Attracting More Women to the CS Major Using a Peer-Led Team Learning Program

Rita Manco Powell, Christian Murphy
Dept. of Computer and Information Science
University of Pennsylvania, Philadelphia PA 19104
(powell,cdmurphy)@seas.upenn.edu

Adam Cannon, Joshua Gordon, Arthi Ramachandran
Dept. of Computer Science
Columbia University, New York, New York 10027
(cannon,jsgowd)@cs.columbia.edu, arthi@cs.columbia.edu

ABSTRACT

The Columbia Emerging Scholars Program (CESP) is a computer science program for peer-led team learning. CESP was created in 2008 to address the low participation of women in the computer science major, especially in undergraduate computer science degrees. In 2009, CESP was piloted at Columbia University, and in 2010, it was expanded to include a summer session. This study examines the impact of CESP on student enrollment in the computer science major at Columbia University.

SIGNIFICANCE

What does the data tell us about women’s participation in the computer science major?

• More undergraduate women are taking computer science classes (CS) in major [F]. For the second straight year, there was a doubling of the number of women taking CS classes.

• Women’s share of bachelor’s degrees in computer science dropped from 13.6% in 2008 to 11.9 percent in 2010.

• To address women’s participation, computer science departments are borrowing from methods proven successful in other disciplines.

Research Question: Did we achieve our goal of increasing women’s enrollment in the computer science major through CESP?

Methodology

CESP students fill out an online survey during the semester on the program, a mid-term evaluation and a final evaluation at the end of the semester:

• Application: Students submit their resumes to the computer science major and their previous computing experience.

• Mid-semester survey: Gathers student satisfaction with the workshopping.

• Final evaluation: A point-by-point list, student list their peer leader. If they learned less about computer science than CESP, if they would recommend the program. If they took CS1 with CESP in 2009-10 and joined the major in 2010-11 and joined the major.

• Student leaders who took CS1 without CESP in 2009-10 and joined the major in 2010-11.

Results

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Qualitative Responses

Question: Why are you interested in CESP?

I’m not certain computer science is for me, but I haven’t yet determined whether it is something that I would pursue a degree in. Participating in CESP allows me to explore this field more before making a decision.

CESP Student

NEXT STEPS

CESP students work on a problem collaboratively

Columbia Emerging Scholars Reunion 2011

REFERENCES


