



## TECHNOLOGICAL EXPERIENCES AND CURRENT TECHNOLOGICAL TOOLS USED IN PHYSICAL EDUCATION PROGRAMS AMONG PHYSICAL EDUCATION TEACHERS IN INDIA

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### Abstract

In this study researcher explored the experiences and use of current technology used by physical education teachers in physical education programs in India. Teachers working in the school in India were selected for the study. 300 physical education teachers included 150 male and 150 female teachers were selected for the study. For this study, the “H. Baert” questioner was applied. Technological experiences and current technological tools used by physical education teachers were selected as the variables for the study. It was found that the primary experience about technology among physical education teacher come from self-learning and the current technology used by them in the classroom were projectors, tools to measure body composition, smartwatch, tablet/pc, office tools (word, excel, powerpoint, Publisher), online research databases, presentation software, and youtube respectively.

**Keywords:** Physical Education, Self-Learning, Current Technology and You Tube.

### Introduction

Physical Education and Sports are some of the significant measuring sticks and an essential piece of training in any nation at any time of time. Educational programs should be structured so that physical exercises become a piece of everyday exercise plans. Sports are among the features of media nowadays and it is going to be a major industry on the planet. The creation of the modern computer has changed the face of the planet. Today there are more devices fitted with a microchip than there are human beings. The word ‘computer’ comes from the word compute which means ‘to calculate’. Computers were developed from calculators as the need arose for more complex and scientific calculations. A computer in physical education is an interdisciplinary discipline that has its goal in combining the theoretical as well as practical aspects. Computer-assisted instruction provides students with an alternative to classroom settings and frees the instructor from wrote process that is better handled by the computer. Students can observe and listen to the mechanics of movements in slow motion and learn effectively with the help of a computer. Using the internet one can update the recent technological improvement in sports training, changes in rules, downloading the rules from the internet authorities, doing research, and so on. Computers have potential applications in the elementary and secondary physical education curriculum current usage is minimal when compared to other disciplines. Computers are highly useful in making wide tasks and projects including budgeting, financial statements, calculations, and scheduling in physical education programs. Using computers not only enhances the quality of documentation but also saves time and operational expenses for sports organizations. In education, researchers have claimed that the inclusion of technology can enrich teacher’s productivity and students’ engagement and learning. For example, Otero et al. (2005) stated that technology could be used as (a) a cognitive tool to help students understand concepts and solve problems, (b) an evaluation tool to assess student learning, (c) a motivational tool to encourage and engage the student in learning, (d) a communication tool to foster collaboration with educators, students, and parents, and as e) a management tool to increase teachers’ efficiency. In the field of sport and physical education (PE), technologies such as pedometers, heart rate monitors, physical activity (PA) watches, iPad’s, video games, and various mobile apps, to name a few (Beighle et al., 2004; Block, 2008; Phillips et al., 2014) has been adopted by PE practitioners as a tool to monitor students’ physical activity, to motivate students to practice, to correct skill execution and performance, and to add new strategies for learning (Legrain et al., 2015).



## Methodology

300 physical education teachers from the different states of India were randomly selected for the study. The selected subjects included 150 males and 150 female physical education teachers (PET). For the study, a standardized questioner used by “H. Baert” was applied in the study. For data collection, the research scholar took permission from the concerned institution, before communicating with the physical education teacher. With the permission of the consent authority, the research scholar explains the objective and purpose of the questioner to the subjects. Once the data was collected, the Percentages method was applied.

## Result and Discussion

A questioner-based survey system was utilized for this current study. Questioners by H. Baert, 2011 was used for data collection. The design of the survey items was influenced by a previously developed instrument. The survey items were modified and added to meet the purpose of this current study. The survey was comprised of five main parts. But for the present study, only experiences with teaching technologies, and current technology used by physical education teachers in the classroom setup were analyzed. The data pretraining to the present study are presented in tables below:

Table 1  
Physical Education Experiences with Technology

S.no.	Educational Experiences based Questions	Responses
1	None to little prior knowledge of technology	10
2	I teach myself how to use technology (through reading, online tutorials)	234
3	I learn about technology from my colleagues at work.	50
4	I have family members /children that help me understand technology.	34
5	I attended postgraduate coursework related to technology	32
6	I obtained a degree in a technology-related field	12
7	I attended seminars/workshops on technology (on or off campus)	144
8	Other: trial and error, undergraduate work, I enjoy it, I teach online	23

Table 1 represents the experience of physical education teachers with technology. The physical education teacher was asked to share information in the questioner in which they are more simplified questions and with multiple options. A total of 234 participants (78%) either teach themselves how to use relevant technology or learn it from reading or through online tutorials. 144 participants (48%) learned the use and application of technology through seminars and workshops. 50 participants (16%) learned it with the help of colleagues at work. 34 to 32 participants (12%) learned the knowledge of technology from family members or either in the postgraduate course. While most respondents have experience with some use of technology in physical education.



Table 2  
 Percentages of Technologies Currently used in Physical Education Programs

S. No.	Technology	Percentage
1	Projectors	77%
2	Digital video camera	29%
3	Fitness Assessment Programs	20%
4	Heart Rate monitors	16%
5	Accelerometers	08%
6	Tools to measure body composition	72%
7	Smartboard/PE software	26%
8	Educational Computer games	12%
9	Audio/Video Conferencing (e.g. Skype, Hangout, Virtual Realities)	20%
10	Cell Phone Applications (text messaging, polling, etc.)	20%
11	Mobile App	26%
12	Smart Watch	62%
13	Tablet PC's	47%
14	Office tools (Word, Excel, PowerPoint, Publisher)	74%
15	Presentation software	22%
16	Data analysis and display (SPSS, etc.)	37%
17	Educational PowerPoint Games.	05%
18	Graphics packages (Photoshop, Canvas, Pagemaker, Corel Draw)	22%
19	Online Discussion Forums	10%
20	Web -based surveys/ quizzes	15%
21	Chat Rooms	27%
22	Online reference tools	11%
23	Email	43%
24	Personal Web Site	05%
25	Course Web Site	04%
26	Blogging	02%
27	Wikis	13%
28	Social Networking (Twitter, Facebook, My Space, WhatsApp, etc.)	15%
29	Educational Social Network Sites (NING, Edmodo for examples)	06%
30	Google Applications (Google Sites, Google Docs for example)	20%
31	Online research databases (e.g. Google Scholar, library: EBSCO)	46%
32	Web Quests	32%
33	Podcasting or Vodcasting, or Mirror cast	02%
34	YouTube	36%

Table 2 represents the current technologies used in physical education programs. The physical education teacher was asked to share information in the questioner in which they are more simplified questions and with multiple options. It was found that physical education faculty members use projectors 77%, office tools especially powerpoint 74%, tools for measure body composition 72%, smartwatch 62%, online research databases (e.g., Google Scholar, library: EBSCO) 46%, email 46%, data analysis and display (SPSS, etc.) application 37%, and web quests 32%



respectively in their classrooms. Other technologies like digital video cameras, fitness assessment programs, digital video cameras, mobile app, presentation software, graphics packages, and chat rooms were used between 22% to 30%. Technology like heart rate monitors, accelerometers, educational computer games, audio/video conferencing, cell phone applications, educational powerpoint games, graphics packages, online discussion forums, web-based surveys/ quizzes, online reference tools, personal web site, course web site, blogging, wikis, social networking, educational social network sites, podcasting or vod-casting, or mirror cast was used less than 20% respectively.

### Conclusion

Based on the result and discussion it was concluded that the primary experience about technology among physical education teachers come from self-learning (reading, and online tutorials) and by attended seminars/workshops on technology (on or off campus). The current technologies that were used by the physical education teachers in their classrooms were projectors, tools to measure body composition, smartwatch, tablet/pc, office tools (word, excel, power point, publisher), online research databases, presentation software, and youtube respectively.

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