

Running Head: WEB DESIGN FIREWORKS

Fireworks: A Platform for Teaching Web Design

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## About Algebasics.com

Often times a textbook is left at school, misplaced or even worse, does not have enough examples or examples that a student can follow. With the development of the Internet students have begin to rely, increasingly, on the tools of the World Wide Web. Students rely on math-based websites for tutorials, practice problems and assistance in remembering basic procedures. Most commonly, students are seeking a teacher to walk them through the steps, just as a teacher has done in the classroom.

Algebasics.com is designed for Algebra One students and beginning Algebra Two students. The website covers basic content such as adding and subtracting rational numbers, combining like terms, and order of operations. Once a foundation is laid, Algebasics.com covers solving equations, up through multi-step equations, ratio and proportion, inequalities, absolute value, exponents, polynomials, factoring, rational expressions, rational equations, linear equations, functions, systems of linear equations, radicals, quadratics and algebraic applications.

Within each of the sections, Algebasics.com provides video tutorials, which can be paused at various points, led by a teacher. Each video lists a series of steps along with a sample problem that the teacher works through, highlighting aspects of the problem which are being discussed and expressing a final solution. The student user can repeat any portion of each tutorial by simply moving the mouse to the part of the tutorial to be viewed.

## Background

Aside from teaching mathematics, I also teach web design and computer gaming to students. Given that I am the only teacher for each of these subjects I currently create the curriculum. In addition, while this was my first year to teach these classes I relied heavily on my design background and foray into developing pleasing websites to set the general layout of the course. The details of the course came from student feedback and misconceptions about the programs being used.

I begin each semester with using Fireworks to teach about the layout and design elements without puzzling students with HTML coding. My first step is to allow students to play with the program and become a bit more acclimated with it. This often means that students can use the airbrush tool to draw and the eraser to remove content. However, this tends to be the extent of the knowledge about the program. Once students have become familiar with the aspects of the program the course begins to discuss layout, format, and design elements. Finally, upon successful completion students begin to use Adobe Dreamweaver to incorporate HTML code.

## Misconceptions

Students often fall short of understanding the power of Fireworks viewing it as a Paint substitute. They can often properly utilize the paint brush tools, paint bucket and eraser. However, students believe that the only way to remove content is to use the eraser, at varying pixelations. In addition students try to create all content using the paintbrush

tool, not understanding how to use the shapes tool properly. Once a student does become able to create shapes, they believe that a circle cannot be formed, merely an ellipse. Aside from the design elements of a website, students believe that the design must somehow be exported into Dreamweaver to create links rather than creating hyperlinks within Fireworks.

### Teaching to Student Misconceptions

While there are how-to books, Fireworks for Dummies, web tutorials and the help menu within Fireworks, students would have to know what they are looking for and be motivated to learn about the program to use such tools effectively. As a result, I rely on the website <http://www.playingwithfire.com>. At Playing with Fire, students can learn about the multiple shapes tools within fireworks and how to create your own shapes using grids and manipulating lines, types of finishes and alterations to presentation, appropriate color adjustment, tips about the tools and stimulating design elements. Each of these aspects of Fireworks is enhanced with a project for the student to complete, walking them through the steps.

Once the student is able to create a visually appealing design I teach the students how to create links to other pages and content. This is a teacher instructed aspect in the curriculum.

## Analysis of Instructional Plan

By providing a website for students to utilize to investigate to learn about Fireworks, students are engaging in guided discovery. Guided discovery is a method by which a student is given a problem to solve, understanding an aspect of Fireworks, and the teacher provides hints and directions about how to solve the problem to keep the student on track, directions on the website with a teacher present to answer further questions. (Mayer, 307) By using a guided discovery approach, students tend to have better long-term retention and transfer than when I teach them how to create a hyperlink by purely walking them through the steps. (Mayer, 310) Students using the website are still required to search through the program to find key components and aspects of specific tools.

In the case of teaching students about the creating links within Fireworks, I am engaging in expository instruction. In this case, the teacher provides the information without reason or logic behind how links works. Unless the students is invested in learning about how files are stores on the computer and how a site reads this information, students will not be encouraged to think actively about the information being process, often resulting in a shorter retention period.

## Reference

Mayer, Richard E. (2008). *Learning and Instruction*. (2nd ed.). Columbus: Pearson Merrill  
Prentice Hall.

Playing with Fire. Retrieved May 14, 2009 from <http://www.playingwithfire.com>