Math Games are Effective Tools for Adaptive Learning by Jim Wheelin

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Adaptive learning recognizes that each student learns at her own pace and in her own way. The role of the teacher is to support the student's efforts so that all are able to reach their potential. This is a complex and challenging task, and the teacher in today's classroom needs appropriate tools to accomplish the goal. One tool that is effective in helping students meet the requirements of the common core state standards in mathematics is an online system of math games that continuously assesses the child's progress and adjusts tasks accordingly.

"Learning Trajectories in Mathematics," a January 2011 research paper published by theÂ Consortium for Policy Research in Education, asserts that instruction must adapt to the student's needs and learning style in order to produce desirable results. Authors Phil Daro, Frederic A. Mosher, and Tom Corcoran emphasize that, instead of selecting able students for success, educators in a standards-based system must constantly assess progress and adjust instruction so that each student experiences success. This is adaptive learning.

The researchers further write that no system or tool can "replace careful attention and timely interventions by a well-trained teacher who understands how children learn mathematics." The alert teacher assesses how well students understand the concepts and processes being studied and provides instruction that helps them to thoroughly master each step before moving on to the next.

The common core state standards provide a useful framework for adaptive learning. The teacher is the person who interprets to students what those standards mean and provides appropriate learning activities. In order to do this, the teacher must understand how children learn math concepts and processes, what points they may struggle with, and interventions that can help them to find successful solutions.

Learning trajectories are attempts to describe the varying paths children may follow to develop mathematics understanding. They have their roots in developmental psychology and developmental neuroscience. The teacher needs to be familiar with these processes in order to provide the kind of help each child needs. A well-informed teacher is able to use technology to reinforce the concepts that have been taught in class.

Combining classroom instruction and a variety of learning experiences with an effective computer-based learning program will help the teacher reach each student at his or her optimal learning level. No teacher can be everywhere at once. With a good system of reinforcing games that provides real-time feedback, the teacher can pinpoint trouble areas and provide support to those children who are having difficulty understanding the concepts being taught.

An advantage of online math game systems is that students are able to continue their mathematics practice at home. In this way, they can reinforce and expand on the lessons they have learned so that they come back to class ready to go on to the next step. The games also help students to develop fluency in the basic math processes.

Fluency in the basic math facts and processes is an essential foundation for higher mathematics learning. In order for students to become fluent, they must practice in a variety of ways to thoroughly master addition, subtraction, multiplication and division. Using math games keeps children engaged and interested so that math becomes an exciting adventure. In the hands of an experienced and well-informed teacher, math games are a very effective teaching tool for adaptive learning.

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Jim Wheelin - About Author:
Jim Wheelin writes about many different educational topics for parents and kids. Recently he has been researching for a math game that can incorporate a adaptive learning. In the future, Jim plans to test out an educational resource such the one offered at a http://www.dreambox.com/adaptive-learning.

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