

Dasgupta, N., & Stout, J. G. (2014). Girls and Women in Science, Technology, Engineering, and Mathematics: STEMing the Tide and Broadening Participation in STEM Careers. *Policy Insights from the Behavioral and Brain Sciences*, 1(1), 21–29. <https://doi.org/10.1177/2372732214549471>

1. Collaboration is particularly helpful for girls in math, as they show more interest, better grades, and stronger math aspirations in collaborative environments than do boys ([Wang, 2012](#)). On the flip side, competition among students is less conducive to learning, self-efficacy, and achievement ([Ames, 1992](#); [Dweck & Leggett, 1988](#)).
2. Students find STEM courses more meaningful when they connect classroom experiences with personal goals ([Gentry & Owen, 2004](#)).

Alice 2 is a program that encourages middle school girls to program by allowing them to create stories. There are three activities: scene layout, editing programs, and running programs. It is equally as effective as the original Alice in teaching computing concepts, but users of Alice 2 seek to spend more time using it and report having greater interest in using Alice 2.

Storytelling motivates reluctant programmers

Storytelling Alice users spend 42% more time using Alice