graphs, scatter graphs and Venn diagrams
- Conduct and analyze surveys
- Design a math investigation
Theme Two: Built Environment Math

- Students learn about scale, measurement, and their built environment
Theme Three: ArtMath

- Students create kaleidoscopes
- Create art in the style of Escher and Mondrian
- Use tessellation, symmetry, asymmetry, and measurement
Theme Four: MusicMath

- Students use combinations and permutations to create music
- Learn about fractions through whole, half, quarter and eighth notes
Study: Participating Programs

• At least 30 fourth and fifth graders, 3 group leaders, plus site coordinators
• At least 90 minutes/day, 2 days/week
Study: Requirements

• Four professional development sessions for group leaders
  – First session: Weds-Thurs, July 13-14, 2016
  – Future sessions: Dec 2016, July 2017, Dec 2017

• Implement activities in 2016-17 and 2017-18 school years
  – All sites participate in PD training and implement curriculum activities
  – Some sites are randomly selected to do additional activities intended to improve math identity
Study: Data Collection

- Group leader online survey at end of each semester (4 total over 2 years)
- Student paper-based surveys before program start and at end of each semester (5 total over 2 years)
- Student after-school program attendance records, assistance in getting academic records
- Possible observations and interviews
Study: Benefits

- Free professional development and curriculum materials
- Program stipends for data collection and professional development
- Contribute to understanding of how to develop math identity, broaden participation in STEM
References


Questions?
Study Application Form