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ADVANTAGE OF INFORMATION TECHNOLOGY IN PROFESSIONAL SPORTS

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ABSTRACT

We are living amidst one of those surprising events that tag along once every couple of ages: a general public wide change in outlook. The end of the most recent thousand years has seen an essential change that is moving society the time of industry to the period of data. The PC connect with which general society is most recognizable is the Internet and the World - Wide - Web, referred to just as "the Web", is the thing that the vast majority consider when we state "the Internet". Note that PC systems need not be constrained to a solitary site or office. Wide Area Networks (WANs) can connect together sports managers situated all through a nation. To enhance the learning and performance, the use of technology is widely used in modern world. Information, communication and technologies (ICTs)—which include radio and television, as well as newer digital technologies such as computers and the Internet—have been toute das potentially powerful enabling tools for educational change and reform. The field of sports and physical education is not left behind while making the use of various latest technological tools.eworld.The refore, the use of ICT,along with other changes,seems to be immensein modernera.This paper aims at highlighting the use of ICT as positive influences upon physical education and sports. The gradual computerization outcomes in our domain can be summarized in the following aspects: educational software, activity designing and planning, result recording, motion examination, biomechanics video analysis, performance comparing and synchronizing, distance and time measurements and activity evaluation. Although physical education and sports are practical activities, specialists fully allow the application of modern teaching technologies in physical education and sports teaching.

KEY WORDS :*Information, Technology, Communication, Tools.*

INTRODUCTION

Information and communication technology represents more than a simple computer utilization, because it also compels us to use some measurement and evaluation of electronic devices, some audio-visual aids for the subject and teachers performance evaluation or even some sequences allowing us to organize and objectively assess the final results. Infect, ICT is an umbrella term that includes many communication devices or applications, encompassing;

The age of Information and Communication Technology (ICT) becomes more and more overwhelming, that is why we, as educators, need to change our conception about the way we teach. ICT helps PE pupils to learn by promoting and enhancing their work on the chosen directions and this may have positive effects upon their motivation and degree of involvement in the activity. At the same time, it helps them to decide on their learning style, which gives them more independence. Consequently, the traditionally

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acknowledged physical education lesson will have to adapt to this paradigm shift, by keeping to the teaching-learning process evolution (Grigore, V., Stanescu, M.).

Nowadays, it's hard to tell the jocks from the geeks. Athletes capitalize on advances from engineering, material science, biomechanics, communication and information technologies to maximize training and performance. And brainiest develop technologies that are transforming every aspect of sport, including coaching, judging, even the design of sports arenas and spectator experience.

We are living amidst one of those extremely bizarre events that go along once every couple of ages: a general public wide change in perspective. The end of the most recent thousand years has seen a crucial change that is moving society the period of industry to the time of data. The money in this new society that is being shaped is data and the mechanism of trade is called IT (and in some cases PC innovation - CT). IT is just the apparatuses and techniques utilized for the ID, association and control of realities that we call information. IT has become the motor that is driving all areas of the present economy be it industry, government, instruction or without a doubt, sports.

The most significant bit of hardware that lies at the core of the entire IT process is the PC. The PC and the product that it runs is a fundamental component in the new cultural worldview and it is a key to progress for the advanced games director. It is THE bit of hardware that enables the games manager to amplify the arrival on rare assets whether this is individuals, offices and gear or funds. Thusly, it is likewise maybe the absolute most significant device to the games executive to expand the span of game and recreational programming to however many potential members as would be prudent.

The use of ICT in PE makes the science of sports come to life by linking both physical and mental activity. It also helps to create full-fledged students who are able to concentrate better on both practical and theoretical work. Besides, it helps students to develop a better understanding of their own body parts and that of the human body in general. It also raises the profile of P.E within the establishment by making the subject not only interesting, but also attractive and effective. Furthermore, it brings enthusiasm and motivation for both PE teachers and students. ICT is also very important with regards to administrative work. In fact, data can easily be collected and shared for analytical purposes, e.g. electronic records of performance of athletes. ICT also promotes teaching and learning within the organization by changing the nature of learning itself. Students are motivated and are able to grasp essential concepts that previously eluded them. By developing their abilities to think in different ways students can select and apply skills, tactics and ideas, to evaluate and increase performance. Moreover, with the infusion of ICT in physical education, life-long learning can be supported through the collection of resources via the internet. ICT is considered the excitement of learning in a different way." In addition, with ICT, pupils are able to get access, select and interpret a wide range of information more easily. They are also able to recognise patterns, relationships and behaviours using appropriate technological software. Furthermore, models, predictions and even hypothesis can be made by students with the advent of ICT. Access to images of quality performances can be obtained through video filming. Hence, students are able to review their work and modify it to improve the quality. Through ICT tools reliability, evaluation and accuracy of actions can also be done. ICT further provides a very reliable source of communication among people within the organization. The use of email, fax, face book or even Skype will enable quick and direct communication among physical education specialists and students. They can even see the fixtures, meetings and many other relevant matters instantly. Throughout ICT tools, pupils can benefit from immediate feedback to improve their observational and analysis skills. As they familiarize with the software, they are able also to point out the relevant points for positive technique. The main advantage, however, remain the general improvement in the performance level of the majority of the pupils' work, a

Just as money has been the currency and a source of power in the old paradigm, information is the currency and a source of power in the new paradigm. No where is the old saying "that knowledge is power" more true than in a society where information or data is the force that drives the new economy. The secret to managing knowledge and information is in the development and maintenance of computer databases.

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A database is nothing more than an organized collection of common records that can be searched, accessed and modified. Database software is very widespread as most standard office computer software packages will typically have a simple database program in addition to word processing, spreadsheet and presentation applications.

There is, however, a far more powerful and useful kind of database for sport managers than the one that comes in the standard software suite: the relational database. A relational database is a data management system that stores information in a series of tables consisting of rows and columns of data. When the operator conducts a search, a relational database allows the individual to match data from one table with data from a second to produce a third table or a report.

Pedometers

Theses apparatus also called step counters are mechanical sensors used to count steps and can easily be incorporated in PE classes. They address motivation, assessment, and advocacy. Furthermore, they are portable and can be worn under the belt and be kept the whole day. Today, it can be said that the pedometer has become a recognized acceptable tool for measuring physical activity. Students can wear a pedometer and receive immediate and continuous feedback regarding their activity level. Using pedometers teacher can also demonstrate to parents that students are achieving a certain level of physical excellence. The FitLinxx Actifed is a next generation pedometer that clips to a shoe and records the wearer's walking, running or jumping as well as measures the distance travelled, calories burnt and total time of active minutes. This data can be stored and sent wirelessly and securely to an Actifed account for the wearer to view their achievement and compare with their peer group .

HEART RATE MONITORS

Based completely on the student ability level and current level of fitness, the heart rate monitor makes learning more students centered. It also provides immediate feedback that can make students work harder. As fitness level increases, student feel that their cardiovascular system is working and can set individualized goal to work more effectively. The Heart rate monitor will also provide real time data that will allow students to see how different exercises and activities affect the heart rate. Hence the heart rate monitor is a convenient apparatus that allows students to use up to date technology.

The Internet

It is important to note that computer networks need not be limited to a single site or facility. Wide Area Networks (WANs) can link together sports administrators located throughout a country. For example, all of the regional offices of a national sports governing body such as the National Football Association can be linked together regardless of their geographic location. All of the operatives so linked can share administrative and programming information and communicate with each other cheaply and efficiently through the medium of e-mail.

The computer network with which the public is most familiar is the Internet and the World - Wide - Web, known simply as "the Web", is what most people think of when we say the "the Internet". While the Internet has been around for decades going all the way back to ARPANEt in the 1960s, the Web is a comparatively new innovation first introduced in the mid 1990s. It is a digital medium which presents information in text, audio and graphics in a simple hyper-text computer language readable by a browser. This medium has simply exploded and today there are more than 15 million web addresses called Uniform Resource Locators (URLs), many with hundreds of individual pages on their sites. Thousands or applications for new URLs are received every week.

The Web is currently used by professional sports teams in ways that the developers of this technology never envisioned. For example, there are no English language radio broadcasts in Montreal for the Montreal Expos professional baseball team. Fans wanting hear the play-by-play in English can only do so by calling up the team's Website and listen to it coming across as an audio feed. Another example of how

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deeply the Internet has penetrated professional sports is how some pro hockey teams now require their players to have e-mail addresses as a means to interact with both the team administration and their fans.

The Digital Divide

In closing I would be remiss if I didn't call attention to one important problem: technological tools can be expensive, which has resulted in what we call in the United States the "Digital Divide". In the U.S., approximately 60% of American adults are connected to the Internet and are on-line. These users are largely from the upper and middle class and have the financial wherewithal to purchase computers and Internet services. It is a matter of great concern that the very people who stand to benefit the most from economies to be realized through information technology as outlined earlier in my discussion on e-commerce are the ones least able to afford it. It is the economically disadvantaged that are currently being left out of the IT revolution.

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. These results can then be imported to carry out interactive multimedia presentation to provide students with a better understanding of the importance of breaking skills into components and the consequences of subtle variation in techniques. The visual analysis software allows students to view captured movement and to analyzer them. This particular technology can help teachers to control student's progress towards motor skills goals; provide feedback opportunities and assessing students learning.

Using digital video camera to record pupils' performance in table tennis for example, can be a useful tool to help students improve their techniques. With the addition of motion analysis software, pupils have a professional supportive tool. For instance during a training session, a 'robot - pong', which is a special technological tool that distribute ping pong balls at varying direction and speed, is used to face a student. The P.E teacher can then use the Digital video camera to analyse the actions more closely. This is done with a view to improve the teaching and learning of table tennis. Digital video clips were used weekly to stress on proper and improper techniques and then the pupils were given the opportunity to evaluate their own techniques.

Simulation and Games

Games such as Dance, Dance revolution, Fx cycles and Nintendo Wii Fit provide opportunities for students to be physically active and simultaneously enjoying themselves .These games can also be combined to other technologies to enhance the experience (Di Giorgio, 2004). 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 PE tool. However, teachers should not consider gaming system equivalent to traditional exercises. It should be considered as a supplement and a not a replacement of traditional exercises.

Mobile camera phones

The use of mobile phones in schools is a contentious issue. Some schools may allow pupils to use their mobile phones within physical education lessons. For example, during an orienteering unit of work pupils can take photographs with their phones of the items they were trying to find and use the picture as evidence of completion of the course. Pupils can also set up their own orienteering courses, using their pictures taken with their phones and transferred to the computers within the lesson. Other groups can then have the opportunity to attempt various different courses which could be an excellent way to integrate ICT

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and literacy into physical education. This could especially work well if there is minimal ICT equipment within the department.

Motion analysis software

The use of motion analysis software within physical education is becoming a more mainstream means of evaluating pupil performance and enhancing learning. There are many software packages available. Software such as 'dartfish' can provide pupils with visual images of their performances that can be slowed down but also enlarged. This allows teachers, using a digital camera, to split the screen into progressive frames and is therefore useful for highlighting techniques in some of the athletic field events or trampolining routines. Freeze-framing and overlay facilities are also a useful application. The footage can be saved and stored for moderation purposes. Whilst there are certain advantages in using this type of software there are also some disadvantages.

Film editing in PE

Video footage taken in one lesson can be edited and used at the beginning of the following lesson to highlight the achievements of pupils but also to identify common faults. This enables teachers and pupils to study individual and team performance across a range of activities. Teachers and pupils can compile footage taken from all the different lessons and use the footage to show other pupils in different classes what to expect using film- editing software. It is imperative, however, that you understand the issues involved in using moving and still images of pupils and that school policies and protocols are adhered to when using ICT to record pupil performance.

Portable multimedia players

Portable multimedia players (PMP), sometimes referred to as a portable video player (PVP) or an Internet Media Tablet (IMT), are capable of storing and playing digital media. Digital Audio Players (DAP) that can also display images and play videos are portable multimedia players. Like DAPs, the data is typically stored on a hard drive. Micro drive or flash memory. Other types of electronic devices like mobile phones are sometimes referred as PMPs because of their playback capabilities. Below are some specific examples of multimedia players and how they can be used in physical education lessons to support teaching and leaning.

Interactive white boards

An interactive whiteboard is a surface onto which a computer screen can be displayed through a data projector. As it is touch-sensitive it allows teachers to use a pen or finger like a mouse to control the computer from the board and save any changes for future lessons. In addition, multimedia resources can be used as well access to the internet and websites to support teaching and learning. Interactive whiteboards are a useful teaching aid in classroom-based lessons as they can support learning through presentations, demonstrations and modeling, actively engage pupils and improve the pace and flow of lessons. A laptop computer that is linked to a data projector can also enable you to use this type of resource in a sports hall or gym. Teachers can use interactive whiteboards for showing a whole class a particular technique from video demonstrations taken immediately afterwards or in a previous lesson.

The virtual learning environment (VLE)

The virtual learning environment (VLE) has transformed the way in which pupils learn and teachers teach. The virtual learning environment is a global website that allows pupils to access their work and their curriculum from anywhere in the world. It is rights-protected and therefore only parents, students and staff will be able to log in. Pupils work can be set, collected and marked via the VLE, saving on a great deal of paperwork and collection and deadline dates. This, in turn, can empower pupils and inform their own

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learning. Pupils are able to make more decisions, as tasks will be completed at their own pace and potentially in their own time.

Video conferencing

In schools video conferencing can be used for formal teaching, using guest teachers, multi-school projects and community events. Once connected, pupils can see the other person on a TV screen and ask questions. The equipment required includes a TV monitor, camera, microphone, speaker and a compressed video system which can be transmitted through an Integrated Services Digital Network (ISDN). Video conferencing can provide pupils with the opportunity to learn in different ways, which might include a focus on a particular topic being covered in physical education at examination level. This could be arranged with another physical education department where teachers can offer particular expertise within an examination syllabus allowing for the sharing of information. The use of YouTube is a video-sharing website where users can upload, view and share video clips. It uses Adobe flash video technology to display a wide variety of user-generated video content, including movie clips, television clips and music videos, as well as amateur content such as video blogging and short original videos. This has many advantages for a physical education teacher wishing to visually describe a sport, an action, a skill or technique to a class. For example, if you are introducing a new invasion game to pupils such as Kabbadi, video clips taken from YouTube can be shown to highlight the main principles and purpose of the game. Ofsted (2009) cited one school where this was very effective in which the inspector observed the following.

CONCLUSION

ICT applications in sports the executives are significantly changing the manner in which that we work together. Thoroughly considering how we can utilize this sort of gear and these devices enormously improves results. Most importantly these IT instruments are quickly turning into a need for the games chairman at whatever level in the games chain of command they are working. Being the world of digital era, technology has accounted for many changes in the educational sector. These changes range from the method instruction is delivered, to the attitudes on how learning occurs to the amount of collaboration and knowledge sharing between not only students, but also between teachers, managers and administrators. ICT represents one of the most useful tools to enhance curriculum if used correctly. Throughout ICT tools, pupils can benefit from immediate feedback to improve their observational and analysis skills. As they familiarise with the software, they are also able to point out the relevant points for positive technique. The main advantage, however, remain the general improvement in the performance level of the majority of the pupils' work, as they struggle their way to look impressive especially if their performance will be analysed on digital video system.

REFERENCES

http://curriculum.becta.org.uk/docserver.php
http://www.sportsbusinessdaily.com/Daily/Issues/2011/01/Jan-28/Classified-Advertisements/InDepth.aspx
http://www.thesportjournal.org/article/information-technology-and-sports-looking-toward-web-30
http://dsc.discovery.com/technology/tech-10/sports-tech/10-techs-transforming-sports-05.html
http://ai.arizona.edu/mis480/syllabus/6_Osama-DM_in_Sports.pdf
http://library.witpress.com/pages/PaperInfo.asp?PaperID=19367

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