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Information Technology- Integral Part of Sports

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Abstract – In today's world everybody has played sports video games on a computer. It's fun to compete and see how well you can play against a "virtual" rival. However, the uses for computers in sports go far beyond video games. This paper consists of how information technology has become an important part of sports.

Keywords: E-Learning, Gadgets, Spreadsheet Application.

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I. INTRODUCTION:-

The emergence and use of technology in this century is a significant development affecting the teaching, learning and promotion of sport. Sport Education is faced with a new dimension dominated by e-learning. The modern technology helps to increase accessibility of content for learning sports. This paper highlights the use of modern technology in sports, gadgets used in modern cricket. Positive and negative effects of computer games.

II. E-LEARNING IN SPORTS

Sports e-learning platforms can help athletes excel in their sports, the same way traditional education e-learning platforms are helping students. Further, it can act as a complimentary tool for coaches and parents. Pro-active learning, easy access to expert learning content and mastering the fundamental skills will make young athletes better leaders in their sport and in life.

1. Accessibility to expert coaching

Location and monetary restrictions prohibit many from having access to expert coaching. What you are left with are young athletes that either can't practice the sport they love, or are coached by volunteer coaches who they themselves don't have a mastery of the sport in question. This is not due to any negligence by their part, but simply the accessibility to expert learning content is not there. Imagine every child, and for that matter every coach, having the chance to master the sports they want to play regardless of location and economic status.

2. Learning at your own pace

Traditional coaching, as with traditional education, is rushed and usually follows the pace of the fastest learners… specifically in group training. This leaves many young athletes to prematurely progress to the next level in order to keep up with the team. Eventually, because of this, the basic fundamentals that these athletes fail to acquire can hamper their chances of being successful in the long run. Again, this is not due to any lack of talent or drive, but completely circumstantial. An e-learning tool can allow these athletes to learn "at their own pace" and progress "step-by-step" by mastering all the necessary fundamentals.

3. Injury prevention and awareness

Let's tackle prevention first. One cannot always prevent injury but can definitely decrease its likelihood. Athletes that have a better understanding and mastery of the fundamental skills of their sport… will reduce their chances of injury. For instance, if a young athlete has never been thought properly how to take a hit in football, going in line with the themes in the two previous paragraphs, he will be more likely to sustain injury rather than someone who has mastered that particular skill. What about awareness? Concussions are a huge problem in sports, specifically in noticing when they happen. Most athletes, coaches and parents are not aware of the symptoms and how to react to them. This is a danger for the athlete as he will have a harder time to recover, or may have a relapse, should he enter the field prematurely after a major injury like a concussion. Having a sports e-learning platform that gives you access to learning content on various injuries can be an indispensable tool to help manage injuries.

4. Freeing the coaches time

Having your athletes engage in pro-active learning through an e-learning platform can free up the coaches time to focus on refining individual skills, as oppose to completely teaching them. Furthermore,

the coach will have more time to teach tactics and strategy as well as put more time into team bonding.

III. GADGETS USED IN MODERN CRICKET

Snick meter

Commonly known as Sniko, the technology is used in televising Cricket to graphically analyse sound and video and show the noise frequency to find out whether the ball touched the bat before going to the fielder.

Hot Spot

The Snicko was not considered as accurate enough, hence the Hot Spot was introduced to Cricket. It is an infra-red imaging system used to determine where the ball has struck before going to the fielder.

Hawk Eye (UDSC)

This technology is widely used among popular sports like Cricket, Tennis, Soccer, Hurling and more for visually tracking the ball and display a record of its statistical path through movie image.

Pitch Vision

Developed by miSprot, a UK-based company, the technology has been widely used in the Cricket training system. The Pitch Vision is designed to be used by the full spectrum of Cricket users to provide players key performance feedback.

Spider Cam

The Spider Cam enables film and television cameras to move both vertically and horizontally over a predetermined area, typically the playing field of a sporting event such as a cricket pitch.

Stump Camera

The Stump Camera is a small TV camera stuffed inside a hollow stump. The camera gets aligned vertically the camera view through a small window on the side of the stump via a mirror. These cameras help generate unique view of play for action replays specifically when a batsman gets bowled.

Ball Spin RPM/ Rev Counter

This technology is used to show the rotation speed of the ball. It is used when spinners are bowling, to show viewers the idea how much each ball is spinning.

IV. POSITIVE AND NEGATIVE EFFECTS OF COMPUTER GAMES

Computer games are a great source of recreation for teens. Although these games have been around for decades, today's sophisticated games require the players to play close attention. Teens engage on a deeper level while playing, both emotionally and physically. So is playing video games good or bad ? In a way, it is both good and bad.

1. It Improves The Cognitive Functions:

According to research conducted by C. Shawn Green, the psychologist of the University of Wisconsin, video games can benefit the teen's cognitive functions. It changes the brain structure exactly the same way while playing the piano, navigating the map and learning to read. The combination of concentration and the surges of neurotransmitters strengthen the neural circuits that build the brain.

Scope of Automation

2. Hand and Eye Coordination:

Research has shown that teens can learn spatial, visual, and iconic skills from the video games. Some games require a great deal of visual-spatial ability and hand-eye coordination to be successful. The player has to coordinate the brain's reaction and interpretation with his hands and fingertip movements.

3. Quick Thinking and Accuracy:

The action in video games prepares the gamers to make quick decisions. It trains the brain to make fast decisions without losing accuracy. A study has also shown that video games can train surgeons and soldiers.

4. Improve Your Child's Decision Making Skills:

Gaming will improve your child's decision-making skills. The study has found that teens that play video games made decisions 25% faster without affecting accuracy. Teens adept in gaming can make choices and act upon them six times a second, this is four times faster than normal.

5. Encourages Teamwork:

Multiplayer games that involve cooperation with other online players encourage teamwork in teens. Video games also help teens to make the most of their skills to contribute to the team.

Negative Effects of Video Games On Teenagers:

1. Increases Aggressive Behavior:

Video games with violent content can lead to aggressive behavior in teens. It can also desensitize them to violence. Studies have shown that teens who like playing first-person shooter style games are likely to adopt a detached view of the society. They also develop aggressive thoughts and tendencies.

2. Social Isolation:

Another negative effect of video game is that teens are spending too much time playing games than playing outdoors. Video games are making teens socially isolated. Teenagers who play too much video games are also less likely to indulge in extracurricular activities like reading, writing and participating in sports.

3. Teaches Wrong Values:

Besides violent behavior, video game also teaches teens wrong values. Video games portray women as weaker characters. They depict women as helpless and sexually provocative personalities. Teens also pick up bad language and behavior while playing with other people online.

4. Poor Academic Performance:

This is one of the serious effects of video games on teens. Playing long hours of video games can affect your teen's performance in school. If your teen spends more than two hours gaming, then he may have trouble falling asleep and paying attention in school. Video game addicts also skip their homework to play games, leading to a downfall in their grades.

5. Adverse Effects on Health:

Excessive gaming can have adverse effects on the teen's health. Teenagers, by spending too much time playing video games, do not participate in activities that can keep them healthy and fit. It leads to obesity, muscular, skeletal and postural disorders, video-induced seizures, nerve compression and numbness in hands, elbows and shoulders.

IV. COMPUTER SCIENCE TO SPORT

In this section I will first enumerate briefly some of the areas of computer science that have been, are or could be, successfully used and exploited for the needs of researchers and practitioners in sports.

1. Computational support for research works.

2. Databases, expert systems and digital libraries.

2.1 Helping coaches to analyze game statistics, put them into graphs, and sift through video tapes of selected athletes

2.2 Serving as a motivating tool to explore problems in human motion, physics and mathematics in conjunction with video analysis software

2.3 Developing instructional/teaching videos for athletes and teams to demonstrate the correct technique or strategy in a given context

2.4 Coupling a simulation component with the integrated expert system, database, and video component providing the additional opportunity to analyze "what if" scenarios

3. Augmented realities and ubiquitous computing in which physical and computational worlds are tightly integrated

V. CONCLUSION

I believe that there can be both positive and negative consequences of these activities, but in general the attitude toward sports are more positive than playing computer games. Physical education essentially requires the performing physical activity. This is associated with the development of motor skill. Physical education within the school system requires time, facility space and interactive lesson plans. Technology provides access to information, compresses information, motivate learners, and connect learners to teachers and teacher to the colleagues. Information technology has become an integral part of sports and will continue to be in future.

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