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Elizabeth Shelly, a seventh-grade student from Epping, tries her hand at the basics of computer programming at a Game Programming for Girls event held this month at the Seacoast School of Technology.

Amy Kane photo

Wanted: Girls interested in computers

By Amy Kane

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Playing games, doing homework, connecting with friends online - girls appear to spend as much time using computers as boys. Why, then, are so few young women studying computer science?

Norm Messa is facing a third year without a single female enrolled in his high school programming courses at the Seacoast School of Technology in Exeter.

It's a national as well as local trend, and one Messa and other computer science instructors are beginning to address.

Despite headlines about the dot.com bust, the industry is clamoring for people, he said.

"Of the 10 fastest growing jobs, five are in health care and five are in IT (information technology)," Messa said. "You have to be good at it, but the payoff is immense."

This year, he has 45 male students in his programming courses for juniors and seniors at the career and technical school, which serves six area high schools.

No girls have enrolled for next year.

So in February, and again in April, Messa offered a free game programming night just for girls. The target age? Middle school, a critical period when many girls are deciding whether to pursue math and science.

Sixth- through ninth-graders were invited, via fliers sent to feeder schools, to the computer lab at SST to eat pizza, socialize, make games and tell stories using a couple of simple applications.

Eight girls attended the first event and three were present for the second. At a middle school event for both boys and girls in March, there were 15 boys and two girls.

Sisters Allison and Nicole Pike, in eighth and sixth grade, traveled from Hampton Falls for the April 14 night.

Seventh-grader Elizabeth Shelly made the trip from Epping. Two of her closest friends had planned to attend, but changed their minds when they heard there was a school dance the same night.

"My mom said I should try something new, and I don't get to do this stuff normally," Shelly said.

She said she likes to play "The Sims" at home. At school, she uses computers for projects. "The teachers mostly want us to do work like typing."

On a projector screen, Messa led the girls through a tutorial for Gamemaker. In 10 minutes they were sitting at computers making their own versions of a simple maze game Messa had initiated.

When they wanted to modify the game, they asked for help from Messa or Kristine Groleau, a digital communications instructor at SST.

Nicole Pike wanted to change the background music, and she preferred a cat to a clown as the main character. She experimented with adding more cats. She was also fascinated with Messa's classroom pet, a robotic cat.

Allison Pike made her walls into an elaborate maze and discovered the clown could get "stuck" ping-ponging from wall to wall.

Elizabeth Shelly changed the look of the clown character using Microsoft Paint.

"I really like editing things," she said.

The girls' tendency to modify games, create their own characters and tell stories was in line with recent findings by a Carnegie Mellon researcher who is designing a programming system that will appeal to middle school girls.

According to Caitlyn Kelleher, girls are more interested in potential applications for computers and programming than they are in computers themselves.

Kelleher is helping create the next version of Alice, a popular, object-oriented Java-based computer programming environment. It is underwritten by Electronic Arts Inc., which will provide essential assets from "The Sims," the best-selling computer game of all time.

The girls had a chance to try Alice 2.0 after a brief tutorial. All three were excited to learn they could take home a copy and continue the work they had begun.

Though the focus was on creating "worlds" and adding characters to tell stories, the girls were getting a dose of programming language and procedures at the same time. They

quickly began using terms like "object," "sprite," and "event."

"The language in these is consistent with programming language, but it's not intimidating," Messa said. "They are learning to think procedurally and algorithmically."

Messa said he is looking for more ways to connect with middle school girls, including school visits and more computer nights.

He recently participated in a workshop at the University of New Hampshire showing middle school teachers how to use Alice and other programming applications in their classrooms. He is excited about a new freeware educational program called Kids Programming Language.

Margaret Callahan, SST principal, said she has been striving to increase the number of girls enrolled in nontraditional vocational fields like computer programming, automotive technologies, and a new program for next year, pre-engineering.

A lack of graduates in science and math fields is "an American problem," Callahan said.

"When I speak in the schools to eighth-graders, I tell them, 'If you have these skills, your country needs you,'" she said.

Callahan said she loves to hear a girl say she wants to make money when she grows up.

"Over half of the people who get married will get divorced. Women must have career skills to support themselves."

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