

Game-makers bend energies toward keeping girls interested in STEM

July 3 2013, by Katherine Long

Consider, for a moment, the possibility of a completely addictive electronic game that had a more noble objective than destroying pigs with slingshot-flung birds or traveling through post-apocalyptic wastelands.

What about a [game](#) that was geared toward teen [girls](#) - a free game that kept them engrossed in math and [science](#), nudging them toward careers in those fields, at that very time in their lives when they start to lose interest?

"You're right, it's a huge order," said Karen Peterson, principal investigator of the National Girls Collaborative Project. "But I think we can do it."

Gaming and education experts gathered recently at the Northeastern University-Seattle campus to kick off an ambitious, long-term project to create just such a game.

G.A.M.E.S. - short for Girls Advancing in Math, Engineering and Science - includes participants from Northeastern, the University of Washington's Center for Game Science, the private DigiPen Institute for [game developers](#), and game companies such as Big Fish and Her Interactive.

The idea is the brainchild of Tayloe Washburn, dean of Northeastern-Seattle. He thinks a successful game could underscore the advantages of

a career in science, technology, engineering and math (STEM) fields for young girls.

Why a game? Research shows that children spend about two hours a day playing [electronic games](#). "This is the medium they're on; it's where they are," Washburn said.

Peterson, of the National Girls Collaborative Project, said girls often lose interest in math and science around fifth or sixth grade, not because they lack the ability but, for some, because their confidence lags. They don't take challenging math or [science classes](#) in middle school and later find it hard to catch up.

Peterson said only about 26 percent of employees in computer and mathematical sciences are women, with half that many in engineering. The numbers are even lower for [minority women](#), who make up fewer than 1 in 10 employed scientists and engineers.

The game idea "is not about fixing girls, or changing girls - it's about finding a better way to portray all the exciting things you can do if you go into STEM," she said.

Washburn thinks it will take three to five years to create about 20 test games. He hopes the group can get assistance from professional game designers as well as university researchers who study game science.

He wants to test the prototypes' effectiveness exhaustively, then pick the best and roll them out in some easy-to-use platform, for little or no cost to the gamers.

If the ideas are good, he believes the necessary funding will follow from sources such as private foundations or the National Science Foundation.

A few girl-centered games have been wildly successful.

Seattle company Her Interactive, for one, has sold more than 9 million copies of a detective game built on the Nancy Drew book series. Megan Gaiser, chief creative-strategy officer of Her Interactive, is joining the effort to create the new game.

"One of the reasons I'm so excited about this initiative is that we can do this on a much broader scale," Gaiser said. "The Nancy Drew series is great, but there can be so many different types of content that haven't been imagined yet. It's possible to create games around anything."

Kate Fisher, community manager for UW's Center for Game Science, said educational games have come a long way in recent years.

"We're fusing the idea of fun and education in a much more sophisticated way these days," Fisher said.

For example, the Center for Game Science's Foldit game has gotten hundreds of thousands of players all over the world to solve protein-folding puzzles.

The key, Fisher thinks, is to have great incentive structures built in.

"If it's not fun, and it doesn't incentivize students to continue playing, you're going to lose them and you're going to lose them fast," she said.

Peterson - herself a gamer - said the incentives will need to go beyond just scoring points or reaching new levels. They must show girls that in math and the sciences, they may need to try, and fail, many times to get something right.

And the game also needs to show that women from all walks of life can

be successful in STEM careers.

"It's like the supergame, isn't it?" Peterson said, laughing. "Well, we can dream right now."

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