

Technology controversy in classrooms

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The bell rings, the pencils are sharpened, the paper is ready and the average day for a mathematics classroom begins; with the exception of one group. While the rest of the school takes notes, Alex Chang (10) walks to the Media center with his Calculus D/Linear Algebra class, to enjoy learning with the full advantages modern technology has to offer.

Chang sits in front of a monitor and watches as Advanced Topics and Calculus teacher Abby Brown teaches how to graph functions on the program Mathematica.

"Calc D is a 3-D calculus and it's really hard to imagine," Chang said. "We use Mathematica because it allows us to draw the surfaces and make them a lot easier to understand." While Chang believes in the necessity of such programs in schools, the government is beginning to have doubts.

A study released March 4 on the effectiveness of education software, conducted by the National Center for Education and Regional Assistance, a research agency for the Education Department, revealed that student

achievement scores in classrooms with and without technology did not differ.

This study pulls into question whether schools should receive funding for such programs. Chang, however, feels differently.

"[The class] would be extremely difficult [without technology]," said Chang. "I can say that much visualizing it is a very important part of it."

The study is a part of a move by Congress to improve test scores through the No Child Left Behind Act. In a nationwide sample of 132 elementary schools, teachers were provided with software that assisted in teaching students.

Seeking conclusive results, Congress has established a follow-up study to see if scores would improve as instructors grew familiar with the programs. If the future results are negative, funding for such programs could possibly cease. Brown strongly believes in programs such as Mathematica.

"With computers, it is so much more accessible for students and it changes the types of discussions we have," said Brown. "We can focus more on concepts rather than the steps we need to take to get the answers." Brown has

recently launched a Web site, www.Mathematicclub.com, that shows her classes' progress, as they engage in projects using pre-released software.

In other classes such software may not be necessary.

"I think that computers have a lot of potential and that it should be actively used instead of just to replace a textbook," Brown said. "There a lot of programs that are pretty much just Electronic Flashcards."

Other classrooms using less advanced software may be the ones facing the cuts. Alan Silberstein (9) occasionally visits the computer lab with his biology class to complete experiments using Glencoe software system.

"We use it three to five times per semester," said Silberstein. "Since we are usually forced to read it, instead of [the teacher] just telling, I can remember it better [with the software]."

Silberstein does not use the software as frequently as the students in the trial experiment do, and thus the two cannot be compared unless his class uses the software to a much higher degree.

However, Silberstein feels that an increase in the use of

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ANCIENT CONCEPTS WITH MODERN MACHINES: Abby Brown explains the rotations of a surface using the program Mathematica. While other classrooms do not have this capability, Brown frequently uses the program to visually demonstrate abstract concepts to her advanced topics class.

software would result in little improvement.

"It would be more helpful, it's more fun," said Silberstein "I don't think I would do better."

But while Silberstein uses programs for biology experiments and Chang creates 3-D models,

future legislation will determine what technology can receive funding and what should be exempt.

As modern science progresses, classrooms are being forced to choose whether to incorporate new software into their curriculum

or to continue using teaching methods unchanged since the 1960s.

While society decides on the legislation, Chang and his classmates will look forward as mathematics becomes less of a concept and more of a reality.