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Role of information technology in sports, science and healthcare sector

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Abstract

Information Technology (IT) is the Application of Computers and other telecommunications equipment to store, retrieve and manipulate data. Today Information Technology is used in wide range of fields and medical science is also upcoming field. Medical Science and Sports Science it plays an important role for giving knowledge to related field. In sports activities it help to improves performance of a sports person and molding their motivational factors. Information Technology in Sports is a discipline that has its goal in combining the theoretical as well as practical aspect and methods of informatics as sports science.

Use of IT in Healthcare: With the development in IT, there has been a significant changes in the majority of medical students are computer literate these days. New information on medical topic via Internet and computers. It helps to improve health of human beings.

The use of data and media, design of models analysis of system etc. The paper includes the role of information technology in sports, science and healthcare.

Keywords: Information technology (IT) sports science, healthcare, knowledge, EMR

Introduction

Information Technology means using of computers and its application for production, storage, processing, distribution and exchange of information. IT uses Computer technology and internet information and communication. In addition of these it also uses radio, TV, video, CD player, DVD, mobile etc. Sports are necessary for mental health and physical fitness.

It build up overall personality of a person and makes him intellectual and physically strong, confident and cheerful behaviour. Today, Healthcare sector information technology very helpful. It provide in Healthcare sector Electronic Medical Records (EMR). This technology can convert medical information into single database. Not only does this technology reduce paper costs, it allows Healthcare providers to access patient information such as medical history, medication, insurance information etc with just click of a mouse.

EMR helps ability to care for patients with record that is integrated with laboratory and pharmacy information. Reducing medical error has become a priority all over the world.

Computer

Computer is an electronic devise that has the capacity to store, retrieve and process both qualitative and Quantitative information fast and accurately. Computers-we used to produce documents, lesson plans, to convert scores management. It also involves video units PC heart rate monitor, remedy heart rate monitor and educational software. Computer also aid learning experiences when they are used for motion analysis. This involves using computer to examine the way learner moves and then determine ways in which this movement can be improved in a practical physical education class. This devise stresses how human motor abilities can be perfected and controlled. For example if you ask a softball pitcher how he/she throws a fastball, they may not be able to tell you. Motion analysis visually shows the rudiments and sequence of actions involved in arm, leg movements to enhance performance of skills. Video tape images are also transferred into computers. Special application software analyses the images. It measures the exact angle at which the player s holding his or her arms and lags. The speed and efficiency of each movement is measured. When using images, the teachers, advantage consist in his possibility of making corrections as soon as pupils exercise is

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completed, which help him to quickly progress and improve his learning. Other computer software such as the programmes Professional Evolution Soccer (PES) is used to play games. Learners play, identify, appreciate the skills, rules and evaluate officiating of the game.

Internet

Internet is a global system of interconnected computer networks that promotes free flow of information by packet switching using the standardized internet protocol suite. It is a network that consists of millions of private and public academic, business and government networks of local, global scope that are linked by copper wires, fiber-optic cables and wireless connections technologies. The internet provides various information resources and services which can be used by physical educators for teaching and learning. They include electronic mail, online chat, electronic transactions, and bulletin board, file transfer and file sharing, online newspapers, and journals, online gaming and inter-linked hypertext documents and other resources of the worldwide web. Physical education teachers share experiences with other professionals via the internet which are integrated into teaching lessons. Students explore new knowledge as they surf the web for assignments, chat with fellow students and play games online. The internet can be used to maximize the effectiveness of their learning process of physical education. Students have the possibility to email their questions or comments concerning their questions concerning issues in health and audition fitness, physical education programmes, courses to their physical education teachers and academic staff. Internet is used to access a mailing list of professionals in the same area of study. A user sends an email message to like mailing list which is broadcast to other users for accessing current information. Examples are the sports philosophy and Questia lists.

Application of Information Technology in Improving Health Care

Information Technology applied to health and healthcare. It supports health information management across computerized systems and exchange of health information between consumer, providers and quality monitors.

- Helps to improve healthcare quality and effectiveness.
- Increase health care productivity.
- Prevent medical errors and increase health care accuracy.
- Reduce health cost.
- Decrease paperwork and idle work items.
- Health Informatics among healthcare professionals.
- Early detection of infectious disease.

Benefit of IT in Sports Science

- A. Storing and watching video:** Computers are used to watch video in sports. Player was playing style of other player learn more techniques and angles of performance. We can store more videos in one place.
- B. Data storage:** Data is very important of team, coaches, public all want to know past performance of team players.
- C. Sports Media:** Computers play a major role in how well media outlets cover sports event.
- D. Sports Training:** Trainers for sports teams can put a player's height, weight, body model into computer and develop a training program that best fits her needs. Penicillin can also put sensors and equipment on to a player during training and allowing computer to register result while player trains.

- E. Sports Management:** In old era only will trade coach and money can be a good source of managing Sports. In modern time IT can be used as a source of power to drag sports activity on desired track. Database will be right tool in sports management. We can include health details, medical conditions, performance, history, favourite technique, weakness of sports and achievement etc.

Information Technology as a Leader in World Development:

1. The Rapid Rise of Information Technology: Information technology (computer, technology, sensor, technology, communications technology) were accepted and utilized in society, initially by telephone, radio, etc. With the increasing needs of the community, in 19th century remote sensing, optical fiber communications, computer simulation and other new products appeared. In 20th century, information has been made a huge breakthrough in satellite communications, software, chip, computer management and support services research. 21st century information technology development have the purpose to the information technology of 20th, to enhance the development of technology, and develop gradually to digital, multi-functional, integrated, intelligent direction. Information technology will be faster, broader and deeper development in the future.

2. Information Technology Has Become the Dominant Factor in Social and Economic Development: The development of modern information technology is an important symbol of social information, but also scientific and technological disciplines have highly dynamic and creative process in current world economic, profound changes of social life. For example, information technology's contribution to world economic growth rate reached 14.7% in 1998. Information technology industry will become the pillar industry and the dominant of national economy. Therefore, all the industry regarded information technology as the leader of rapid development. The birth of science and technology will lead to changes in the structure of economic sectors; make the socioeconomic development toward the vertical information. As the high innovation, high drive, high multiplier rises of information technology in society enhanced, information technology will be the main driving force for social development.

3. Information Technology Has a High Permeability: Now constructions of information technology were speed up as "engine" of social and economic development in all areas. First, the development of information technology has injected new vitality to other industries. For example, the application of information technology in the sports industry, have a sign of importance to raise the level of sports industry, sports and scientific training, to enhance people's physicals and competitive sports. Second, information technology, in combination with other industries constitute make the so-called composite technology, Such as sports information technology, this approach can make the "physical health, mental and physical recreation, exercise the will, strive to" reflect the physical nature of the more obvious features. Finally, information technologies have a significant role of research and development of new technologies, for example, security system in competitive sports; need hardware/software infrastructure solutions, network implementation and some content. As this penetration of information technology applications in sports, sports will develop in the direction toward scientific.

4. Information Technology Applications in the Field of Sports:

Information technology has changed the human way of life, and similarly, sports information becomes a necessary requirement to change the sports culture naturally. Information technology use in sport is undergoing tremendous changes from simple application to the depth dependence. Information technology will become a new impetus to the field of sports. The country already has the advantage of a strong IT fibre backbone and indigenous satellite communication technology with trained human resources. With enhanced efforts, telemedicine could help bring specialized healthcare to the remotest corners of the country. Telemedicine is likely to provide the advantages of tele-diagnosis, especially in the areas of cardiology, pathology, dermatology, and radiology besides effectively operationalizing Continuing Medical Education (CME) programmes.

Telemedicine: Telemedicine can be defined as the use of electronic communication technology to exchange patient information and provision of health care services at remote locations. Global Telemedicine has gone far beyond providing health care services alone. It is now being extensively used also for education, research and management of data. It is, however, paradoxical that despite India's strength in information technology, the use of telemedicine is still at a fairly nascent stage especially in the public health sector.

- **Health and Education:** When ICT is applied to medical education, it is possible to make high quality education available pan India seamlessly.
- **Hospital Management System:** It is common experience that work places in the health systems are not adequately governed especially in remote areas. The management of medical colleges and district hospitals can be strengthened significantly with the application of Hospital Management System.
- **Health Research:** ICT can potentially transform the medical scene in India, by bringing about a sea-change in medical research. From traditional clinical research to the modern synthetic biology-based research, the opportunity is immense. Work on problems such as Cancer prevention, screening, diagnosis, and therapy can benefit from inter disciplinary cooperation. Medical fraternity has availed such benefits when MRI and Nuclear Imaging was integrated into medicine a few decades ago.
- **Health and Management of Data:** Electronic Medical Records (EMR), is a fundamental pre-requisite in using ICT seamlessly in healthcare. While EMR is available in several forms, size, shape, and format, Indian medical community with a specific mandate should standardize EMR, create and establish ICT platforms for using EMR based systems, for universal benefits.

Conclusion

The paper highlights the role of information technology in Sports, Science and Healthcare sector. It covers how computer is used as a powerful tool in various aspect of sports, Science and Healthcare sector. It appears that the Information Technology helps sports management, athlete performance, reduced error of medical record etc. Therefore it helps in refining Sports, Healthcare desired efficiency etc.

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