Contribution of Technology and Innovation in Physical Education

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Current Technology Trends in Physical Education and the Advantages

Internationally, physical education has struggled to break free from the shackles of physical training (Kirk, 2010; Tinning, 2010) and traditional ideas about physical competencies (Kirk, 2010; Laker, 2002). The use of technology is an important effect of mediation between the discipline and the student, helping to change the ways of learning, developing the intrinsic motivation and the metacognition. The most important technologies used in schools (video recording and personal computers) have determined a re-setting of knowledge and have emerged new areas of intervention in each area in relation to the essential disciplinary themes (Kretschmann, 2015). Every generation has very different characteristics than the generation before them. Just as technology is always changing, it is now changing how students learn and also how they are taught. In order to keep up with the changes in technology and educate the iGeneration, teachers must be able to adapt. The iGeneration also given this name because the amount of Apple "i" products, such as the iPod or the iPhone, that this generation uses (Rosen, 2011). Some would argue that there is no need for fancy gadgets to be used in a Physical Education (PE) class because students have never needed them in the past. This is more of a reason to bring in new ideas, especially since student obesity rates are rising at younger ages and getting students engaged in physical activity is becoming increasingly more difficult. These gadgets that the students are already addicted to can be a bridge to their engagement in physical activity and consequently, they may become more active their whole lives.

Many different forms of technology can be used to improve a lesson and get students engaged (Myrum, Deutsch, & Christianson, 2012). Some examples of popular items for physical education classes are pedometers, heart rate monitors, video game consoles, fitness bands, tablets, apps, and even websites such as YouTube. The first main point is that the educator must make sure the technology is actually beneficial for the students learning; if not, then it is a waste of time and money.

Pedometers and fitness bands are great for the iGeneration because students would be able to see the number of steps that they have taken throughout the class or even the day. Depending upon how advanced the fitness bands are, the students would be able to check their calories burned or heart rate while participating in an activity. This feedback gives students a feeling of instant gratification in relation to what they are doing and could lead to students being more engaged because they can see the outcome easily.

Prior research has shown that using technology (heart rate monitors, pedometers, apps) can increase activity in physical education (Clapham et al., 2015; Duncan, Birch, & Woodfield, 2012) and increase student learning (Woods, GocKarp, & Hui, 2008). Teachers need to learn and practice teaching skills in a context as similar as possible to the one they will teach in later. For example, using exercise equipment to assess physical activity (e.g., accelerometers, iPads, heart rate monitors, pedometers, interactive dance machines), body composition (e.g., bioelectrical impedance devices, electronic skinfold callipers), and video analysis equipment used for analysing movement and motor skill performance. Physical education programs need to integrate technology, and physical educators need to think creatively for opportunities to integrate technology to create enriching learning experiences for their students (Pyle & Esslinger, 2014).