Physical education is at a crossroads in the 21st century. With government mandates related to the No Child Left Behind Act (U.S. Department of Education, 2001) emphasizing core subjects, such as math and literacy, non-core subjects have been deemphasized. The most recent *Shape of the Nation Report* (National Association for Sport and Physical Education & American Heart Association, 2012) showed that 28 states allow physical education waivers and only 6 require physical education in every grade. Despite continued reductions, evidence indicates that physical activity provides a wealth of benefits to children, including the development of healthy life habits, improved concentration, healthier bone development, improved classroom behavior, increased graduation rates, and higher educational aspirations (Bailey et al., 2009). Further, more time in physical education does not have a negative effect on learning in other subjects and reduces the likelihood for childhood obesity (Cawley, Frisvoldc, & Meyerhoeferd, 2013). Although findings such as these are encouraging, physical education teachers must be able to demonstrate program outcomes in a meaningful way. Advances in educational technology provide several viable approaches to collecting and communicating this evidence.
Supporting Physical Education through Technology

Physical education teachers have traditionally relied on observations as a primary method of assessment in determining student activity levels. However, recent advances in physical activity technology provide more valid and reliable measurements that can help document student performance. Armed with data gathered through technology, physical education teachers become better equipped when trying to convince various stakeholders — including students, parents, colleagues, and administrators — of the merits of a quality physical education program. For example, heart-rate monitors serve as one tool to objectively assess student effort. Companies such as Polar Electro (http://www.polar.com/us-en/b2b_products/physical_education) and Interactive Health Technologies (http://ihtusa.com) provide services that collect and track physical effort for physical education assessment. Heart-rate technology can be used to help students set fitness goals and show how to create personalized fitness plans that optimize activity time.

Mobile devices, such as iPads, provide another vehicle to implement technology in physical education. Many applications deliver content and assist with teaching. For example, classroom management, lesson plans, student data, and other types of information can be managed with an iPad. Another impressive use of iPads is the capture and replay of video clips. Teachers can videotape student performances and then replay the video to show students the skills elements they are performing correctly and those elements that require improvement. Videos can also be used to highlight students who are successful at a particular task, which can positively reinforce student behavior. The next section highlights how two physical education teachers have made technology a cornerstone of their programs.

Profiles: Physical Educators Who Apply Technology in Their Programs

Mr. Rick Schupbach is an elementary physical educator at the PE4Life Academy in Grundy Center, IA, who infuses technology into the classroom. Throughout his career, Schupbach utilized a variety of heart-rate monitors and activity watches to objectively assess students. He also implemented the use of a pocket PC to assess students on all fitness tests and skill rubrics, which allows for the seamless generation of student activity reports. Additionally, Mr. Schupbach utilizes a projector to display key concepts, skill cues, and videos to model the lessons. One example is the use of an instant activity, which uses a timed PowerPoint presentation that is coordinated with music. Groups of students participate in the posted activity for 50 seconds and then have 10 seconds to transition to the next activity as the slide changes.

Another great example of a physical educator using technology in the classroom is Mr. Brian Carr, who teaches at Burris Laboratory School in Muncie, IN. After learning about different methods for integrating technology throughout his career, Mr. Carr sought out and received funding from a local grant to purchase heart-rate monitors for his program. Every student at Burris has access to an iPad, so Mr. Carr has also integrated iPads into his curriculum. Students use iPads to record and receive immediate feedback on their skill development and to document their learning. Students also use their iPads to create videos that highlight activities and information learned in physical education. These videos are natural ways to create positive exposure for a program. Mr. Carr’s gymnasium also features a projection system, which adds a visual element to his verbal instruction.

Concluding Thoughts

Technology has the potential to facilitate more effective instruction in physical education and to provide physical educators with key pieces of information that can be used in advocacy efforts. Educators can efficiently summarize student performance records through tables and graphs to help key stakeholders understand the impact of a quality physical education program. Student performance videos can be shown during school board meetings, parent/teacher conferences, and assemblies to demonstrate the variety of activities offered through physical education. Teachers can also conduct video interviews to document students’ impressions of physical education and learning.

Despite the potential impact of technology, school funding is often limited and — because of the expense — some physical education teachers may perceive that they are unable to integrate technology as outlined in this article. Teachers must pursue creative ways to fund programming needs beyond their typical school allocations. Technology funds are often available within school district budgets. If physical education teachers can properly demonstrate a need for the requested equipment, this type of funding may be used to assist in technology purchases. Parent organizations are another potential opportunity. Again, these organizations often require the applicant to provide a rationale for use of the funds. Grants through local and state associations (such as state Associations for Health, Physical Education, Recreation and Dance) and national grants (such as the Carole M. White Physical Education Program Grant) are available and can provide supplemental funding. Finally, teachers who are near a college or university can create partnerships that support technology integration and help bridge the gap between schools and institutions of higher education. In sum, funding opportunities are available, but teachers need to seek them out and be willing to apply for them. When funding can be procured, technology can substantially impact instructional practice and provide teachers with key resources to aid in the advocacy process.

References


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