Programming Through Trial And Error, With An Emphasis On Error

By CAROLINE BALLARD • MAY 13, 2016

When University of Wyoming Computer Science Freshman Catherine Clennan sent an email to her professor explaining what she hoped to get out of an upcoming internship, she didn't think much of it.

"It took about 20 minutes. I sat down and just, you know, word vomited onto the page and I sent it to him. And he was so moved by it that he responded to me saying we should do a blog for the internship, and I was like yeah ok let's do it. And so I set it up and published it and it just went viral," says Clennan.

The essay that came from that email, titled Being a Dumb Girl In Computer Science, was reposted on Hacker News and Reddit and eventually picked up by The Huffington Post. So far it's been viewed tens of thousands of times. In the piece, Clennan details how she made the decision to routinely speak up in class when she doesn't understand a concept. The post culminates with Clennan and another female student confronting a Teaching Assistant over confusing instructions.
“Right then I just kind of said firmly ‘I don’t understand this material. I don’t understand how you’re explaining it to me.’ And I think the way that I said it, you know I didn’t stand up and shout or anything, I said it loud enough that other people in the room could hear me,” says Clennan.

Loud enough, Clennan says, that the Teaching Assistant’s manner completely changed, and other students in the lab became involved in helping them understand.

You tried something, it didn’t work. Like, that’s great, that’s a fantastic thing. And we should encourage the fact that you tried and even encourage the fact that it failed and you didn’t work, to try to create this kind of culture of that being a fun part of the process

How to get more women involved in computer science is a question many universities are still grappling with. The University of Wyoming is doing pretty well, comparatively; around 20 percent of its 283 computer science students are women, slightly higher than the national average. But the department is always looking for ways to attract more women, and Clennan’s essay has already had an impact. Teaching Assistants will be required to read “Being A Dumb Girl In Computer Science” for the Fall 2016 orientation.

Assistant Professor Jeff Clune is the one who suggested Clennan publish the essay, and he says using it in training is a great idea.

“Because there’s a very big difference between standing in front of a room and saying we need to make things more welcoming and we need to encourage people to ask questions, and hearing the first person perspective that Catherine wrote. This kind of raw emotional story where you get inside her head and you struggle with her,” says Clune.

An environment that discourages making mistakes is especially detrimental to female computer science students, who tend to come into college with less programming experience. Clune says professors should be encouraging students to speak up when they get something wrong.

“You tried something, it didn’t work. Like, that’s great, that’s a fantastic thing. And we should encourage the fact that you tried and even encourage the fact that it failed and you didn’t work, to try to create this kind of culture of that being a fun part of the process,” says Clune.

Catherine Clennan says she’s interested in creating a computer program for beginners in computer science that addresses failure in this kind of positive way.

“If you could set up a program that rewards just how many times you try. I think that you would see the level of skill would even out,” she says.

Clennan hopes to pilot her computer program in the Laramie Robotics Club next fall, an after school club where middle and high schoolers can program computers and robots, and to continue with the blog, encouraging others to speak up when they don’t understand.

“I can’t speak for women as a group I can only speak for myself, and that’s what helped me. You know chances are there’s a lot of people who feel the same way,” says Clennan.

Clennan has plenty of time to reach out to those people. After all, she’s only a Freshman.

RELATED PROGRAMS:

EDUCATION  UW HIGHLIGHTS

TAGS:
Related Content

Viral Essay Inspiring Change In UW Computer Science Department

Wyoming Looks To Improve Career And Technical Education
Few Wyoming Students Are Learning Computer Science Skills

UW Professor Helps Robots Adapt Like Animals