EDUCATION

Identity Development in Informal Learning Spaces: A Case Study of the Girls Excelling in Math and Science Club

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How do we present ourselves to others, especially in communities where we do not feel we belong? Despite national strides toward equality, women are still vastly unrepresented in STEM-based fields—and not for lack of merit. Lisa Darragh ("Identity research in mathematics education." *Educational Studies in Mathematics,* 2016, doi.org/10.1007/s10649-016-9696-5) defines identity as the performance and recognition of one's self and the individual's larger role in society and social contexts. In 1994 Laura Jones was disheartened to hear her daughter describe herself as "not good at math," despite overwhelming evidence to the contrary. Laura started an afterschool club, Girls Excelling in Math and Science (GEMS), to bolster confidence in young women who were self-selecting out of STEM classes. Survey responses, focus group interviews, and individual interviews were conducted with the original members of the first GEMS club. I considered responses from an original member, Amanda, using thematic analysis to identify and categorize references to herself and to her role in society. Given this, we were able to study how Amanda's identity changed before, during, and after her participation in GEMS. When reflecting on her time prior to her involvement in GEMS, Amanda was self-critical, choosing to note that "I struggled a lot with science when I was in high school—I remember that very clearly. I was not very good." However, a shift was identified when she described herself in the present, where she notes that "I manage people . . . like the boss, basically." Given our findings from Amanda's data, GEMS seems to be a context where girls develop their identity.

Research advisor Jill Newton writes: "Michaela Rice contributed to all aspects of the GEMS research project, including data collection, data analysis, and dissemination of findings. She attended weekly meetings, read research articles, and applied theoretical perspectives to the data. She gained knowledge about the complexity of conducting research and was a thoughtful and hardworking colleague."

GEMS members exploring robotics and programming in their club. Photo courtesy of the GEMS Club.

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