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# IMPACT OF TECHNOLOGY IN PHYSICAL EDUCATION: A SURVEY

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**ABSTRACT**
The goal of this study was to evaluate the efficacy of using technology in physical education while also looking at how teachers reacted to the change. With statistically substantial gains in skill execution, technique, and information development, as well as the highest amount of practise, technology had the most positive overall results. Nonetheless, although admitting the value of technology as an instructional tool, the teacher felt overwhelmed by the demands of technology on both his time and his own technology skills.

**Keywords:, athletics, physical education,skill execution , technique**

## I. INTRODUCTION

Technology has two sides to it. Computers encourage sedentary leisure activities (e.g., playing sedentary computer games). Technology, on the other hand, has been utilised to encourage physical activity and improve exercise habits. For years, people have utilised pedometers, accelerometers, and heart rate monitors as motivational aids. The global positioning system (GPS), geographic information systems (GIS), interactive video games, and persuasive technology are some of the newer technologies and methodologies being utilised to promote physical exercise. Clinicians should also utilise Internet-based physical activity treatments to encourage and improve exercise habit, according to experts (Marcus, Ciccolo, and Sciamanna 2009). By emphasising on the micro analysis of skill development so frequently in PE, it may have reinforced the "physical education as sport" notion, creating the sense that this was the subject's sole viable use. Perhaps in a Sport Medicine or Exercise Physiology class. However, both the world and the subject of Physical Education are far more complicated than that. For a variety of reasons, from a shortage of equipment to keeping children involved, teaching physical education may be difficult. To address these issues, some instructors are utilising technology to develop more dynamic programmes that cater to students of different fitness levels.

## II. PEDOMETERS

When it comes to technology and physical activity, pedometers are undoubtedly one of the first instances that spring to mind. Step counting is one of the simplest ways to track physical activity, and pedometers may be used by people of all ages. Another advantage of utilising pedometers is that they may be utilised for a range of activities, such as housework or scavenger hunts. When using pedometers and heart rate monitors, keep in mind that goal rates fluctuate for children of various skills and activity levels, so plan appropriately. Pedometers keep track of how many

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steps you walk throughout the day. Most pedometers accurately calculate steps taken during ambulatory activities including walking, jogging, and running. Estimates of walking distance and calorie consumption are less precise. Some newer devices also calculate the total amount of time spent walking at a moderate effort for periods of 10 minutes or more. Most pedometers require a tight waistline to produce accurate step counts; however, others can be carried in a shirt pocket, a jeans pocket, or a bag kept close to the bodyWhen the pedometer is placed on the waistband (sides and back), in a shirt pocket, or around the neck, studies show that it provides a valid (bias 3%) and reliable (coefficient of variation 2.1%) measure of steps during constant- and variable-speed walking for both healthy and overweight adults; however, placing the pedometer in a pants pocket or in a backpack decreases accuracy (Hasson et al. 2009; Holbrook, Barreira, and Kang 2009). Walking using a pedometer has been shown to boost physical activity in studies (Williams et al. 2008). Bravata and colleagues (2007) revealed that, on average, pedometer users improve their physical activity by 27% over baseline levels in a review of research on the use of pedometers to increase physical activity. Setting a step target (e.g., 10,000 steps per day) for participants is a critical predictor of increased physical activity. Walking programmes using pedometers have been linked to significant reductions in BMI, body weight, and systolic blood pressure (Bravata et al. 2007; Richardson et al. 2008). Pedometers were used to define thresholds for the health advantages of walking. The health benefit threshold is 30 minutes of moderate physical activity, which is comparable to accumulating 8000 to 9000 steps per day at a pace of no less than 100 steps•min1. It is advised that you walk 11,000 to 13,000 steps each day to lose weight. Youth-specific standards for excellent health are being defined using criterion-referenced techniques. Minimal daily step counts may be utilised in the future to determine health risk thresholds for cardiovascular disease, obesity, and osteoporosis. Table 3.4 shows how physical activity levels for adults and children are classified depending on the number of steps done each day (Tudor-Locke et al. 2005, 2008). There is more information available concerning the validity and accuracy of pedometers (Holbrook, Barreira, and Kang 2009; Lamonte, Ainsworth, and Reis 2006; Tudor-Locke et al. 2002, 2006).

## III. ACCELEROMETERS

Accelerometers capture minute-by-minute body acceleration, providing extensive information on movement frequency, duration, intensity, and patterns. Accelerometer counts are used to calculate energy consumption. Accelerometers were recently employed to offer an objective assessment of compliance with physical activity recommendations for the general public in the United States (Troiano et al. 2008). According to accelerometer data, less than 5% of individuals in the United States exercised for 30 minutes per day, 5 to 7 days per week. This is significantly lower than the self-reported number from national polls (49 percent). According to accelerometer data, just 8% of teenagers accomplished the objective of exercising 60 minutes per day, 5 to 7 days per week. Accelerometers are more expensive ($300 per unit) than pedometers ($10 to $30 per unit), which restricts their application in large-scale physical activity initiatives. Low-cost units may be created in the future and utilised more widely in national surveys and community-based treatments. There is a lot of information accessible on best practises and research recommendations for utilising accelerometers (see Ward et al. 2005).

## IV. HEART RATE MONITORS

Heart rate monitors are generally used to measure and track the intensity of exercise. Individuals in cardiac rehabilitation programmes and highly-trained, competitive athletes can use these devices to assess workout intensity. Because heart rate and oxygen consumption are directly connected, it may be used to calculate an individual's workout energy expenditure. However, variables such as temperature, humidity, hydration, and emotional stress can impact estimations of energy expenditure based on heart rate.

## V. COMBINED HEART RATE MONITORING AND ACCELEROMETRY

When data from heart rate monitors is combined with accelerometer assessments of physical activity, the prediction of energy expenditure during physical exercise improves by 20%. (Strath, Brage, and Ekelund 2005). In free-living situations, new technologies that concurrently track heart rate and body motion provide accurate and reliable

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assessments of physical activity for children, adolescents, and adults (Barreira et al. 2009; Crouter, Churilla, and Bassett 2008; Zakeri et al. 2008).

## VI. HEALTH TRACKING

Using data from cardiac monitors and pedometers to create a long-term plan for improving health is critical. Connectivity is incorporated into certain pedometers and heart monitors, making the procedure easier. Educators might utilise tracking programmes or monitoring systems to create individualised goals for their pupils. These kind of programmes provide immediate feedback, allowing students to change their goals and how they intend to reach them.

## VII. APPS

Physical instructors now have a plethora of resources because to the rise of mobile technology. MapMyFitness and My Fitness Pal, for example, include both movement monitoring and dietary advice. Some applications may also help you improve your sporting skills, such as basketball. The pupils can then compare their findings to the instructions provided by the app. Another thought 10/25/2017 Using Google Earth to display children distances and challenge them to walk those distances—for example, the height of Mount Everest or the distance between their house and another location—is an example of using technology in physical education.

## VIII. VIDEO RESOURCES

Educators may use sites like YouTube and Vimeo to access a variety of resources. If a teacher wishes to teach something like dancing or yoga, there are a plethora of how-to films available that can be adapted to any age range.
In addition, some teachers establish video projects in which student groups construct an educational movie to teach the rest of the class Something.

## IX. GAMES

"Exergames" such as Wii Sports and Dance Dance Revolution have a consistent demand. To utilise them for a whole class, have a few students use the controls (taking turns is important!) while the rest of the class watches. Follow in their footsteps. Projecting the video on a wall or screen for these games, or any other video resources, allows everyone to see what is going on.

## X. CONCLUSION

Instructors may find it difficult to adjust to new technology. Physical education professors may believe that technology has no relevance to their topic. Physical education instructors, on the other hand, may create a more diversified and dynamic classroom by embracing technology. They can also appeal to the interests of a wide range of pupils and abilities. When educators use technology to educate physical fitness, they may design additional activities and demonstrate how vital their objectives are.

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