

## **Where in the World Did All the Girl Geeks Go?**

- 1. Read the two articles below with your partner.**
- 2. Click into these websites and research**
  - a. <http://www.girlsinc.org/about/programs/operation-smart.html>**
  - b. <http://www.computergirl.us/>**
  - c. <http://news.duke.edu/2009/06/computerfems.html>**
- 3. Click into this [website](#)**
  - a. Choose ONE female executive from the list, and read her profile.**
- 4. Then in a Word document:**
  - a. List five (5) reasons that girls do not pursue a career in IT.**
  - b. Write a summary of the executive profile that you read.**
  - c. List five (5) suggestions you have with your partner to get more girls to take IT courses and pursue a career in IT.**
- 5. Make a copy of your document and place in the student inbox-folder: GirlGeeks.**

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## Where Did All the Girl Geeks Go?

(2008-04-10) - Contributed by Deb Perelman

A professor says he has only one girl in a computer science major class in 2008, down from 40 percent in 2000. What happened? eWEEK gets field experts to weigh in.

While women hold 51 percent of professional jobs in the United States, they make up only 26 percent of the IT work force, according to the National Center for Women & Information Technology. Furthermore, fewer women worked in IT in 2008 than in 2000.

But the loss of women in the technology field begins long before they reach the professional level. The proportion of CS (computer science) bachelor's degrees awarded to women has fallen from 36 to 21 percent between 1983 and 2006.

Dr. Stephen Bloch, a professor in the Department of Math and Computer Science at Adelphi University in Garden City, New York, told eWEEK that computer science degree enrollments have been "in the toilet" since 2001.

"They seemed to be edging back up in the last year or so, but when people stopped taking these majors, it seemed that the women stopped harder," Bloch said.

In the fall of 2000, Bloch taught a programming course that was a prerequisite for a computer science degree, for which enrollment was 40 percent women. In the current academic year, there is only one female computer science major, he said.

"I encounter a good number of math majors. There are a lot of women in that class, and they are doing well, which suggests that they may have been good at CS. I'm not sure at which point they're being steered elsewhere," Bloch said.

The answer to the question of at what point and why girls are losing interest in learning about computers plagues not only computer science professors, but also employers who wonder how they'll find recruits when half of the population has opted out of the field.

{mospagebreak title=Address the PR Issue}

There are several theories about how and why girls are losing interest in technology long before they reach college, but the most commonly heard is that computer science and the field of IT suffer from terrible public relations.

Many students—and, perhaps more pertinently, their parents—still believe that technology-related jobs are uninteresting because workers sit in front of computers all day, or unsafe because they could be easily outsourced.

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"There's a perception that being a computer science major leads to a job as a programmer and you sit in a cubicle where you type 12 hours a day and have no interactions with other people," Block said.

Despite a forecast by the Bureau of Labor Statistics predicting that computer and mathematical science jobs would grow at faster pace than any other occupation through 2016, many still cite the dot-com bust as evidence that technology is not a secure field to work in.

"In 2001 the dot-com bubble burst and everyone decided there were no jobs in this field. This may have been the case for about a year but if you've talked to anyone in the field in the last five years, they have been desperate for people to hire. Maybe the female students have been more sensitive to this," Block said.

Yusupova noted that even if pure programming jobs are outsourced, opportunities still remain within a company for people to bridge the relationship between the outsourced IT vendors and the business side.

"These roles would probably be ideal for women who prefer to be in communication-focused roles, if they know computer science and can communicate to all parties involved," Nelly Yusupova, chief technology officer of Webgrrls International, a networking organization.

{mospagebreak title=Start Younger}

Others suggest that many of the technology outreach programs that target girls don't get started until their attentions have already turned away.

"By the time they get to high school, there's already a perception that math and especially computer science is a guy's thing," Block said.

Furthermore, programs that reach out to girls in high school may have already lost their chance to convince girls that working with technology can be cool. "Some studies have shown that as soon as girls turn 12—and maybe now it is even younger—they're so into their social image and being liked by boys that they dumb themselves down so not to be seen as a geek," Yusupova said.

Lucy Sanders, CEO of NCWIT, a coalition which works to increase women's participation in IT, finds fault with the U.S. education system for not getting more girls interested in technology at a young age.

"We really don't teach high school computing in this country. If it's taught, it's more as computer literacy. It's not taught as a science; there's no focus on critical thinking. It's almost always an elective," Sanders told eWEEK.

{mospagebreak title=Tune the Message}

In addition to the problems of bad PR and too-little-too-late efforts to reach girls, the way the message is packaged often misses the mark.

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Efforts to make technology more appealing to women have often been slipshod, at least on the consumer side—making a phone pink or putting sparkles or flowers on a laptop is not likely to do much to make girls genuinely excited about working in technology.

"It has zero to do with women become technology inventors," Sanders said.

A better tactic, Sanders argued, would be to convince girls that they can make new technology better just by adding their 2 cents.

"If we don't have women at the design table, then the technology is not all that it could be. They might do it a little differently due to their different life experiences and it would be an innovation advantage. Are we inventing all that we could be inventing? I don't think so," Sanders said.

Some suggest that a fixation in the technology and computer-related fields on creating video games, especially those in the kill-them-before-they-kill-you genre, has also pushed girls away.

"I hear the video game hypothesis a lot from other professors, because these violent games appeal to stereotypically male interests," said Block, who said he has seen this interest firsthand.

"We had a department open house for potential CS students a while back. 10 people came, they were almost all male, and most of them were asking us about making video games," Block said.

However, whether or not the recruiting message gets to girls while they're still in school, the fact is that at some point down the road, all of them will need some fluency in technology.

"If we could show more young people what technology is really about—it needs creative, insightful people—they could see it for what it is," Sanders said.

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## Computer education culture discourages girls, survey says

From Staff Reports

WASHINGTON (CNN) -- The methods used to teach computer programming classes are turning off girls at both the high school and college level, a new report says.

As a result, it says, women make up just 20 per cent of the high-tech workforce.

The report comes from the American Association of University Women Educational Foundation.

Entitled, Tech-Savvy: Educating Girls in the New Computer Age, it suggests information technology courses need to change in order engage the participation of more girls.

The AAUW believes violent video games and programming classes that focus too narrowly on hardware and the mechanics of information technology are leading girls to turn away from pursuing careers in computers.

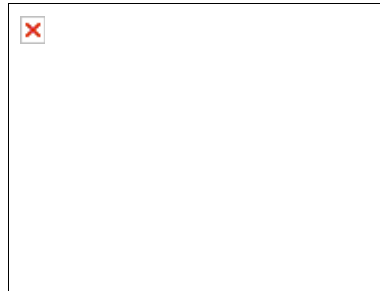
The report suggests teachers need to incorporate technology concepts into a more diverse subject areas -- like music, history, or the sciences -- in order to spark girls' interest.

The report was authored by the AAUW Educational Foundation Commission on Technology, Gender, and Teacher Education. It includes results from an online survey of 900 teachers, focus group research involving more than 70 girls, and reviews of existing research.

At the high school level, the report indicates only 17% of computer science "Advanced Placement" test takers are girls. At the college level, women receive less than 28% of computer science bachelor degrees, and just 9% of engineering-related bachelor's degrees.

The report concludes girls find computer programming classes "tedious and dull" and games "boring, redundant, and violent."

The report suggests girls could step in and fill the information technology job shortage if the educational establishment makes computer programming courses more interesting to girls. And it stresses that girls' ability to simply use computers to send e-mail or surf the web is no substitute for comprehensive computer study.



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"When it comes to today's computer culture, the bottom line is that while more girls are on the train, they aren't the ones driving," said Pamela Haag, the Foundation's director of research.

"To get girls "under the hood" of technology, they need to see that it gets them where they want to go. And for a large part of the population, that process must start in the classroom.

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