

THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN SPORTS AND EXERCISE PSYCHOLOGY DEVELOPMENT

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Abstract

Information and Communication Technology have created a "global village," in which people can communicate with others across the world as if they are living together. This article highlighted the roles which information and communication technology (ICT) can play in sports and exercise psychology development in the country. Some of the identified benefits of ICT in sports development in this article include ease in data base management, review of training strategies, accessibility to sports equipment and facilities, simulation and games, application of intelligent management systems, digital video camera and visual analysis software and video conferencing. The article went further to highlight the benefits of ICT in sports psychology to include enhancement of distance learning, counseling/performance enhancement, locating practitioners and referrals as well as serving as a medium for discussion and collaboration. It was therefore recommended that, there should be frequent workshops to train and retrain athletes, coaches and sports managers on the effective use of ICT for sports and exercise psychology development in Nigeria.

Keywords: *Information and Communication Technology, Sports, Exercise psychology*

Introduction

Physical fitness history spans back to the dawn of man. At that time, formal exercise wasn't necessary because prehistoric man's way of life involved a great deal of exercise. During this era in physical fitness history, primitive man was constantly on the move as a hunter/gatherer. Most tribes also led a nomadic lifestyle. Because of this, there was no need to pursue physical fitness. As man's innovation advanced, their natural activity levels decreased. We are constantly looking for ways to make life even easier; that is, from the view point of conserving energy. Technology which involves the methods, systems, and devices which are the result of scientific knowledge being used for practical purposes has now advanced at a high rate including Information and Communication Technology (ICT).

Yusuf (2007) in Anido and Ayalogu, (2012) described ICT as an electronic technology used for accessing, processing, gathering, manipulating, presenting and communicating information. According to Obanya (2002) information and communication

technology is a broad concept that has to do with the harnessing of the process, the methods and the product of electronic and communication related technologies (and other related resources in today's knowledge – driven society), for enhancing the availability, the spread and efficiency of a set of programmed activities geared towards the achievement of clearly defined goals. Nwakundo, Oguejiofor and Nwankwo (2006) in Anido, Ayalogu, (2012) views ICT as a tool that comprises electronic devices which are utilized for the information and communication needs of institutions, organizations, students and individuals. This includes the Internet, wireless networks, cell phones, and other communication mediums. Modern information and communication technologies have created a "global village," in which people can communicate with others across the world as if they were living next door.

Due to advances in ICT, there has been a lot of literature buttressing the negative effect of ICT that users may adopt a more sedentary lifestyle. This can lead to health problems such as obesity, heart disease, and diabetes. Blair (1995), stated that, invention and the use ICT, public transport and other labour saving devices contribute to sluggish lifestyles. Ogun, Zoputan, Utibe and Chukwudimma (2014) documented similar results that Information and Communication Technology has effect on the prevalence of obesity as well as prominent blood pressure among secondary school students in Nigeria.

Despite these concerns raised by the authors above, the benefits of ICT on sports and exercise psychology development cannot be overemphasized. It is against this background that this paper highlighted the benefits of ICT on sports and exercise psychology development.

Benefits of ICT to Sports Development

ICT can be beneficial to sports development in the following ways

Data Base Management.

Database is an organized collection of records that can be reached, accessed and modified. Database can be used by sports managers or coaches to store information in a series of tables consisting of rows and columns of data. Every information on a sports competition could be stored in the data – base; the time schedule for events can be pulled out; name of officials and results. All these could take hours of manual manipulation from paper records but with computer database; and within seconds the information is out (Iheanacho, Okoro & O'Neill, 2013). With the application of the ICT, Database could be regularly updated to record changes. The ability to record changes in sports and making sense and corrections out of it is essential for long term survival of sports management globally which can be made feasible, effectively and efficiently with the application of ICT. With a database, performance can be trapped. The sports administrators can be able to track changes in the sports development in many years. The ability to know increasing detail about individual athletes and teams during competition has been made available by a myriad of technological progressions over the past two decades. Sports scientists across disciplines have requisitioned hardware and software innovations in order to specifically develop better tools and improve methods to capture and process player performance data.

Review of Training Strategies

Another area that ICT can assist in sports development is review of training and practice sessions to monitor improvements and track weak points. According to Iheanacho, Okoro and O'Neill, (2013) video preparation is a major component of professional sports. For example, many coaches, trainers and even athletes themselves can review recorded competitions tapes to study performance at critical parts of a competition and thus learn. They further stated that, a football coach can review game tape to see how to improve his offensive passing/attack and improve on his game plan. Computer also allow sports professionals to store a large amount of video footage in one place as against having multiple discs or cassettes of film; all this information could be stored in a single jump drive or laptop for easier access at short notice.

Accessibility to Sports Equipment and Facilities.

The importance of equipment and facilities to sports development cannot be overemphasized. Most of the sporting equipment and facilities are produced in the advanced countries of the world. In ancient times, it was difficult for the sports men and women in the third world to gain information on the availability and use of these items for sports development. However, in recent times, there has been easy access of information concerning not just the availability of the sports equipment and facilities but a guide on the use and cost of the equipment and facilities. Nowadays, social media has made people to have access to information at a low cost. Through the application of ICT, the sale and distribution of sporting equipment/facilities which are central in the administration/running of sports programme can be done within hours from within and outside the country. Most significant at this juncture is the marketing and commerce application of the web. For example, there are virtually few professional sports teams today that do not have a website; most of them linked together through networks of website coordinated through the various league/offices. All these are geared towards easy access to information concerning sports facilities, equipment and services available for public use.

Simulation and Games

The purpose of simulation and virtual environments is to aid training. It allows a supplementary training environment, where those needing additional work or injured players who cannot fully train, are provided with the opportunity to improve perceptual cognitive and perceptual motor ability. Examples of these tools include video-based decision making tools, virtual reality environments and simulated batting environments. According to Heidary, Honary and Behjanat (2014), Video-based decision making tools can be cost effective for teams and allow the coaches to use any game vision they have and select the most desirable options, providing a high degree of flexibility to suit any team. Teenage athletes can benefit from watching and imitating other athletes using ICT gadgets. Thomas, and Stratton, (2006) further stated that, games such as dance, dance revolution, Fx cycles and Nintendo Wii Fit provide opportunities for students to be physically active and simultaneously enjoying themselves. Concerning the Nintendo Wii Fit, work outs are done on a small balanced board that gamers stand on. The players

receive instructions from screen and mimic the stretching and muscle building exercises. The Wii Fit tracking feature shows progress using the system. Therefore, it can be a valuable tool for sports development.

Application of intelligent management systems

ICT can also be used in application development in diverse areas. For instance, Can, Lu and Gan (2011) stated that, we can Use computer software programming and multimedia information technology to achieve the automation of fitness and recreation sports management, and establish health management systems and office automation systems. Electronic information software can store a large number of public health data, members of the basic information, establish a special database to manage customer information and confidentiality. Access control systems of electronic sensor equipment and the automation system of fitness equipment save manpower and resources, offering better protection for fitness and entertainment venue's operation.

Digital Video Camera and visual analysis software

The use of the motion analysis system will surely enhance many areas of the physical education curriculum both in research and teaching. Using digital video camera has indeed simplified the collection of data. According to Sansanwal (2009), these results can then be imported to carry out interactive multimedia presentation to provide athletes with a better understanding of the importance of breaking skills into components and the consequences of subtle variation in techniques. Sansanwal further stated that, the visual analysis software allows athletes to view captured movement and to analyse them. This particular technology can help teachers to control student's progress towards motor skills goals; provide feedback opportunities and assessing athletes' improvement. Using digital video camera to record performance can be a useful tool to help beginners improve their techniques. With the addition of motion analysis software, sportsmen have a professional supportive tool to learn.

Video Conferencing

Video Conferencing is a technology that allows two or more people at different locations to see and hear each other at the same time. This communication technology offers new possibilities for physical educators, coaches, trainers and athletes at distant locations to share their thoughts together as if they are sitting in a common room. This saves the time and energy to bring all the parties in one location for the purpose of analysis and discussion of sports development.

Benefits of ICT in Sports Psychology

Sports psychology is the study of how psychology influences sports, athletic performance, exercise, and physical activity. Some sports psychologists work with professional athletes and coaches to improve performance and increase motivation. Other professionals utilize exercise and sports to enhance people's lives and well-being throughout the entire lifespan.

Professional sports psychologists often help athletes cope with the intense pressure that comes from competition and overcome problems with focus and motivation. They also work with athletes to improve performance and recover from injuries. But sports psychologists do not just work with elite and professional athletes. They also help regular people learn how to enjoy sports and learn to stick to an exercise program. ICT and its related technology can be utilized within the field of sport psychology in many different ways. Watson, Tenenbaum, Lidor and Alfermann (2001) has stated that, ICT can be beneficial in sports psychology in the following ways

Distance Learning

Presently, several organizations provide distance learning opportunities in sport psychology over the Internet. Through the use of web sites, individuals are able to learn about course assignments, read the necessary text assignments, watch lectures, ask questions from professors and classmates, receive instructional guidance, and turn in assignments. These opportunities allow individuals to live and work in one geographic area of the world, and take specific classes offered in other geographic locations to round out their knowledge base which helps to enhance the professional development of both new and established practitioners worldwide.

Counseling/Performance Enhancement

Use of ICT allows individuals and teams/groups from diverse backgrounds and geographic locations to receive professional guidance from a sport psychology practitioner. Technology such as video-conferencing, e-mail, telephone and chat rooms make it possible for anybody with access to the appropriate resources to have contact with a service provider. Because of the limited number of sport psychology practitioners, there are many regions of the world where individuals do not have an opportunity to talk with a qualified practitioner. Furthermore, the degree of anonymity created through the use of Internet services may also encourage some individuals to seek help who have been reluctant to do so in the past (Offer & Watts, 1997; Sampson, Kolodinsky & Greeno, 1997). Clients can also use these services to ask practitioners pertinent questions between sessions. This advanced preparation has the potential to speed the progress of sessions by allowing for more detailed discussions/treatments to develop during session.

Databases, which contain sport psychology information, can be stored for athletes and coaches on the Internet. Athletes can share their psychological experiences before, during and after training sessions, games and competitions. For example, athletes can report on the intervention techniques that they have used, and what impact these techniques had on their performances. They can also share with others their feelings about using drugs and alcohol, sexuality, and relationships with coaches, friends and family. Sport psychologists can use this information while working with athletes and teams. Similar databases have been used in the past, and continue to be used frequently in psychology (Wilson, 1995).

Through the Internet, a variety of sport psychology questionnaires, tests and devices can be made available as needed. These instruments can be scored on line, and the results sent directly to a practitioner. These instruments can provide valuable information

to both the client and practitioner, and can be used by clients as a means of making confidential information available to the practitioner at any time

Locating Practitioners and Referrals

It is pertinent that there are very few sports psychologist in Nigeria. However, as sports continue to take a center stage in Nigeria, there is an increasing need to utilize the services of the very scarce sports psychologists. The search for a qualified sport psychology practitioner is not always an easy one. ICT has a significant role in this regard. Athletes can contact professionals via the Internet who are not located in their geographic region. The Internet can then be used by practitioners to locate other qualified practitioners for referral in the athlete's geographic location. Once a referral has been made, the Internet can facilitate this transition by simplifying communication between all three parties, and enabling records to be electronically transferred.

Medium for Discussion and Collaboration

The field of sport psychology is a very specialized branch of psychology. Beyond the initial commitment to sport and exercise, practitioners often develop very specific interests within the field. This specialization often makes it difficult to locate informational resources and other professionals with interests in these same topics. The Internet, and technology such as list servers, chat rooms, and e-mail facilitate the processes of collaborating with other professionals and finding information and resources. All these are geared towards sports psychology development which in return helps in the development of sports in general.

Conclusion

Information and communication technology ICT is a two sided coin. On one hand information and communication technology has immeasurable contributions to the development of sports and exercise psychology in diverse ways if put to proper use. However, if do not make judicious use of the ICT, it can lead us to a sedentary lifestyle which is implicated in health challenges. It is therefore wise to take advantage of the positive side of ICT to improve not just sports and exercise development but to better our lives.

Recommendations

The following recommendations are made:

1. There should be frequent workshops to train and retrain athletes, coaches and sports managers on the effective use of ICT for sports and exercise psychology development in Nigeria.
2. People at times think of ICT in abstract terms especially in the rural areas. It is therefore recommended that, athletes, coaches and sports administrators should be taught to maximize their handsets/phones which to some extent can serve the basic needs like downloading videos, surfing, skype, among others.
3. Organizers of competitions should on the interim substitute some awards/trophies with ICT gadgets to encourage the use of ICT at all levels for sports development.

4. Managers of sports institutions should make computer literacy as one of the compulsory criterion for employment and promotion of their staff such as the coaches, trainers, sports psychologists among others.

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