



P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 5.38  
IJPESH 2017; 4(3): 335-336  
© 2017 IJPESH  
www.kheljournal.com  
Received: 15-03-2017  
Accepted: 16-04-2017

**Darshan Kaur**  
Research Scholar, C. D. L. U.  
Sirsa, Haryana, India

## Application of computer in physical education and sports

**Darshan Kaur**

### Abstract

Technology penetrates in every spheres of life. Computers become an essential part of life. It works as the research object and its application in the combination with the sports training and performance enhancement. The need of introducing the computer technology into the sports training and its future trend in development, in order to improve the technical content, and the effectiveness of sports training. Computer science in sport is an interdisciplinary discipline that has its goal in combining the theoretical and practical field and methods of the areas of sport science and for physical education. The main emphasis of the interdisciplinary is placed on the application and use of computer-based but also mathematical techniques in sports science, aiming in this way at the advancement of theory and practical in sports. The sport science is mainly connected with the fact that the use of data and media, the design of models, the analysis of systems etc. increasingly requires the support of suitable tools and the concepts which are developed and available in computer science.

**Keywords:** Performance enhancement, documentation, updated with new technology and result analysis

### Introduction

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 is a machine that had been designed by the people to carry out some numerical and mathematical operations. Technically, a computer is a programmable machine. This means it can execute a programmed list of instructions and respond to new instructions that it is given. A computer is an electronic device that manipulates information, or data. It has the ability to store, retrieve and process data. 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 rote 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 computer. Using the internet one can update the recent technological improvement in sports training, changes in rules, to download the rules from the internet authorities, to do 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 sport organizations.

### Method

Descriptive method was used to investigate the effects.

### Application of computers in research

- Literature searching
- Test administration
- Data analysis

**Correspondence**  
**Darshan Kaur**  
Research Scholar, C. D. L. U.  
Sirsa, Haryana, India

- Result analysis
- General assist

#### **Application of computers in motor learning and control**

- Reaction and Movement time
- Time- on -target scores
- Movement distance and location
- Neuromuscular Neuro-Physiological variable
- Software application

#### **Application in the field of exercise physiology**

##### **Exercise physiology research**

- Computer helps to monitor minute by minute changes in lactic acid levels in muscular tissue.
- To determine the blood pressure, heart rate, pulse rate, analog to digital converter is used by installing it into the computer.
- Multiple measures can be recorded simultaneously from subjects.
- It is also used to calculate the body fat percentage based on skin fold.

#### **Using computers in measuring variables**

##### **Determination of maximum oxygen consumption**

- Maximum oxygen consumption is the best indicator of cardiovascular fitness.
- This procedure is used to read gas analyzers and calculate percentage of the relevant gases and to read the volume meters for flow rates.
- Auxiliary function may occupy a waste of space, time, etc. while using the computer keyboard alone does the same function rapidly including the barometric pressure determination.

#### **Fitness prescription**

- The fitness professional may prescribe the fitness programme with the commercially available software which helps to accomplish the task quickly.
- After installing the software programme to the system, the result of the physical fitness test of subjects may be entered into the system and compared with the programme.
- Then the appropriate exercise shall be fixed according to the individual's result.

#### **Body composition**

- Body composition software programme is designed for use in health enhancement programmes offered through medical clinics.
- It allows entry of demographic information and also provides selection of body composition methods.

#### **Application in the field of bio-mechanics**

- Teaching aids
- Film analysis
- Force measurement
- Force plates
- Using computers with Isokinetic dynameters

#### **Application of computers in sports psychology**

- Self assessment
- Self-talks
- Concentration task

- Bio-feedback and relaxation technique
- Psychological instruments

#### **Conclusion**

At last it is to be said that computer has become a part and parcel of entire physical education and sports environment, other than the area of broadcasting and televising sports events. Application of computers in the field of Research, Motor learning, Exercise physiology, Fitness prescription, Body composition, Bio-mechanics, Sports psychology helps the physical education teachers and sports trainers to make the teaching as well as coaching more interesting and also enhance the level of sports performance. Computer application in sports produces perfection in results and also save time. There is no chance of faulty in results of sports events as it bears fair and accurate judgment. So there is a need to learn and become familiar with computer, who is connected with sports and physical education.

#### **Reference**

1. Winn W. Current Trends in Educational Technology Research: The Study of Learning Environments. *Educational Psychology Review*. 2002; 14(3):331-350.
2. Wood SL, Lynn S. Teaching Elementary Physical Education. *Web Gym*. 2000; 11(5):28-30.
3. Jurgen Perl. Computer science in sport: an overview of history, present fields and future applications (part II). *IJCSS Special Edition*. 2006; 2:36-46.
4. Arnold Baca. Computer science in sport: an overview of history, present fields and future applications (part I). *IJCSS Special Edition*. 2006; 2:25-35.
5. Daniel Link, Martin Lames. Sport Informatics – Historical Roots, Interdisciplinary and Future Developments. *IJCSS*. 2009; 8(2):68-87.
6. Baca A. Computer Application in Sports. In: Moritz E.F., Haake S. (eds) *The Engineering of Sport 6*. Springer, New York, NY, 2006.
7. Gold RS. Microcomputer applications in health education. Dubuque, IA: William C. Brown Publishers, 1991.
8. McLean DD, Hill JM. Supporting internship preparation: A case study in computer-based support. *Scholar: A Journal of Leisure Studies and Recreation Education*. 1993; 8:37-49. EJ 487287
9. Mohnsen BS. (1995). Using technology in physical education. Champaign, IL: Human Kinetics.
10. White, R. (1993). How computers work. Emeryville, CA: Ziff-Davis Press.