

Evening the Odds

In golf a handicap is given to a player who is not as skilled as his or her opponent. This makes the odds of winning more even.

This column describes how computers can help handicapped children win in the game of education. If we substitute the phrase "not as skilled" for the word *handicapped*, I think we'll be better equipped to discuss the matter.

For the moment, forget about computers. If you had unlimited resources—both financial and human—how would you address the challenge of integrating handicapped students—students not as skilled—into the mainstream of your classes?

Probably you would increase the one-on-one time you spent with such a student. You would make fewer assumptions about what he or she did or didn't already comprehend. You might structure your program to match your student's abilities.

If your student couldn't see, you might read assignments aloud. If hearing was the problem, you might make your presentations visual. In other words, you would adjust your teaching techniques to exploit areas in which your student excelled.

You might even increase your positive stroking and suppress the natural tendency to criticize in order to build your student's self-confidence. And you would strive to be as patient as humanly possible, realizing that the not-as-skilled student might have difficulty meeting normal expectations.

Computers, as it turns out, can be programmed to simulate many of the attitudes and functions described above. Their one-on-one capabilities are a matter of record. In fact, in some ways they excel humans in this department! When it comes to making decisions about what a student does or doesn't comprehend, computers stick to test and quiz results—personal opinions don't influence the computer's assessment of actual skill level.

The same holds true for pacing a program to a student's learning curve. Computers generally can adjust more quickly and stay closer to a student's learning abilities in a given subject than can their human counterparts.

When it comes to offsetting physical barriers to learning, computer capabilities border on the miraculous. Nowadays computers can read library books out loud to

the blind or visually impaired. An Apple program translates Braille to English and vice versa. All kinds of devices have been invented to allow students without arms and hands to interact with computers. Perhaps the most amazing are voice recognition systems. Students simply say what they want and their computers understand and comply.

Computers can even help paraplegics walk and ride bicycles by electrifying the nerves that send signals to muscles.

If computers can help with such a variety of problems, why doesn't every school have an array of magical, miraculous software and hardware to accommodate the needs of its not-as-skilled students?

Very simply, money. Software and peripherals to aid the handicapped are some of the most expensive on the market. The computer that reads library books costs more than \$30,000. Really good educational software for "normal" students costs as much as \$1,000 for a module. A complete course for just one grade level consists of 6 to 10 modules! When software is written specifically for a very small market, the price per copy skyrockets.

There is a possible solution: Because of the way Adventist educational institutions are organized, it might be possible for a conference or union to invest in specific computer programs and/or peripherals to loan or rent to the schools that have not-as-skilled students.

In this way, programs that are useful in particular situations could be made available without each school having to buy expensive equipment or software that might ordinarily go unused for years at a time.

A second suggestion would be for our colleges that teach programming and engineering to assign students the challenge of developing special-interest programs specifically designed to augment and assist special learning situations. As this software library grew, many of the voids that currently exist could be filled.

It's not an easy problem to solve—but solutions are available. Here's where doing unto others as you would have them do unto you takes on a special significance. —Dave Ruskjer. □

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