

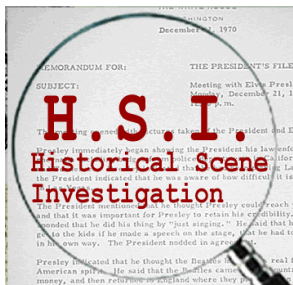
Using Technology in the Elementary Classroom By Marilyn Western

Tech Fun in the Classroom: I Can't Believe What I'm Learning!

Having fun in the classroom can add a special spark to a child's education. And what could be more fun than playing games. Of course, we're talking *educational* games. Although favorites seem to involve lots of shooting, arcades, and races, what really strikes the fancy of elementary students is simulation games. In this article, a simulation game is defined as a learning game that mimics real life in some way – sort of an educational 'reality show'.

Pros and cons

Games – like any tech integration, take time. When considering using a game as part of a unit, explore how long it takes to play the game. You'll have to decide whether the goal is the process of play (emphasis on skills learned) or the outcome of the game (stress on a solved problem or attained goal). Appropriate simulation games should support your curriculum, meet student needs, and be



practical in your classroom environment. For example, the interactive sets of engaging math tools found in the **National Library of Virtual Manipulatives** at <http://nlvm.usu.edu> encourage students to use their knowledge of math principles to solve interesting problems. Each manipulative is related to a national math standard which can be easily applied to our own Michigan GLCEs. Another example can be found at **HSI: Historical Scene Investigation Project** at <http://web.wm.edu/hsi/?svr=www>. Students use primary documents to go beyond textbooks to draw conclusions just as real

historians do. Similar history explorations can be found at **PBS History Detectives** <http://pbskids.org/historydetectives/games/hsi> and **Scholastic's History Mystery** <http://teacher.scholastic.com/histmyst/index.asp>.

With a constantly growing curriculum, I often have difficulty finding time to allow students to synthesize what they've learned. Pulling in wonderful games such as **Design a Planet** at <http://astroventure.arc.nasa.gov/DAP> can allow students to combine information gathered in a unit on the solar system to produce something 'real' – a planet that can sustain human life!



Simulation games are also an excellent way to encourage teamwork. Students can work together (caution: this will NOT be a quiet process!) to solve a problem. A terrific example: **SimCity** http://simcity.ea.com/play/simcity_classic.php (the classic game for online play is free) or **ElectoCity** <http://www.electrocity.co.nz> or for the younger set **City Creator** <http://www.citycreator.com>. All three of these sites allow players to save so they can return to continue play another day. How successful can your

city be when applying what you've learned?

Deciding on the best game

Before presenting to the class, always play the game so you know the game thoroughly and can speak confidently about things to do or avoid. Things you need to know: Can you retrieve a forgotten password? What are the prerequisites – what do students need to know before they can play? What computer skills do students need? Is this game suitable for individuals or groups or both? Is it easy to navigate? Can you save and return tomorrow? What happens if a wrong decision is made? Can you recover? Or is the game over? And the most important thing to look for: Does it support your curriculum? Is the time needed for introducing, instruction & game worth it?

How to use:

There are several ways to put educational games to best use in your classroom. Whether you have enough computers for individual students or just enough to engage small groups, there are three ways to benefit from games which reinforce a unit.

As an introduction to a unit: Set up a game to present new concepts or material, then study the content and refer back to the game at appropriate points. The game strategies and material can be used effectively as prior knowledge. For example, allow students to explore **Fantastic Contraption** at



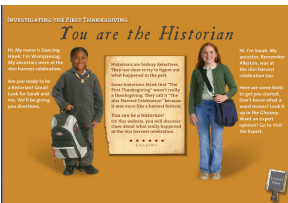
<http://fantasticcontraption.com> - a fun puzzle game which involves exploring physics principles by creating contraptions to solve puzzles. Once students have had a chance to experiment with the tools of this game at the first level, you can discuss the solutions they've come up with and introduce the physics principles and correct terminology. What a fun way to explore and apply a serious subject!

As application/assessment: In this instance, study the content, and then use the game as a way to apply what has been learned. For example, when studying adaptations of fish to their habitats, end the unit with **Build-a-Fish** at <http://sv.berkeley.edu/showcase/flash/fish.html>.

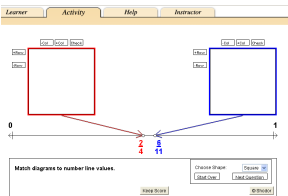


Students can choose a habitat (or be assigned a particular one), select body parts and coloration to encourage survival, and then use the Survive-o-Meter to see how well they've done. Another version is **Virtual Fish Tank** at <http://www.virtualfishtank.com/main.html>. Students can build, modify, and save, then 'release' into their personal fish tank to see how well their fishy survives.

Alternate playing game with activities that extend the learning/game: The third suggested way to use simulation games in to parallel your instruction. The idea is to give students a reason to learn (it will help them in the game). Several excellent examples of online games that will work well with this type of instruction are: **The First Thanksgiving** at http://www.plimoth.org/education/olc/index_js2.html which helps students discover what might really have happened in 1621 from the perspectives of both the Wampanoag and the English colonists through primary resources. Another interactive site is



Shodor <http://www.shodor.org/interactivate>. Click on **Learners Activities** to find a wealth of interactive games. For example, **Fraction Finder** will give students a chance to explore fractions through points on a number line, and areas of a square/circle. In both instances, allow students to start the game, stop at a given point, discuss their strategies, etc., tie to vocabulary and curriculum goals, then return to the game for more practice and application of learning.



More simulations to support your curriculum:

Math games: Lemonade Stand <http://www.coolmath-games.com/lemonade> How much money can you make selling lemonade? You'll have to take many factors into account – the weather, your supplies, pricing, quality control. Good game for small groups.

Multiflyer http://www.brainormous.com/online/loader_multiflyer.html Practice your multiplication facts to guide your space ship through the solar system. Fun way to drill facts – use headphones on this one!

Art games: A Lifetime of Color: Leonardo's Workshop

<http://www.alifetimeofcolor.com/play/leonardo/index.html> Time machine, missing art work, Leonardo da Vinci. What a combination! Excellent learning experience for good readers.

Find more good art adventures at **A Lifetime of Color** <http://www.alifetimeofcolor.com/main.taf?p=4>

A. Pintura: The Case of Grandpa's Painting <http://eduweb.com/pintura/a1.html> Another good mystery detective choose-your-own-adventure story that involves famous artists, subject, composition, and style.

Science games: **ARKive Educational Games** <http://www.arkiveeducation.org/games.html> An intriguing collection of games in which students help a male spider from getting eaten by a female spider in **Tripwire of Terror**, keep a sand lizard alive in **Animal Survival**, build a habitat for a ferret in **Design a Habitat**, and more.

A Little of Everything games: Can't do an article about games in the classroom without mentioning the fabulous **Mr. Nussbaum** site at <http://www.mrnussbaum.com>. Click on the **Games** tab for a plethora of good education. Try **Tony Fraction's Pizza Shop** (use fractions to apply toppings correctly and fill as many pizza orders as possible in five minutes) or the **Garage Sale Wizard** (use your coin counting skills) or play **Teacher Dodgeball** (yeah – I know. But the kids LOVE it!). And that's just the Math section! Bonanza!!! The site is free, but for \$18.00/year, you can have access to the Premium site which gives you fantastic teacher stuff – recorded game scores, ability to make quizzes, manage a gradebook, send assignment sheets, and more. Worth looking at.

Marilyn Western is the 2008 MACUL Teacher of the Year, and works in Mt. Pleasant as a 5th grade computer lab teacher and as the Mt. Pleasant K-12 Instructional Technology Consultant. She is also a former member of the MACUL Board of Directors, an MTIP Scholar, and a TAPS winner. Outside of the classroom, she has worked as the 1998-99 MDE Technology Using Educator on Loan, an ATA, FTL, and MI Champions course designer and instructor, a technology trainer for Gratiot Isabella RESD and Clare Gladwin RESD, a national presenter for the Bureau of Education & Research, and a district Tech Guru.