Chapter I

INTRODUCTION

In recent years, the rapid advancement of technology has created new interests and tools for use in the educational domain. Researchers have identified different instructional, sport and physical education-related technologies that can potentially enhance the effectiveness of teaching physical education (Roblyer & Doering, 2005). In particular, the development of wireless technology, computer projection systems, physical activity monitoring systems, and active gaming devices (using video physical activity) and software provide new opportunities in the gym (NASPE, 2009). Technological devices commonly used in physical education include computers and laptops, LCD projectors, digital video and digital cameras, audio equipment, heart rate monitors, pedometers, handheld devices including mobile phones, PDAs, GPS, and video game consoles including "exergame" dance mats (Mohsen, 2008). In addition to technological devices, educational sport software and the Internet are also used to support physical education courses.

Technology in the information revolution has provided many unique benefits to instructional programs. Although traditional ways of instruction are widely accepted in teaching and learning environments,
some educational institutions have started to implement computer technology as an instructional approach. The introduction of computers into the business world in the mid 1950s made important changes for future perspectives because the purpose of the first generation computers had been purely scientific.

The early 1960s saw the integration of computers into both business and scientific life, but this was only in limited functions. Microprocessors were used to build microcomputers in the mid 1970s and the first personal computers (PCs) were introduced for individual use in business and in education. An abundance of educational and business software was also developed. In this era, the computer caught the imagination of educators to see how it could enhance learning and thinking and now the computer assistant instructional as an instructional technique (Mohsen, 1995).

Using instructional multimedia in motor learning leads to the clarity of performance, facilitating the conception of movement to be learned which, in turn, helps in acquiring and maintaining the learning experiences more quickly. It also helps to increase the efficacy of the educational process and makes it more interesting, thus achieving its goals. Moreover, instructional multimedia puts an end to boredom and increases their motivation to learn.
Nowadays, it is obvious that visual materials have been used in every field and technological devices, especially televisions and computers, have affected students. As a result of instructional materials that are supported by a variety of sound, image and animations are observed as more lasting, enjoyable and effective ones. Learning is resulted from seeing in 83%, hearing in 11%, smelling in 3.5%, touching in 1.5% and tasting in 1% (Demirel, 2004). Learning is resulted from seeing 75%, hearing 13%, smelling 6%, touching 3% and tasting 3% (Kucukahmet, 2001).

Kretschmann (2010) described three kinds of sports-related software to use in teaching sports and physical education: 1) videos of the specific sport techniques and game tactics; 2) software for analyzing game play (e.g., Simi Scout) or human movement (e.g., Simi Motion); and 3) commercial gaming software that can have a motivating effect in educational affairs. Moreover, while the Internet provides easy access to knowledge about everything including scientific and non-scientific information, it also provides different platforms for easy and cheap communication with others (e.g., email, video conferencing, group discussion opportunities).

Teaching in Physical education helps develop the physical abilities in general. In addition to that, it develops the knowledge about the sports
sciences which is important to improve the sports performance. The problem is that some students find theory in physical education, with a huge amount of new vocabulary, a boring one. It typically starts with Kinesiology, rushes through biomechanics and Sports Medicine, and tries to distinguish between Anatomy and Physiology, Sports Psychology, Training Methods and so on. Many of the (sophomore) students lack the study skills to abstract the important ideas in a lecture or chapter, organize the information into a coherent whole, and then access that knowledge as required in tests. Words, either spoken or written, do not communicate ideas as well as images. Static listening to lectures or reading the textbook requires the students to build these images in their mind, and only the best few can really do this for themselves. The most successful courses involve hands-on laboratories in which students can explore and experience things for themselves, and take an active part in the learning process.

Due to advances in computers and electronic media, the potential for quality education has been elevated with the appearance of innovative instructional methods employing multimedia equipment and resources. E-learning materials have been developed for a variety of disciplines. In the area of sport and physical education, which focuses on human motion, media for picturing this motion, such as video and animations, are
particularly useful. They allow presenting how to perform certain motions and to illustrate sports techniques. Variations in speed (e.g. slow motion), viewpoint or degree of abstraction (e.g. stick figure animation) provide various modes of presentation.

To our knowledge, there are no studies investigating how multimedia materials affect learning of tactical behavior. It is therefore of interest to get more insight, if and how technical and tactical education in sport may benefit from multimedia assisted instruction. The effectiveness of such educational material was therefore investigated when utilized in a sports practice course. Special emphasis was put on investigating the impacts of animations in order to find out, if this form of dynamical visualization is particularly beneficial in tactical education.

Many technological devices have been used in the past by PE teachers to improve the quality of their work. An early example is when loud hailers were replaced in the early 1930’s by amplifiers to announce result at school sports days other useful innovations over the days have been the slide projector, the film projector, the record player. The film droop televisions and the over head projector. More recently we have had the cassette, compact disc and video players and of course computer technology undoubtedly the future will bring further advances.
Audio-visual aids have become an increasingly important part of the work of the physical education department. They are a valuable aid in the teaching and learning process, and you need to be able to operate the equipment and access these resources in your school with confidence (Susen Capel, 1997).

Technology provides knowledge to produce goods offers service and meets the present and potential human needs. It increases human output and problem solving skills. The technology should contribute to social development of a nation. Technology brings about changes in attributes, values and life styles of people. Technology has been used more and more for material gain, acquisition, consumption and consumerism. It promotes scientific, social and economic development of a nation.

The vision of technology as a powerful tool for teaching and learning will not be realized under the present educational organizations where traditional instructional practices are being followed. Educational institutions are considered as community centers and ‘Learning organizations’ open throughout the day and year, not only expands support for public education but may be the only way to realize sufficient cost savings to make technology affordable. Technology provides knowledge, competencies, skills and opportunities for students to succeed
in a technology society. Science and technology provide a new shape to the world. They have about a growing discontinuity with the past.

As teaching is a complex activity, it needs systematization for an effective delivery of information. Otherwise, the learning may not be effective. To ensure better information delivery, teachers have to understand the dynamics of the teaching learning process. As yesterday’s knowledge becomes obsolete today, teachers have to cope with new changes and ideas in the field of education. New technologies new methods and practices help the teacher design the instruction in an effective way. In recent times, technology has totally, revolutionized the educational system and as a result, new ideas, methods and practices emerged to make the instruction effective and meaningful. Particularly multimedia courseware has totally revolutionized education, paving the way for new approaches and techniques in the teaching learning process.

**Recent development in Physical Education**

Modern teaching learning process assigns an important place to student activity. It calls for a chilled-centered approach. The most distinctive feature of modern society is its science-based technology which has been making a profound impact not only on the economics and political life of a country but also on its educational system. The changes that occur as a result of the impact are broadly described as
modernization. This modernization has affected the teaching-learning process in many ways. The recent changes in the concept of teaching-learning process have led to the development of never areas of educational endeavors. In a traditional society the aim of teaching-learning was the preservation of the accumulated stock of knowledge. But in the modern society, the main aim of teaching-learning is not acquisition of knowledge alone. It is the awakening of curiosity. The simulation of creativity, the development of proper interests, attitudes and values and the building of essential skills such as independent study. Teaching learning process has to serve a powerful instrument of social economic and cultural transformation of the society. Teaching learning process is conditioned by the nature and demands of society which the learner should get adapted and attuned one of the main aims of teaching learning in the modern society is to keep pace with the advancement of knowledge and skills.

For a pretty long period, the teaching learning process has been by and large, a process dominated by the institution of professional teachers. Now, the process is to be replaced to a great extent by a process in which the individual learner is expected to take up challenges through an inevitable intellectual revolution has been set in by forces of hardware technologies at low cost socialization process due to interdependence.
Besides, projects, arms factories, markets, excursions and play ground will become classrooms in the new teaching learning process (J.C.Aggarwal, 1996).

**Multimedia**

Multimedia, is the combination of various digital media types such as text, images, audio and video, into an integrated multi-sensory interactive application or presentation to convey information to an audience. Traditional educational approaches have resulted in a mismatch between what is taught to the students and what the industry needs. As such, many institutions are moving towards problem-based learning as a solution to producing graduates who are creative; think critically and analytically, to solve problems. In this paper, we focus on using multimedia technology as an innovative teaching and learning strategy in a problem-based learning environment by giving the students a multimedia project to train them in this skill set (Damodharan, V.S. & Rangarajan,V. 1999).

In a few years we may have programs that will give a coach access to the Knowledge doge of the most expect coach in the world, all available in response to “natural language” guest ions. However, expends do not agree on the potential of expect systems. He best and Stuart dreyfus have worked with artificial intelligence, yet they believe
that expect systems may be of only limited value. They algae that humans are not rule bound in working their decision, as computer are so expects system can have be better than advanced novices in their ability to deal with complicated problems.

They liken the human mind to a hologram, arguing that the mind is more concerned with images than words. Computers are widely used in many areas. The technology scan in medicine today will eventually have application in sports setting, at least as research and diagnostic tools.

The computer technology used in the sports is mechanic gained much media attention in the mid-1980’s as did its used in training world class and Olympic coaches. Computer are used in health and fitness clubs and inexpensive software is sold for home fitness analysis instruction and record keeping to ignore the computer in today’s work is to ignore present and perhaps to write off our greatest possibilities for the future (Ekta Golki, 2003).

Multimedia typically refers to the presentation of material in two forms: auditory/verbal and visual/pictorial (Mayer, 2001). Multimedia is media and content that uses a combination of different content forms. The content forms includes a combination of text, audio, still images, animation, video, or interactivity content forms (Wikipedia, 2012). Multimedia is usually recorded and played, displayed or accessed
by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia is distinguished from mixed media in fine art; by including audio. The strategies have included PowerPoint (Mayer & Johnson, 2008), games (Moreno & Mayer, 2005), and computer-assisted video learning (Gay, 1986) in a variety of content areas, in addition to auditory and video media. Using multimedia will appeal to the senses of learners either athletes or students to perform optimally.

The use of multimedia systems in the class rooms and training centers has received considerable thrust from the general trends toward individualization of learning and encouragement of student participation in learning process.

Multimedia systems are also multisensory and thus stimulate learning as it takes place in the world outside the classroom. They include multimedia kits, modules, and sound slide combinations. Motion film and video television etc. However, their use in teaching physical education and sport is in flounced by many considerations even though their value is immense. The excursion has will be confined to motion films, video and television (Wikepedia, 2006).

Multimedia is media and content that uses a combination of different content forms. This contrasts with media that use only
rudimentary computer displays such as text-only or traditional forms of printed or hand-produced material. Multimedia includes a combination of text, audio, still images, animation, video, or interactivity content forms.

Multimedia is usually recorded and played, displayed, or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia devices are electronic media devices used to store and experience multimedia content. Multimedia is distinguished from mixed media in fine art; by including audio, for example, it has a broader scope. The term "rich media" is synonymous for interactive multimedia.

**Computer Assisted instruction (CAI)**

Computer Assisted instruction or briefly known as CAI is an interesting innovation in education captioned technology. Its marvels have been demonstrum and seem to revolutions the whole spectrum of education. It has better flexibility and more versatile than any of the teaching machine. It can educate to the individual needs of many students at a time pupils with reliability. The time taken by individual student is responding to a question and extent of correctness in the same is also recorded by the computer. All this helps the educator in planning instruction and providing relevant materials.

Computer Assisted Instruction is an instructional technique in
which the computer must actually instruct the student, and the computer contains a stored instructional programme designed to inform, guide and test the student until a profile level of efficiency is retained.

Computer-assisted instruction improves instruction for students with disabilities because students receive immediate feedback and do not continue to practice the wrong skills. Many computer programs can move through instruction at the student’s pace and keep track of the student’s errors and progress. Computers capture the students’ attention because the programs are interactive and engage the students’ spirit of competitiveness to increase their scores. Also, computer-assisted instruction moves at the students’ pace and usually does not move ahead until they have mastered the skill. Programs provide differentiated lessons to challenge students who are at risk, average, or gifted. Computer-assisted instruction (CAI) is a narrower term and most often refers to drill-and-practice, tutorial, or simulation activities offered either by themselves or as supplements to traditional, teacher directed instruction (Kathleen Cotton, 1991).

Computers are a familiar sight in classrooms in the twenty-first century, and technology has been used to streamline many educational tasks. There are different types of educational computer use, and not every use of a computer in the classroom is considered computer-assisted
instruction. The educational uses of computers that are considered to be computer-assisted instruction (CAI) or computer-based instruction (CBI) are those cases in which either instruction is presented through a computer program to a passive student, or the computer is the platform for an interactive and personalized learning environment.

Within the broad definition, computer-assisted instruction may follow different paths to the same end. One example is how computer-assisted instruction is used in relation to other teaching presentations. CAI can be used either in isolation, bearing the whole responsibility for conveying instruction to students, or in combination with conventional, i.e., face-to-face, teaching methods. Research has shown that the combination of conventional and CAI instruction has been most effective in raising student achievement scores.

CAI uses a combination of text, graphics, sound and video in enhancing the learning process. The computer has many purposes in the classroom, and it can be utilized to help a student in all areas of the curriculum. CAI refers to the use of the computer as a tool to facilitate and improve instruction. CAI programs use tutorials, drill and practice, simulation, and problem solving approaches to present topics, and they test the student's understanding (Wikipedia, 2006).
CAI in Physical Education

In physical education and sports, computer technology has got different applications to perform. Computer technology imports knowledge in health, physical education, recreation, and dance in the areas of research, classroom teaching and coaching. While the overall effect is not yet fully assessable, the presence of technology in so many different aspects of the profession makes it important to more clearly recognize and appreciate its current and potential role.

The majority of the research on CAI has been conducted in PETE and athletic training programs. Research in PETE programs has been in the field of biomechanics, kinesiology, and athletic training courses. Some of these studies have found that CAI has a positive effect on undergraduate athletic training courses (Buxton, B. P., Speitel, T. W., & Holgen, K. A. 1995; Chen, 1995). In addition, two research studies found no significant effect of CAI on undergraduate physical education majors’ knowledge in biomechanics courses (Boysen & Francis, 1982; McPerson & Guthrie, 1991).

On the contrary, research on the effects of CAI in physical education method courses is limited and until now there have only been two studies that produced results that do not support CAI as an effective instructional method. McKethan, R., Everhart, B., & Stubblefield, E.
(2000) conducted a study to determine the effects of a multimedia computer program on pre-service elementary education classroom teachers’ knowledge of cognitive components of movement skills such as overhand throw, catch, and kick. Researchers used critical components of the cues to assess subjects’ knowledge. Results indicated that there were no significant differences on specific cue descriptions. In another study, McKethan, R., Everhart, B., & Stubblefield, E. (2001) replicated the same study on physical education majors’ knowledge of cognitive components of movement skills. However, the study found no significant effects of CAI. Consequently, similar to other subject matters, research in K-12 physical education and PETE has produced different and inconsistent results related to CAI as an instructional strategy.

Computer-assisted instruction (CAI) allows students to proceed at a rate that is appropriate and meaningful to them. There are several kinds of CAI software available for use in health and physical education programs.

Overview of CAI programme

CAI is becoming more popular in medical and allied health education. Due to the rapid increase in medical knowledge, research, and technology over the last 20 years, educators have been forced to change their teaching approaches. The computer’s ability to manipulate and store
large amounts of data stimulated an interest in its use for educational activities (Coggan, Hoppe, & Hadac, 1984). With more disciplines integrating computers into clinical practice, Croft (1993) suggested that schools have a responsibility to teach students about their use, and in turn this might improve computer use in the disciplines and society.

CAI makes learning a joyful experience. Through its computer aided lessons, CAI is very encouraging in eliciting response of the children. They love to click the course and see pictorial representations and they welcome this kind of joyful methods of learning. Accessories like pressure pad, which takes down the command on being pressed gently and voice – sensitive and light –sensitive devices give them joy and fantasy. CAI makes classroom learning interesting and effective, self-learning easy and successful and lifelong learning possible for all. CAI has great potential for improving the process of teaching and learning.

The use of computers is growing at an exponential rate as new technologies are being developed. Because of the increased availability and affordability of computers, their use is expanding to new educational arenas. Fincher and Wright (1996) defined computer-assisted instruction (CAI) as “any form of instruction that uses the computer to present instructional information.”
Multimedia simply refers to the use of a variety of mediums integrated into one to convey information. Research examining the effectiveness of multimedia instruction is varied and controversial.

Two types of research designs are basically used to examine the effectiveness of multimedia instruction: multimedia instruction as a supplement and multimedia instruction as an alternative (Keane, Norman. G.R., Vickers, J., 1991). A large amount of research has been conducted in traditional medicine and nursing, with little focus on the field of athletic training.

Research in CAI

Over the past three decades, educational researchers have investigated the effects of computer use on student achievement and attitudes. This area of research is expanding to include computer applications in support of the academic curriculum (Lee & Vail, 2005; Simic, 1993).

In considering the use of CAI as an intervention or instructional material some research studies have indicated that the use of CAI improved student achievement for the following academic achievement and performance in science education. (Ahmet Hakan Hançer and Ahmet Turker Tuzemen, 2008). CAI with programmed instruction/distance learning approaches (Harrington, 1999), learning
mathematics and problem solving skills for high school students (Shyu, 2000; Chuang & Chen, 2009) higher level thinking skills (Wenglinsky, 1998), applications and software (Chaung and Chen, 2009), verbal and language skills of pre-schoolers (Shute & Miksad, 1997).

Research completed in basic instruction programs at the college level does not support the effects of CAI on bowling knowledge (Steffen & Hansen, 1987) and tennis knowledge and rules (Kerns, 1989). Only one study has found results that support CAI on cognitive and psychomotor skills in tennis (Konukman, 2001).

Tennis

Real Tennis is the king of all racquet sports, a game where subtlety and thought are more prized than power and fitness. It is played in an asymmetrical court which contains many unusual features, sloping roofs, openings (galleries) in the walls and a main wall which has a kink in it (tambour) so the ball on hitting the sloping face moves across the court instead of continuing down the line of the main wall. It has the classic elements of warfare where a failed attack is punished by a counter-attack.

The game is played with racquets made of wood, of reasonable dimensions (not those over-sized snow shoes favoured by lawn tennis players), and with hand-made balls re-covered every week with new cloth. The ball can be given spin either by the player or by contact with
the wall and the action of this spin can be even more deadly than Shane Warne; reading the spin is an important part of the game; initially one is totally bewildered by the spin but soon one begins to judge where the ball will move after contact.

Service is from one side of the court and there are about a dozen different types of serve and each has a few variations. The scoring is intricate but not complicated. Games and sets are scored as in lawn tennis (lawn tennis, a comparative new comer, took its scoring system from tennis) but the unusual feature of tennis is the chase. A chase is a point held in abeyance and occurs when a ball bounces twice without being struck or enters some of the galleries (but there are three openings wherein the entry of the ball wins the stroke not a chase). The chase is recorded, e.g. chase better than four means that the second bounce of the ball was nearer than four yards from the back wall. However no stroke is scored. There are lines on the floor to help measure the chase. If one chase is laid and the score is within one point of game or if two chases have been laid, the players change sides (and service) and the other player has to ensure that the second bounce of his or her return is nearer the back wall than the chase(s) marked. The opponent may leave any ball that seems to fall further from the back wall than the chase marked and so win the point. And there are some wonderfully esoteric chases, e.g. more than
a yard worse than or hazard one and two, which exist just to keep one's brain ticking over.

Some hand--eye coordination and physical mobility is essential but it does not require the sort of fitness and agility required by squash in order to enjoy the game. The game can be enjoyed at many skill levels and a system of handicapping has been devised in order to make games competitive between players of different ability. Age is no barrier and many octogenarians play the game, and to a good standard.

Tennis has been changing a lot during the last 15-20 years but for many decades teaching methods were behind general development of the game. Tennis started to lose the battle to other, especially „new” or more “elite” sports and other leisure activities. One of the reasons was that the traditional method of teaching tennis was focused on a technique or production of the strokes (Crespo 1999) without understanding real character of the game and approach has not been changing for many years. Results of studies undertaken by the ITF showed that, in some, especially more matured tennis countries, tennis appeared “not to be a fun game to learn and play for the vast majority of youngsters interviewed” (ITF, 1998). It is interesting that similar problems occurred in Physical Education in developed countries like e.g. England and concerned some of traditional games (Werner, 1996).
One of the greatest tennis tips for beginners is to practice with a purpose. No matter how much time you have to practice or what your goals are, it’s always important to practice with a purpose. As a tennis beginner, you are likely still learning the ropes of the game. The brain simply has a lot of new information to process, and it will take time for these new concepts to fully sink in. The tennis tips for beginners will require a lot of practice and hardwork (Wikipedia, 2013).

Therefore, the investigator was intended to examine the effectiveness of a multimedia computer assisted instruction, traditional instruction and combined instruction learning the skill performance over a period of eight weeks.

**Statement of the Problem**

The purpose of the study was to find out the comparison of multimedia computer assisted instruction, traditional instruction and combined instruction on learning the tennis skills and rallying ability.

**Research Questions**

1. Would the three instructional methods namely multimedia computer assisted instruction, traditional instruction and combined instruction improve the selected dependent variables while the presence of covariate?
2. Would the multimedia computer assisted instruction, traditional instruction and combined instruction groups differs each other while improving the selected dependent variables?

**Delimitations**

1. To achieve the purpose of the study, 36 students studying Bachelors Degree in Physical Education, (B.P.E) in St.John’s College of Physical Education, Veeravanallur, Tirunelveli District, Tamilnadu were selected as subjects randomly.

2. The age of the subjects ranged from 17 to 25 years.

3. The selected subjects were randomly divided into three groups namely, Multimedia Computer Assisted Instruction Group (MCAIG), Traditional Instruction Group (TIG) and Combined Instruction Group (CIG).

4. The following dependent variables were selected for this study, such as Skill variables.
   
   i. Forehand drive
   
   ii. Back hand drive
   
   iii. Service
   
   iv. Rallying ability
5. The standardized tests were used to collect relevant data on the selected dependent variables.

Limitations

1. The previous experience of the subjects in the field of sports and games, which might be influencing on the data collection, was not considered.

2. Psychological factors, food habits, rest period; life style and so forth could not be controlled.

3. The previous knowledge over the use of computer could not have been controlled.

4. The weather conditions such as atmospheric temperature, humidity and meteorological factors during testing period were also not considered.

5. Though the subjects were motivated verbally, no attempt was made to differentiate the motivation level during the period of testing.

Assumptions

Validity of this study will rely on the following assumptions:

1. Participants were performed the training protocol correctly.

2. Participants were performed the assigned training sessions separately, for three alternative days per week.
3. Participants were not performed any vigorous exercise during the course study.

4. Participants were tested accurately by standardized test items.

5. Participants complied with the best of their ability to the training and testing directions.

**Hypotheses**

1. There would be significant improvement on the selected dependent variables due to the influence of Computer Assisted Instruction, Traditional Instruction and Combined Instruction.

2. There would be significant difference among the experimental groups on the development of selected dependent variables.

**Definitions and Explanations of the Terms**

**Traditional instruction**

Face-to-face instruction delivered by a teacher dispensing knowledge and demonstrating skills using lectures sometimes integrated with discussion and group work (Wikepedia, 2013).

**Computer Assisted Instruction**

“Computer-assisted instruction” (CAI) refers to instruction or remediation presented on a computer. Computer programs are interactive and can illustrate a concept through attractive animation, sound, and
demonstration. They allow students to progress at their own pace and work individually or problem solve in a group (Wikipedia, 2013).

**Combined Instruction**

It refers instruction in both (traditional instruction and computer assisted instruction) way.

**Multimedia**

Multimedia, is the combination of various digital media types such as text, images, audio and video, into an integrated multi-sensory interactive application or presentation to convey information to an audience (Wikipedia, 2013).

**Tennis**

A game in which two or four players strike a ball with rackets over a net stretched across a court. The usual form (originally called lawn tennis) is played with a felt-covered hollow rubber ball on a grass, clay, or artificial surface.

**Forehand Drive**

The forehand is played with the palm of the hand facing the direction of the strike. For a right-handed player this would be a shot in front of or to the right of the body (Wikipedia, 2013).
**Backhand Drive**

A stroke played across the body with the back of the hand facing the direction of the strike. For a right-handed player this would be a shot playing a ball in front of or to the left hand side of the body. (Wikipedia 2013)

**Service**

Every point is started with a serve. Each game begins by hitting from the right side of the court into the left hand service court and from alternate sides from then on. Both feet must be behind the baseline when the serve is struck.

The ball is tossed into the air and is struck in a similar manner to an overhead smash. The server has two chances to make a good serve (Wikipedia, 2013).

**Rallying Ability**

Good return and resulting in a point or the loss of service. The player hit the ball continuously either in forehand or backhand drive.

**Significance of the Study**

1. There are various uses for technology in Physical Education; besides the assessment and instructional functions. It is a great resource for communication and understanding of teaching content.
2. Computer based teaching offers a great deal in terms of broadening the learning and communicating skills.

3. The use of more technology in the classroom or on the playing field by physical educators would not only help them to keep up with the changing times, but also add a learning tool to the classroom setting.

4. Technology acts as a catalyst for fundamental change in the way students learn and the teacher teaches.

5. It is a known fact that, successful and technology-rich institutions generate impressive results for students, including improved achievement, improved student retention, improved student attitude, enthusiasm, and engagement; richer classroom content; and job placement rates.

6. Similarly, instead of teaching them the skills of tennis by words, they would get re-energized and much more excited by seeing the skills through videos (Computer Assisted Instruction strategy) and learn the skills quickly.

7. The findings of the study will add the quantum of knowledge in the area of training methods.

8. The computer education is an important area for research for development of physical education and sports profession.