

IMPACT OF INFORMATION COMMUNICATION AND TECHNOLOGY (ICT) ON SPORTS

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ABSTRACT

This paper presents the unfolding of the application of modern technology in sports and physical education and of current research activities. The field of physical education and sports can make a significant contribution to the role that technologies play in our lives by carefully considering the benefits and advantages of new information technologies on the whole person, body as well as mind. The world of sports is continuously changing over the years and the use of technology is just one of those areas that have made an impact on many sports in the present scenario. Technology advancements have led to growth and change within the sports field. It has improved efforts to develop training techniques and equipment, manage information, records and facilitate communication between organizations and sports lovers. It has greatly modernized the way sports should be. Using the modern technology, accuracy and performance is increased in different sporting events. Computer Technology also assists in the field of sports medicine. Sports Medicine focuses on the study, prevention and treatment of sports and fitness related injuries. Modern Technology specially, computer helps orthopedic surgeons as well as sports medicine professionals. Scientists of the United States have developed software which can assess head injuries. Computer programs can help to solve problems, such as, the handling of data and the organization and scheduling of school facilities for physical education classes. Computer data can also be used

to analyze student performance in a particular activity. Research activities, improve learning and coaching, Bio-mechanical sports analysis and field research have evolved. In future very soon the way computer will be applicable in sports with good quality and best results.

Keywords: Sports medicine, Sports technology, Bio-mechanical

INTRODUCTION

Can you imagine your life without science? Unless you are OK with the idea of living without medicine, transportation and many more – the answer is resounding no. Now think about sports. You may not see the direct link between sports and science, but it is all around the industry. The TV you watch in your bedroom, the protective gear used when you play, the heart monitors, analytics, fantasy sports apps- it's all forms of science and it is all around us. Technology has changed sports. The world of sport is continually changing over the years, and the use of technology is just one of those areas that have made an impact on many sports in the modern day. Most professional sports in the United States have long used instant replay and other high tech aids to help referees make the right call. **Gridiron** has used video replay systems to check referee's call for many years. Basketball referees use replay systems to make sure players are shooting within the time allotted by the shot clock. In international Cricket, the third umpire has been used, one sitting off the ground with access to TV replays of certain situations (such as disputed catches and boundaries) to advise the central umpires. The umpires out on the field are

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communication via wireless technology with the other umpire. The third umpire is also asked to adjudicate on run out decisions, which he makes without consultation with the two central umpires. One sport that has resisted the use of high tech assistance until very recently is Soccer/Football. Replays could be used to decide off-side decisions, whether a ball passes over the goal line, and clarify penalty decisions.

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HAWK-EYE Technology is the name of a computer and camera system which traces a ball's trajectory. It being used in international cricket and tennis, and many more sports are also looking at making use of this technology. The system is also being trailed in soccer as part of the goal line assessment. The Premier League of Football in the UK has agreed to the introduction of goal-line sensors after being given approval by football's rule makers. The Hawk-Eye uses a camera taking 600 frames a second on the goal-line, with the information is analyzed by computer and sent to the referee's headset or a device on his wrist. In 2015, Hawk Eye technology was also used by rugby officials at the 2015 Rugby World Cup, to improve decision making by the television match official and also assist with player safety. In this case it is enhanced video review, rather than the ball tracking technology as used in other sports.

COMPUTER SOFTWARES are designed for fitness and nutrition professional to organize data and produce reports. Body Byte a universal standalone computer software program specially developed to comprehensively organize and manage all the information associated with nutrition, training and fitness.

A vast majority of technological advancements in sports revolve around safety, and the **HANS (Head and Neck Support) device** used in motorsports is one of the most famous. At the time of Dale Earnhardt's death on the track at the Daytona 500 due to head and neck trauma, Thomas Gideon, senior director of safety, Research and Development of NASCAR, claims that only about six drivers were wearing a HANS device.

That moment changed the sports as more drivers adopted this technology geared towards saving their lives in the event of a tragic crash.

PROSTHETIC DEVICES FOR DISABLED ATHLETES include artificial body parts such as eyes, heart valves, arteries or limbs. People with disabilities or lost limbs never had a chance to compete, but with the advancement of prosthetic technology more and more physically disabled are competing like before.

IMPACT OF TECHNOLOGY ON SPORTS

Sports equipments are continuously undergoing research and development to improve sporting performance. Some of the best examples include:

- Fully body swim wear, made of polyurethane, and made a huge impact in the 2008 Olympics only to be banned a year later because it was too obviously making a difference to sporting performance.
- Kevlar fibred (5 times stronger than steel yet lighter, used in the manufacture of sails, bicycle tires, football boots, tennis rackets, helmets and more.
- Pebble Time and Android Sleep App follows your sleeping habits; Fit bit Surge tracks your fitness activities, PIP

gives you an overview about your stress levels.

- Many athletes in professional clubs now wear special shirts that measure their vital signs during practice or even games. HexoSkin developed a shirt with sensors woven into it that measure heart rate, breathing, number of steps, pace and calories burned. The shirts are marketed to professional athletes, researchers and people who simply want to live healthier.

ICT is extremely useful in sports for many reasons. Some sporting organization may use a computer to assess sports injuries. In Athletics, technology is used to detect false starts. Use of websites for the advertisement of sporting events. Computers can used to design floors for

Indoor sports computer aided design of sailing boats or for kayaks or for Formula one. Use of sensors to detect a ball has passed the goal posts in football. Electronic display boards to display results at matches individuals may have their performance filmed frame by frame using a camcorder, to help them focus on their technique.

Conclusion:

We can conclude that Information communication technology plays vital role in human being in particularly in the field of sports and games. It helps to avoid mistakes in organization and administration of various sports and games at world level. Information Technology in Sports has established scientific discipline, Research activities, improve learning and coaching, bio-mechanical analysis and field research have evolved. In future very soon the way computer will be applicable in sports with good quality and best results.

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