

Should K-12 physical educators make more use of technology in their classes?

The answer is a resounding yes! But not at the expense of their content. Given the many projects and presentations done on the computer, and the mobility of physical education classes, physical education departments should have an LCD video projector and a laptop computer (with internet access). The projector is needed for multimedia presentations and for any projects with digital images incorporated in the P.E. class. This would allow the entire class to view the work in the gym or designated P.E. area. The use of this equipment will enhance learning and empower students to take more responsibility for their learning. Students can create projects and then present them to the entire class using the projector. Proper use of the equipment would also add credibility and professionalism to the curriculum. Besides using this equipment in class, it would be an excellent resource to have for use at extracurricular functions as well (e.g., an open house). Health and physical educators would be able to show parents firsthand what their children are doing in the class, in addition to presenting outstanding student projects. Internet-based lessons and CD-ROM or DVD applications are another fantastic addition to instruction. Physical education departments are very mobile, moving from the classroom to the gymnasium to the outdoors. The flexibility that a laptop computer provides would allow the educator to show presentations the classroom. Learning could become enhanced, for instance, if a digital camera or camcorder is used, because the images could be downloaded for

immediate feedback about performance of skills or activities.

Another exciting technological innovation available for physical education is the heart-rate monitor, which allows teachers to measure student performance in class. With the latest technology, heart-monitor data can be downloaded to a computer, generating a printout of the students' results. These objective data provide immediate, measurable results for grading and for information on instruction and class organization. You can also use the feedback to answer the all-important question, "Am I providing enough class time for students to be active?" Instruction can also be individualized, which will provide the greatest benefit for the students. They will be able to concentrate on improving their own health and fitness levels. When taking into account the potential impact of this equipment on student commitment to a lifetime of health and fitness, the economic cost is minimal. Students will be more motivated, knowing that they will be benefiting directly from their P.E. program. This, in turn, promotes greater credibility and respect from the community as a whole for the physical education curriculum. The benefits received over the years from the use of technology far outweigh the costs. Out of reach for a P.E. budget? You bet, but well within reach for a technology budget!

—Debra A. Ogden, Instructional Services Coordinator, Collier County Public Schools, Naples, FL 34104.

No! We have become a society of watchers. We watch TV.

We watch the computer. We watch sporting events. We view movement activities as something we do while watching TV at the fitness center. Physical educators should teach students to enjoy movement activities. Enjoyment of movement is the basis for lifelong movement activities. Movement activity does not take place in a vacuum; it takes place in the world. This world we live in is a wonderful place. The sky, the wind, the trees are all part of the movement experience. The joy of the environment in which the movement experience takes place must be instilled in our students. This joy seems cheapened when people need heart-rate monitors to make sure they are in their optimal training zone. Just move, and enjoy the experience.

—Tim Stanley, graduate student, University of Utah, Department of Exercise and Sport Science, Salt Lake City, UT 84112.

As more and more schools achieve Internet capabilities, and as educational technology discourse increasingly promotes the necessity of technological competence, educators have been exploring ways to use—and rationalize the use of—computer-based learning. Along with the other disciplines, physical education prepares students for lifelong education and for "the global competitive marketplace." There are various uses for technology in physical education; besides the assessment and instructional functions, it is a great resource for communication and understanding of curricular content. Some computer-based programs emphasize

individual skills and fitness and identify stages in that development. These innovations help students realize the connection between learning, thinking, and physical activity. Progressive physical educators embrace technology for a plethora of reasons. For some, it is personal growth and interest. For example, a website that promotes a physical education program to students, parents, administrators, and colleagues also serves as well-intentioned and informed validation of the teacher's philosophy and praxis. Computer-based projects offer a great deal in terms of broadening the curriculum and tapping into a creative way for learning and communication to occur.

—Shannon Holligan, Ed.D. student, Physical Education Curriculum and Teaching, Teachers College, Columbia University.

Physical education is an important part of motor development. It also teaches the importance of life-long fitness. According to the Centers for Disease Control and Prevention, over 15 percent of the population is considered obese in 44 states. The little time that we make in the day for physical activity is important and should not be limited by more computer games and videos. The use of such technology to demonstrate a new task or teach about health and fitness should be limited during physical education classes. Occasionally it is helpful or important to use technology to enhance learning, but I believe that this should be saved for health class. In many schools, P.E. is limited to one or two days a week; we should not be cutting into this already shortened time by having students sit at a desk for another hour of the day. This only teaches them that it is all right to sit in front of a television and watch a soccer game rather than play. It leads them to believe that they are getting the same benefits of exercising by watching. Students should participate in physical activity, not watch it. They need to be taught healthy habits that will stay with them for a lifetime.

—Atsushi Hashimoto, student, Sonoma State University, Rohnert Park, CA 94928.

Over the last 20 years, we have witnessed the influence of technology on every aspect of our life. Computers, answering machines, CD players, and video-game machines are found in many American homes. Even our public libraries are outfitted to support the new wave of the World Wide Web. Words like "DVD," "digital," "remote access," and "e-mail" are not unfamiliar to kids. The use of more technology in the classroom or on the playing field by physical educators would not only help them keep up with the changing times, but also add a learning tool to the classroom setting. Palm pilots, heart-rate monitors, e-based fitness-tracking programs, and virtual trainers are all potentially useful, but most often all too costly. A learning environment can be greatly enhanced through the simple use of software already found on most household computers, without adding cost. Spreadsheets, databases, or handouts with graphics are simple tools that can add great value to the classroom. The key is to apply technology to even the small tasks.

—Diana Paine, student, Sonoma State University, Rohnert Park, CA 94928.

At the university where I teach, there was a "brown bag" lunch-time lecture series this past fall that highlighted ways in which technology affects teaching and learning. A professor of health studies who has taught a "Drugs and Society" class completely on-line since the summer of 1998 was one of the featured speakers. Information on this series is available at www.eiu.edu/ceps/techshare.

While the opportunities for technology to affect physical education are legion, practical realities remind us to be circumspect. For example, in my community, several of the schools have a gymnasium that doubles as a cafeteria. The prospect of computers being installed in such a setting

seems more futuristic than feasible. Nevertheless, the positive aspects of the Internet are so overwhelmingly attractive that technology-driven learning processes are the wave of the present, not the future.

—Scott A. G. M. Crawford, professor, College of Education and Professional Studies, Eastern Illinois University, Charleston, IL 61920.

Now more than ever, physical educators have the opportunity to use technology to enhance the meaning of their classes for students and increase the effectiveness of their teaching. There are many new tools available that can be used to analyze things such as feedback, time on task, classroom management, and student achievement. It is important that we use these tools to improve physical education for the sake of our students. Most of the literature indicates that young people today are more unhealthy than ever. The grassroots solution to this problem is physical education. Current studies, however, show that physical education is largely ineffective in dealing

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with this problem. Technology could help physical educators find ways to improve their teaching. The use of technology can also help pull physical education out of the shadows of other disciplines and solidify the importance of our discipline in schools. If we take the initiative to accurately measure our effectiveness and share this information with administrators, we would help to promote sound physical education in our schools.

—David Gatti, physical educator, Hillcrest Junior High, Murray, UT.

A resounding yes: technology, when used as a teaching tool, has many benefits that can enhance student learning in physical education. One type of technology is the heart-rate monitor (HRM). HRMs allow students to personalize their own target heart-rate zones based on the given activity. Using HRMs encourages students to focus on their own physical activity goals instead of comparing their ability to other students in the class. Another useful tool is FITNESSGRAM, which allows students to record and maintain their own fitness data.

Implementing technology in a physical education program can be a challenge for teachers. Funding for software and hardware can be costly, especially for programs that have difficulty keeping up maintenance on

bats and balls. Overall, technology can enable teachers to create more developmentally appropriate environments for their students as well as promote more student autonomy during skill learning. Technology can be a great asset to any physical education program.

—Susan Brown, graduate student, School of Physical Activity and Educational Services, Ohio State University, Columbus, OH 43201.

The answer to this question depends on what type of technology we are talking about. If technology means better designs for safety equipment, playground apparatus, and sports equipment, then the answer is yes. I think that there is always room for improvement, and technology often makes things safer or more easy to use. More technology could also be put to good use in designing activities and keeping injury reports for each student in the class. With this type of technology, P.E. teachers would be able to tailor activities to students who are overweight, who have special motor/developmental needs, and so on. They would also be able to keep an accurate record of student injuries, which will make regular injury check-ups a lot easier. However, if technology requires us to change good old-fashioned exercise and sport involvement into some-

thing very different than what it is today, then the answer is *no*. There is no substitute for regular involvement in such activities.

—Will Kneeland, athletic training major, Sonoma State University, Rohnert Park, CA 94928.

Technological innovation has enhanced teaching and learning in the educational setting. The classroom/gymnasium is a prime location in which to capitalize on these advancements. Numerous software programs are available that specifically target the field of physical education. The FITNESSGRAM, for example, provides teachers with the opportunity to test their students and generate computer readouts of their fitness level. Students then can work on areas that need improvement. In addition, the FITNESSGRAM motivates teachers to engage their students in moderate-to-vigorous activity throughout the school year. If teachers are successful, the results of the FITNESSGRAM will improve.

Pedometers are another technological advancement that directly influences good teaching. Teachers can record steps taken during class and use this information to motivate students to become more active during physical education class. Physical education is a field in which technological innovations are evident and needed. The FITNESSGRAM and pedometer are two noteworthy examples that support the notion that physical education specialists should make use of technology in their classes.

—Alison Taylor, doctoral student, University of Utah, Salt Lake City, UT 84112.

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