

STORYLINES THAT INSPIRE CREATIVE CONSTRUCTIONISM

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Abstract

This poster display will explore one way to get students to feel as passionate about creative building as they do about computer games. Our strategy is to present a challenge to use technology creatively embedded in a dramatic, computer game-like storyline that hooks students. Computer games that inspire passion tend to be epic, interactive, social, playful, full of fantasy, relevant to a kid's interests, and most importantly, 'way cool.' A collection of playful, hardware and software projects inspired by challenges embedded in Build-It-Yourself storylines will be on display. These computer game-like storylines will be presented in video format at: <http://www.youtube.com/user/BIYSupport>



The global economy is tanking!
Build a machine that sets the economy straight and earns a fortune. 25¢ to kiss the most handsome robot on the planet!



It takes way too long to get to school!
Build a flying machine that gets you to school in 1 minute. You'll have more time to play computer games!



Nasty wars are often the result of prejudices.
Animate a story using Scratch that convinces the world that not all dragons are mean!

(Figure 1 – Multimedia Storylines)

The Build-It-Yourself program is driven by technology-in-education research at the MIT Media Lab, especially: Beyond Black Boxes, Scratch and the LEGO® Mindstorms™ platform.

Keywords: robotics, project-based learning, construction systems, creativity, toys

1. Introduction

Try to put yourself in a kid's shoes and think ... What would I rather do:

- 1) Solve this homework problem? Or...
- 2) Play out this computer game challenge?

Perhaps one answer is that many computer games start with a storyline that stimulates the imagination whereas school assignments often DO NOT start with storylines that trigger fantasies or creative thinking. The projects demonstrated in this display are solutions to challenges embedded in storylines that are modeled after computer game trailers. The storylines focus on a relevant social issue such as the economy, politics, pollution, war. Each storyline has a challenge to use technology to solve the problem. The storylines contain exaggerations, are interactive and social, and encourage individual, creative solutions as opposed to a single 'correct' solution.

2. Method

A storyline is presented, and students are encouraged to debate, modify or embellish the storyline based on personal interests. Students document the problem and define the mission in their lab books. At the end of a project, students present the problem and their solution in a video.

2.1 Economic Chaos Storyline:

The global economy is in trouble. Too many greedy capitalists and too many lazy socialists. Your mission is to build a machine that provides a service, sets the economy straight and earns a fortune. Max built a chance candy machine that earned \$37.50 (after expenses and taxes.)

2.2 It Takes Too Much Time To Get to School Storyline:

Typically, it takes 15 minutes to bus to school. That's 30 minutes a day, 85 hours a year. What if you could get you to school in 1 minute? How much extra time would you have to play computer games? Your mission is to build a flying machine model that could get you to school in 1 minute.

2.3 Mother of All Wars Storyline:

Oh no! Another nasty war started ... the result of illogical prejudices. Imagine if you were a peace-loving dragon but everyone was trying to slay you because everyone thinks all dragons are mean. Eventually you may get angry and fight back. Your mission is to write and animate (using Power Point and Scratch) a dragon story that convinces people that not all dragons are evil.

3. Outcomes

We have no test scores to measure the success of this approach. We do know, however, that parents will pay twice as much per hour to enroll a student in a Build-It-Yourself program as it costs for traditional education. We know that over 30% of our students continue to work on our projects on their own time at their own initiative, and over 70% of our revenue is from repeat customers.