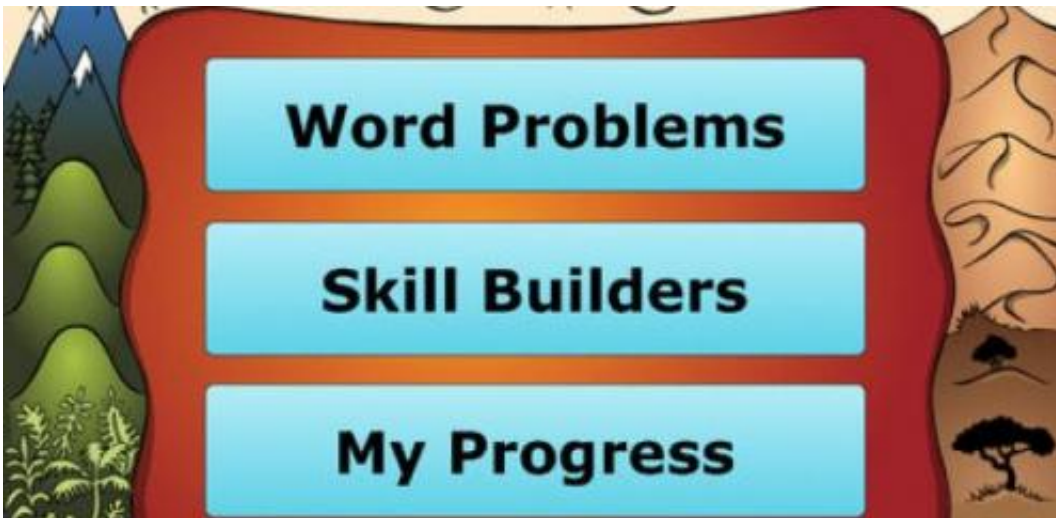


UA Math App Blends Numbers, Animal Lessons

November 5 2013, by Eric Swedlund



Widely used in Arizona, Massachusetts and California, AnimalWatch is an evidence-based, standards-aligned program shown to increase students' test scores when used as a supplement to class instruction.

A Web-based math tutoring system developed by a University of Arizona professor is now available as a convenient iPad app.

AnimalWatch is a pre-algebra program that helps [students](#) build [math](#) skills as they learn about endangered and invasive species around the world.

Carole Beal, a professor in the School of Information: Science,

Technology and Arts, began AnimalWatch in 1997 when she was at the University of Massachusetts-Amherst. Along with colleague Beverly Woolf, Beal sought out a way to get students interested in learning about math without becoming bogged down by just numbers.

"A lot of kids find math intimidating and boring and we tried to find the topic that engaged them. Some said sports, but that's not for everybody. One thing teachers thought would be attractive for everybody would be unusual animals," Beal said. "That's a good choice because the whole question about the impact of global climate change and the environment has become more and more topical since that time."

Widely used in Arizona, Massachusetts and California, AnimalWatch is an evidence-based, standards-aligned program that was created with support from the National Science Foundation and the U.S. Department of Education's Institute of Education Sciences. The Web-based program has been shown through studies to increase students' test scores when used as a supplement to class instruction.

The development of the AnimalWatch app came out of work to tailor the program for students with visual impairments. Supported by a \$1.2 million grant from the U.S. Department of Education's Institute of Education Science, Beal and collaborators Jane Erin and L. Penny Rosenblum of the UA College of Education made the AnimalWatch software accessible for students with limited or no vision.

From there, configuring AnimalWatch as a free app was a natural step, Beal said.

"The iPad has so many accessibility options built in, like automatic voice, we thought, 'Why don't we make AnimalWatch into an app?' Beal said. "The value is in the content and the math problems and the integration of the [science](#) and the math."

With no additional financial support, Beal worked with computer science instructor William Mitchell, senior research associate Jane Strohm and former UA student Mark Grandi to configure AnimalWatch as an app.

Each unit of the app has three sets of word problems – based on animals like the great white shark, snow leopard, polar bear and poison frog – that involve a math topic such as basic arithmetic, fractions, mixed numbers or unit conversion. Built-in videos and slideshows help students learn to solve problems. Skill Builders let students race the clock while they practice multiplication and division facts, reducing fractions, rounding, math vocabulary and more. Students get immediate feedback on their work, and detailed reports show their progress.

"Part of the difference is our Web version that's used by schools includes a lot of teacher management tools, and the app version gives you problems and tells you if you're right or wrong and adds up the scores at the end. It's almost AnimalWatch light," Beal said.

The [app](#) is now available to the public via [iTunes](#). For the Web version, visit AnimalWatch.org.

More information: animalwatch.org/

Provided by University of Arizona

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