

## EFFECT OF TECHNOLOGY ENHANCEMENT ON NATIONAL CURRICULUM, FOCUSING ON PHYSICAL EDUCATION

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### Abstract

*The importance of physical activity goes beyond just the normal growth of children; it also plays a role in their emotional and social behavior. This article aims to explore how physical education influences the development of preschool children within the national curriculum.*

*The aim of this research was to implement technology into our Physical Education program, incorporating both theoretical and practical approaches. It improved the ability to learn sports skills in both theoretical and physical aspects. Technology has the potential to make physical education instruction more effective and provide educators with important information for advocacy efforts. Educators have the option to conduct video interviews to record students' thoughts on physical education and motor learning. Significant impacts have been seen in global education systems due to the rapid advancements in electronic technology. Thanks to technology, specifically mobile technology, physical education teachers now have access to a variety of tools to assess and enhance their students' physical abilities. The roster consists of video analysis, wearable technology, apps for physical education, gaming consoles, virtual classes, and monitors and trackers.*

**Keyword:** Curriculum, emotional, Physical Education, Technology, Virtual Classes, Digital Platform

### I Introduction

Utilizing technology plays a crucial role in bridging the gap between educators and students, which can enhance learning methods, foster intrinsic motivation, and improve metacognition. The primary technologies implemented in educational institutions, such as video recording and personal computers, have led to a revision of knowledge and the emergence of new areas of focus within each subject regarding fundamental disciplinary topics.

In the past two decades, advancements in technology have enhanced the quality of education in schools by providing more resources, methods, and changing the dynamic between subjects, educators, and learners. The rapid advancements in electronic technology have significantly impacted education systems worldwide.

After several years of progress, educational technology in physical education has made significant advancements, attracting more attention from sports educators and researchers. It is agreed that maximizing the use of educational technology can enhance various aspects of sports teaching and training, aiding colleges in establishing unique characteristics and addressing challenges in physical education. This optimization ultimately improves the integration of theory and practice in college physical education.

### II Information And Communication Technology

Health and physical education applications are accessible and can enhance and enhance the curriculum in many colleges. Many technological tools for boosting physical activity and fitness can

be easily found and used [3].

The major educational challenge lies in effectively implementing a methodological approach to curriculum development, challenging the notion that Information and Communication Technologies (ICT) are separate from Physical Education. Specific training that focuses on empowerment is necessary to fully utilize the potential of ICT for managing teaching, professional development, and lifelong learning.

Nowadays, students and teachers need to acquire new skills to effectively use a variety of technologies. Students are required to showcase motor skills and utilize technology primarily through self-directed learning. Learning how to organize activities and utilize various equipment is crucial. Physical education curricula and health promotion programs aim to provide students with improved opportunities beyond the traditional gym setting.

### III Recent Technology In Physical Education

Motor skill learning (physical literacy) develops in stages that build on each other and are crucial elements in physical education instruction.

Students find motivation in the integration of technology into their physical education lessons. It helps track students' progress, pinpoint motor skill gaps, and enhance perceived physical self-efficacy. Thanks to technology, especially mobile technology, physical education teachers now have a variety of tools at their disposal to assess and enhance their students' physical abilities. The video analysis, wearable technology, physical education applications, gaming consoles, online classes, and

monitoring devices are all part of the list.

#### **(A) Online Videos**

Due to improved internet speed and reliability, streaming videos are now more readily available than in previous times. PE teachers can utilize this technology to motivate their students in improving their skills through viewing online videos and demonstrations. Given the abundance of information online, physical education teachers will easily find videos to suit all students' requirements. Teachers must be cautious when selecting videos. They must ensure that the videos are suitable for the age and grade level of the students they are instructing.

Furthermore, in order to promote improved learning, educators can also motivate their students to produce their own instructional videos demonstrating any exercise they enjoy doing. This is more interactive than having students passively watch videos available online.

#### **(B) Mobile Application**

Nearly every individual owns a smart phone, and physical education instructors can utilize these devices to motivate their students to engage in physical activity and exercise. Even though they may not want their students to be always attached to their phones during lessons, it is important to promote the use of mobile phones and apps for educational purposes when the benefits are clear.

There are many apps available that offer features such as tracking movement and providing nutritional guidance, as well as aiding in improving sports performance like basketball. Applications that involve analyzing videos and images can be utilized to assess athletic movements, ultimately aiding in enhancing physical abilities.

Today, there is a wide variety of phone applications created to monitor physical activity and provide dietary advice. Students have the ability to easily obtain crucial information about their fitness and diet by simply clicking a few times. The most exciting thing is that the majority of those apps don't cost anything. Even though certain apps may come with fees, the expense may be justified by the health advantages of having access to knowledgeable exercise and nutrition plans.

#### **(C) Video Analysis**

Video analysis is a part of the qualitative assessment toolkit. It is a powerful instrument for tracking learning progress and enhancing the student's sense of competence. Therefore, psychological factors and their correlation with motor skills are involved: one can examine motor tasks, compare learning progress at different times of the year using varying teaching methods, assess the performance of various students, break down

and reconstruct motor sequences to identify mistakes, and evaluate learning achievements; create combinations of motor sequences.

#### **(D) Virtual Classes**

Physical education is more than just being active physically. It remains a learning experience, therefore, students are anticipated to have conversations with their educators regarding their learning, obstacles, and additional essential details in order to achieve a more profound comprehension. Successful learning requires interactive communication where students can participate in conversations and question the teacher's perspective to gain a more profound comprehension. Numerous classrooms are now utilizing the internet by developing their own classroom blogs or websites. A classroom website is beneficial for fostering discussions post-lesson, as well as facilitating communication for students utilizing physical education techniques or engaging in sports practices and exercises outside of the classroom. Another great method to make use of virtual connectivity is by bringing guests into your classroom through video chat platforms like Skype and Hangouts.

Students may also be motivated to participate in online courses on nutrition, exercise, and fitness fundamentals or web-based quests focused on meaningful investigation. In virtual classes, students can share their thoughts and viewpoints on their assignments. They are also beneficial for enhancing students' writing and communication abilities. Students are able to integrate into media and improve their creative thinking due to the help of these tools.

#### **(E) Smart Watches**

Smart watches are a good substitute for the traditional pedometer when it comes to counting steps. While they come with a higher price tag, they provide additional features. For instance, certain smart watches allow students to listen to their favorite music as they exercise. Different models come with applications that can alert students to take their medication, monitor their sleep hours, and record their emotions. Certain intelligent wristwatches have the ability to monitor the distance and speed of students while they are running.

A drawback of smart watches is their tendency to have a high price tag. The price increases as the number of features increases. Essentially, this means that while smart watches can be useful in PE classes, they may not be suitable for all students and teachers should be mindful of this.

#### **(F) Monitors And Trackers**

Tracking physical activity and sedentary habits

through mobile apps and wearable tech can enhance these health behaviors.

As each student has different physical abilities, teachers must understand the limitations and capacities of their students. Adapting a program to match a student's individual body is crucial, which is why heart rate monitors are essential for evaluating students' endurance and establishing achievable goals.

In addition to heart-rate monitors, pedometers are now considered essential in physical education. They are great and trustworthy when it comes to monitoring steps.

They are able to monitor a student's activity levels even when they are not participating in a workout or physical activity. Furthermore, pedometers are effective when performing everyday tasks and household chores.

If a student is not taking many steps, a pedometer can prompt them to continue walking and moving. It helps students become more conscious of their progress and remain committed to their goals.

### **(G) Gaming Systems**

Playing video games can alter students' perceptions of physical activity and competitiveness. They tap into their passion for video games and ignite their curiosity in how they can be utilized in physical education. They also provide a great way to keep children active during inclement weather.

Interactive video games like Dance Revolution, Wii Fit, and Wii Sports are highly beneficial for encouraging physical activity in students and are currently being utilized in numerous physical education facilities. They offer a suitable option for working out in inclement weather and, like Wii Sports, can effectively encourage student physical activity, being widely utilized in physical education facilities. They act as a suitable substitute for working out in unfavorable weather conditions and yield outcomes that are comparable to those achieved through outdoor exercise. Physical education teachers can utilize students' passion for video games to generate enthusiasm for physical education.

By incorporating gaming systems into gym classes, students have the opportunity to transform a traditionally inactive activity into a productive one. Ensuring students are fully engaged and immersed in their learning experience is a priority, and this engagement can be maintained even when they are at home.

### **Discussion And Implications**

This research demonstrated that engaging in physical activity can improve one's social emotional well-being. The age of a child plays a role in the development of critical thinking skills,

especially in the context of physical education curriculum.

Thornburg & Hill (2004) propose that educational technologies should be used as a means to support motor learning in students. Using technology wisely involves establishing a learning setting that enables learners to actively participate in their own learning journey (student-driven learning). Technology-driven educational settings have the ability to boost students' engagement in challenging cognitive activities, provide more chances for receiving personalized feedback, and foster collaborations among educators, learners, guardians, and other relevant parties.

### **Conclusion**

The issue of children's social and emotional development is always important. Teachers must be aware of the key aspects to focus on when guiding children in physical education and developing curriculum.

Overall, technology has had a beneficial impact on physical education classes. By utilizing video analysis, apps, online videos, monitors, smart watches, and trackers, physical education teachers can develop personalized and achievable objectives for their students. Throughout the procedure, students experienced increased involvement and dedication to engaging in physical activity, a crucial aspect in forming healthy routines.

Physical education teachers utilize technology to improve students' learning in the classroom setting. Current status, Physical Education requires increased integration of modern technology to enhance both classroom instruction and practical work.

### **References**

1. Juniu, S., Shonfeld, M., & Ganot, A. (2013). Technology integration in physical education teacher education programs: a comparative analysis. *Actualidades Investigativas en Educación*, 13(3), 218-240.
2. Zhao, Y., & Guo, K. (2015, April). Trend Study of Educational Technology in Physical Education of Colleges and Universities. In 2015 International Conference on Education Reform and Modern Management. Atlantis Press.
3. Kretschmann, R. (2015). Physical Education Teachers' Subjective Theories about Integrating Information and Communication Technology (ICT) into Physical Education. *Turkish Online Journal of Educational Technology-TOJET*, 14(1), 68-96.
4. Herring, M. C., Edginton, C. R., Gadelmann, P. L., & Chin M. K. (2012). Emerging perspectives on learning and technology in

- physical education: Policy implications. In S. Sanders & L. Witherspoon (Eds.), *Contemporary uses of technology in K–12 physical education: Policy, practice and advocacy* (pp. 21–53). Charlotte, NC: Information Age.
5. Castelli, D.M., Cenetio, E.E., Beighle, A.E., Carson, R., L., Nicksic, H.M. (2014). Physical literacy and comprehensive school physical activity programs. *Preventive Medicine*, 66, 95–100.
  6. Schmidt A., R., Wrisberg C., A. (2000). *Motor Learning and performance*. Second edition. Human Kinetics, Champaign, IL, USA.
  7. Fiorentino, L.H. & Castelli, D. (2005) Creating a Virtual Gymnasium. *Journal of Physical Education, Recreation & Dance*, 76(4), 16–18.
  8. Daniela McVicker, (2018). How Technology Changes Physical Education Classes, <https://learn.g2.com/technology-in-physical-education>
  9. Anderson, M., Mikat, R.P. & Martinez, R. (2001) Digital video production in physical education and athletics. *Journal of Physical Education, Recreation, & Dance*, 72, 19–21.
  10. Palička, P., Jakubec, L., & Zvoníček, J. (2016). Mobile apps that support physical activities and the potential of these applications in physical education at school.
  11. Weir, T., & Connor, S. (2009). The use of digital video in physical education. *Technology, Pedagogy and Education*, 18(2), 155–171.
  12. James Cummings, 2017. *Applying Technology in Physical Education Class: Lots of Possibilities*, *Emerging Ed Tech*.
  13. Brian Mosier, (2012), Virtual Physical Education, *Journal of Physical Education, Recreation & Dance*. Volume 83, 201 -Issue 3.
  14. Margaret Robelee, (2014) technology Revolution in Physical Education, <https://www.ssw.com/blog/the-technology-revolution-in-physical-education/>.
  15. Henriksen, A., Mikalsen, M. H., Woldaregay, A. Z., Muzny, M., Hartvigsen, G., Hopstock, L. A., & Grimsgaard, S. (2018). Using fitness trackers and smartwatches to measure physical activity in research: analysis of consumer wrist-worn wearables. *Journal of medical Internet research*, 20(3), e110.
  16. Wilde, L. J., Ward, G., Sewell, L., Müller, A. M., & Wark, P. A. (2018). Apps and wearables for monitoring physical activity and sedentary behaviour: A qualitative systematic review protocol on barriers and facilitators. *Digital health*, 4, 2055207618776454.
  17. Davis, M. E. (2017). How might active video gaming affect physical activity and physical fitness of students with intellectual disabilities?
  18. Block, M. E., Lieberman, L. J., & Connor-Kuntz, F. (1998). Authentic assessment in adapted physical education. *Journal of Physical Education, Recreation & Dance*, 69(3), 48–55.
  19. Castelli, D. M. (2005). Technology integration: Virtually possible. *Teaching Elementary Physical Education*, 16(5), 6–7.
  20. Davis, W. E., & Burton, A. W. (1991). Ecological task analysis: Translating movement behavior theory into practice. *Adapted Physical Activity Quarterly*, 8(2), 154–177.
  21. Falvey, M. A., Givner, C. C., & Kimm, C. (1995). What is an inclusive school? In R. A. Villa and J.
  22. S. Thousand (Eds.), *Creating an inclusive school* (pp. 34–58). Alexandria, VA: Association for Supervision and Curriculum Development.
  23. [23]. Gardner, H. (1991). *The unschooled mind: How children think and how schools should teach*. New York: Basic Books.
  24. [Glasser, W. (1986). *Control theory in the classroom*. New York: Harper & Row. Kunc, N. (1992). The need to belong: Rediscovering Maslow's hierarchy of needs. In R. Villa, J. Thousand, W. Stainback, & S. Stainback (Eds.)
  25. Charles, C. M. (2007). *Building classroom discipline* (8th ed.). Boston: Allyn and Bacon. Cooper, J. O., Heron, T. E., & Heward, W. L. (1987). *Applied behavior analysis*. Columbus, OH: Merrill.
  26. French, R., Silliman-French, L., & Block, M. E. (2007). Accommodating children with behavior challenges in general physical education. In M. E. Block (Ed.), *A teacher's guide to including students with disabilities into regular physical education* (3rd ed.).
  27. Baltimore, MD: Paul H. Brooks. Graham, G. (2001). *Teaching children physical education: Becoming a master teacher* (2nd ed.). Champaign IL: Human Kinetics.
  28. Hellison, D. (2003). *Teaching responsibility through physical activity* (2nd ed.). Champaign IL: Human Kinetics.