

Appropriate Use of Web Materials in Math Classes

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It is well known that many students across the country are intimidated by mathematics and therefore are doing very poorly in mathematics. One of the reasons is that the abstraction, the logic thinking and the complex jargon involved in math make it very difficult for students to understand the basic concepts. Many students struggle during the traditional (lecture and text based) process of learning math because they do not have a clear mental picture of what is going on. Graphics and interactive computer programs can be very useful in introducing the mathematical concepts visually when they are discussed in class because students have the relevant pictures and processes in mind.

We believe that the use of technologies in classrooms should be appropriate to achieve the maximum benefit. Web materials should not be just electronic copies of textbooks or electronic copies of lecture notes.

My colleague, Dr. Michael Gallis, and I have been creating graphics, animations and interactive programs for math classes and have put them on the internet for public use: <http://phys23p.sl.psu.edu/~mrg3/mathanim/vmath.html>. Instructors and students all over the world with internet access and a web browser can use them without the need of any special program.

We have also searched on the internet for years and bookmarked sites that contain the mathematical material for different courses. In our classes, we integrate the materials from our web page and from other's web pages into traditional teaching. The animations, interactive graphics are used only

to better demonstrate the mathematical concepts and procedures. We think this is the best way of integrating technologies in mathematics education.