CHAPTER-I

INTRODUCTION

Man is always striving for perfection in every area of knowledge and practice. Human being is a unique product to nature’s creations and evolutions. It is no doubt, on account of highly developed muscular and nervous system, which enables him to think, express and search whatever he wants to do. In the modern life, the scientific development, technological advancement and research findings in every part of life demands fitness to overcome all the behaviors of life.

A happy child is a pride of nation, children are the world greatest resources let us have a great millennium ahead with reference to the investment of child’s developments which would be an investment of a strong and developing nation like our country India (Johnston, 1980).

The rational of a fitness need has been expressed in numerous ways to the public in the past few years. Although fitness must be planned longitudinally for optimum benefit. As Dr. Roy Shepherd a prominent Canadian researcher in physical activity has stated “Physical activity is a learnt behaviour” and the earlier the habit is acquired the most likely it is to persist into adult life”.

Underlying the objectives of the fitness initiative is a belief that physical fitness is a very personal matter and is ultimately the responsibility of the individual. Each person in accepting or rejecting this responsibility must realize the implications of the choice on the lives of others in our families in our communities and in our society. The 1920’s were particularly significant for the field of testing. During this era, however new statistical techniques became available and more scientifically constructed tests were developed. Pioneer work in the field of scientific test construction was done by C.H. McCloy of the University of Iowa, David. K. Brace of Texas developed his motor ability test. Frederic Cozens devised a test of general athletic ability for college men. These early tests have served as model for modern test construction.

With the help of football one can reach near to paradise. Religious aspects come afterward therefore our young generation must strong enough. That is why I suggest to all of my friends be strong. You will perceive the mighty genius and the mighty strength of better with a little of strong blood in you. You will understand the Upanishads better and the glory of Atma. When your body stands form upon your feet. What I want is muscles of iron and
nerves of steel inside which develops a mind of the same material as that of which is the thunder bolt made  

(Vivekananada, 1986).

The very word “Fitness” implies suitability. If a person is fit he must be fit for something. A Totally fit person would be free from disease and organic impairment. He would have enough endurance and stamina to do days work without undue fatigue, participate in wholesome and worthwhile recreation and meet emergencies without inordinate physical or emotional trauma, such a person would possess not only adequate strength and skill to perform daily tasks efficiently but also the test and vitality to enjoy living and participate in vigorous activities appropriate to his age and interest (Froast, 1975).

The physical fitness status of National population varies between National due to such influences as age, sex, heredity, ethnic, cultural and economic patterns and the physical environment. Leaders in physical education around the world have shown increased relation in earlier period regarding the specific level of physical fitness of their nations populations. This concern is reflected by the development and administration of fitness tests in many different countries.

To develop and maintain the physical fitness requires vigorous efforts by those who in real sense are physically strong and seem in their appearance good and also acquired the best health which is requisite for blissful life. The possession of optimal strength muscle tone and endurance not only for emergencies but for the everyday living can be the key to dynamic health (Barrow, et al., 1979).

The measurements and assessments about the fitness of the body’s status of youth in different countries provide information with which one can make an indirect comparison between the levels of effectiveness of physical education programmers with regard to achieving physical education objectives. By measuring, weighing and evaluating the physical fitness levels and athletic abilities of their students. Physical education teacher can establish growth curves and set fitness and athletic ability standards. Such data can be used to make comparison between programmers of physical education and between populations of youth.

Ever since the U.S.A. experienced that a large number of its citizens were not it enough to be recruited in their armed forces during World War II, there has been an ever growing interest in adopting programmers to promote physical fitness especially in school going children. One attempt to identify difference in physical fitness levels between National populations of youth was made in 1954 by Kraus and Hirschland in which the result of the
The Kraus-waver test of muscular fitness for American children and for European children were compared. Kraus and Hirschland suggested that the poor American showing could be explained by the high degree of mechanization that excised in American society and the consequent comparative lack of Physical activity in the daily lives of youths. The study of Kraus and Hirschland provided the stimulation for a national conference in 1965 to consider the fitness of American youth (Hans et. al., 2000).

This is such an incessant quality of Physical fitness which leads one’s life prosperous until death. It is related to the ability to meet the demands of the environment specifically to preserve to withstand stress to resist fatigue and to possess the energy for an abundant life. Physical fitness is minimal in the seriously ill and is maximal in the highly conditioned person, while energy demands of daily task vary for individuals. Some position between these minimal and maximal poles is satisfactory for most people. Since the individual is totally non divisible into discrete parts physical fitness affects all phases of human existence. It is vital for the whole person to maintain neuromuscular, cardiovascular and other organic systems by improvement of Physical fitness through exercise. This chapter reviews motor, fitness, and sport skill assessment practices for students with physical fitness. Like Jorge in the opening scenario. The chapter begins with specific strategies that will help children with physical fitness understand what to do and perform at their best. This is followed a review of assessment tools that might be used with children with physical fitness as is also dependent upon organic fitness as well skill, both of which can be acquired only through a gradual process of training. A certain minimum level of fitness is needed for everyday. But over and above the minimum level the requirement of additional fitness depends upon the nature of work that the person may have to do (Robert, 1998).

The student from various schools and colleges whose physical fitness and students from Universities have been largely ignored in our country. There is absence of sound and broad physical education programmed in schools and colleges.

It is learn that “Physical fitness” factor was totally understood in a different way by the people and by the different direction. They said that to have a better “off spring” to have healthy citizens parents must be physically fit. So they encouraged the people to keep themselves physically fit, for which they were given more facilities. Several royal rules were made flexed. In order to popularize physical activities once a year, they started to conduct sports fairs, where several types of competitions were organized and the winners used to be
honored. This gradually gave birth to sports. These sports used to be of differed type, where one had to exhibit ones power and strength on one another (Hans et. al., 2000)

The World Health Organization has set a target that every person in the World should become health conscious by 2000 AD and it is a right step in the attainment of health for all. The International Olympic Committee has signed an agreement with WHO for furthering the cause of health for all and sports for all by 2000 AD. The agreement is clearly directed towards attaining total fitness of all individuals by 2000AD. To attain this objective the citizens of the nation are to be made health and fitness conscious and for this purpose scientific programs should be made all ages (AAHPERD,1984).

Definition of physical fitness has been presented in most of the literature in various way. A Physical may define it as the absence of disease. Some athletes may rate fitness according to the amount of musculature developed. Other individuals apprehend the fitness as the potentiality to act in various games and sports related to few sports skills. The authorized council of the physical fitness and sports had stated that it is kind of measures of the fitness in physical and sport which increase the strength of stamina of the body, and flexibility, perhaps the most comprehensive definition has been given by the American Medical Association, which defines fitness in sports and physical activity as the whole common stamina to respond and adopt favorably for maximum results and their efforts. In day to day life for effectively and safe working without getting exhausted and having maximum energy for various recreational activities and leisure which comprise personal physical fitness while they get in to ordinary and at the same time they meet with unusual demands that arise, if any. Fitness in Physical and sport could be divided into both categories which are as follows: a) fitness related to health, b) fitness related to motor skill.

Most authorities agree that from a health point of view total physical fitness involves four basic components that are separate but interrelated cardiovascular endurance, muscular flexibility and endurance, as well as body composition and muscular strength. To improve the overall fitness level an individual has to participate in specific program to improve each of the four basic components, nevertheless, after the initial fitness boom swept across the country in the 1970’s it became clear that just improving the four components of physical fitness alone would ensure better health and make it decrease the possibility of any type of diseases. Physical fitness can mean thing. To a physician, physical fitness may simple mean the absence of disease. To a weight lifter, it may be synonymous with large bulging muscles. To a health or physical educator, physical fitness may mean the ability to perform a specific
number of calisthenics activities or in specific duration to walk at least one mile or run for one mile. To a health fitness professional, physical fitness means being able to acquire and maintain specific health standards. When people are asked to define or to describe the term fitness, their most common replies deal only with the physical part of fitness. Two other parts of fitness that are often overlooked are mental emotional fitness and social fitness. Total fitness is said to be achieved when people possess all there parts of fitness mental emotional social and physical mental emotional fitness is a combination of many qualities. Two of these qualities are the ability to control emotions and the ability to handle stress. A positive self-concept and the ability to feel and to show love and concern for others are other qualities of mental emotional fitness. Social fitness is the ability to get along with people in many kinds of situation. Behaving in ways that are socially acceptable are signs of social fitness. Physical fitness is achieved when people are able in order to carry out their daily routine with enthusiasm, cautiousness and except unwanted fatigue (Powers, 1999).

For taking part in various leisure activities and to get the stresses that is the part and parcel of many emergency conditions for physically fit people. It is one of the richest possession of physical fitness the one who wants to gain it has to be obtained through a daily physical exercise as well as through its daily practice those who adopts this physical fitness, lean to get better felling and feels and also experience good health which gives the genuine quality to life. It is a requisite for physical fitness that enable strain and stress that may occurs due to different sporting activities and games that may prove fruitful for prevention of sports injuries in the long run and is an inseparable part of sports performance and achievement. The quality of an individual sportsman’s the level of fitness, the greater is the ability of a person to attain higher level of performance (Camaione, 1993).

“A Fit nation is an asset and weal nation a liability” Fitness means a satisfactory adjustment to one’s environment. Physical education is a tremendously important issue in modern life, worthy of our serious attention. People are more cautious and alter related to vast advantages of fitness and how to gain it than earlier. Their present information regarding physical fitness is been earned. The benefit of physical fitness were neither achieved how to get it clear nor defined. Various concept of fitness related to physical education and sport are discussed in large almost in every book in the field of physical education and sport still it has not got an idea to interpret it whole that concerns which extends the concepts of total fitness. The definition of total fitness has been presented as encompasses physical education in which the fitness of spiritual, social and moral as well as every other kind of considerable
characteristic if any. Related to physical education and sport the fitness is studded with in a specific and broad opinion of entire fitness and exclusive as to give not any value. To overcome this barrier having so large definition, generally people are often described and looked physical education to meet their requirements of day to day life by using maximum amount of endurance and muscular strength.

As stated above related to the definition of physical education which is entirely incorrect and inadequate. Whose life are we talking about what is adequate. Recently most of the people are leading toward prosperous life just by watching various channels in television without doing any physical work which can give minimum amount of strain to their body. If the people have adequate stamina, endurance in their body and sufficient strength they are assumed to be physical fit was the overall judgment of general people who were physically inactive whose immediate requirement of professional and social life. Such kind of definition related to physical fitness and sport creates many questions than it answers. It has been identified and recognized by professional in the field of physical education and sports related to characteristics in it’s least form.

A news view of fitness is emerging, one rooted in a Socio-ecological view of health. Traditionally, fitness has been viewed nearly totally as individual issues with improved fitness seen as a matter of individual responsibility. When people are unfit or less fit than one might like them to be, then they get the blame, to the point where their character or fortitude is questioned. Clearly, the fitness movement of recent time has been predominantly a middle and upper socio-economic class phenomenon. The fact that children youth and adults of low socio-economic groups have not participated in this fitness renaissance is not a matter of choice nor can any blame be attached to members of these groups for not joining the fitness movement. If society is to become healthier and if a more fit citizenry can help to achieve that public health goal, then this new approach to understanding the social complexities of fitness and activity across the variety of groups within our society is necessary. We must view fitness as an individual and a social issue and we must attempt to restructure society so that more people have the opportunity to engage in activity, to pursue fitness and to remain healthy.

As far as fitness related to person’s other than physical education and sports the significance of physical fitness begins on a micro level in our cells since birth in our whole body. It takes excessive oxygen while performing various physical exercises, which is kind of fuel for the brain and heart. The heart starts to work faster pumping and provides fresh blood
and oxygen to the body which help in cleaning the cells. When we take breath we omit carbon dioxide which is a waste product. As far as heart is concern which is the vital part of muscle of the body it can be developed strongly or weakened. By performing daily physical fitness exercises strengthens the heart muscle which supports to prevent various diseases related to heart. If the working of heart is good it signifies that the blood circulation throughout the heart is good and the circulatory system is functioning well. By performing daily physical fitness exercises it helps to strengthen heart and helps in prevention of strokes in heart and help to regulate blood or HDL (High-Density Lipoprotein).

Promotions of health and physical fitness have been the main objectives of physical education from ancient time’s world over. However, in the recent past neglect of one’s own health for various reasons has been evident, especially by a vast majority of adults. This was the direct result of wrong emphasis on winning by a few selected top athletes, at the sacrifices of the health and physical fitness of the population. The nation as a whole was shocked at the poor performance of our sportsmen in International competitions. Consequently, there seems to be better awareness and attitude, at least among many of the educated and at long last the fitness of the individual is being talked about. Some positive propaganda on physical fitness is being made through T.V. There are crowds to watch high performance sports, often sponsored by industries or private firms. How far these would promote physical fitness of the vast population in India is doubtful. The people should not become more spectators but involve themselves in physical activities which would make them fit and thus improves the quality of life.

In the curriculum of physical education Physical fitness plays a very important role. Among the various objectives of physical education such as Health, participation in games and sports, as cultural heritage, develop qualities conducive to social and sports and national unity, mental alertness, maturity and citizenship, the objective of physical fitness can be realized only through a program of physical education, whereas in the realization of other areas the school curriculum may also play its part. in other areas of physical education for achieving better success Physical fitness is essential in the curriculum.

Feeling fit and fine is all about fitness. Feeling fit certain to health and fine is about the mental state. Fitness has assumed even greater significance in the present times because the daily routine of most people is devoid of regular and effective exercise. Our forefathers did not need any gyms or health clubs because their lifestyle involved a lot of physical activity. Walking long distances was a matter of routine; many people used bicycles, which
gave them enough exercise. Since there were no televisions, playing outdoor games were their idea of recreation. Women labored through the day on activities like cleaning grinding, cooking et al, since there were no fancy gadgets. Unpolluted air open spaces unadulterated and fresh food added to their fitness and good health. One the contrary the present generation has to make an extra effort to get required physical exercise the lifestyle has necessitated it. Health is the most important topic to be discussed as healthy person can live long and contribute his her best to the society. The future of society depends upon the present students and hence healthy student means a healthy and better future of the society. Health never means merely absence of diseases, but it is the individuals to live most and serve best. Thus health is a holistic concept comprising of growth, development and proper functioning of each organ and system physical strength and vigor as well as its social mental emotional and moral health of the student. Laying the stress on the importance of health education and fitness Swami Vivekananda ji said, This ATMA not attainable by a weak man, If the students of a country are healthy the country is sure to make the apex mark in every field of life, Those countries had made progress in every field where the health and fitness of students were given preference. Thus if health is so important and precious, then awareness of health and fitness is most essential. Health education promotes good health habits, maintains the norms of good health, informs about health and hygiene, helps to locate physical deformities, provides knowledge for prevention and control of diseases, provides first aid training, develops sense of responsibility, advices and guides maximum development of students etc.

The most productive and fruitful time period in the life of human is student life. Whatever he she have gained in this period, is most beneficial for the society as well as the country. So Students health should be taken at par. As far as human body is concerned physical fitness plays an important role which makes one to perform to its extreme potential. The features of the body and muscle strength of the body condition for better and pleasant look fitness plays and major role. For performing vigorous work the body fitness must be able to perform it, which necessitates everyone to perform exercise for limbs, organs, etc. for sound and robust performance of the body and to derive all possible advantages it is necessary for everyone to perform their daily routine physical fitness exercises. These are not the hollow words or the fiction of an idealist philosopher’s brain they are pregnant with a stork reality a reality which the individuals and the nation must take cognizance of health and fitness are sine quo none of human life. Healthy and fit student is an asset while a weak student a liability is truism the former commands and the later demands. Realizing that
human efficiency and productivity are very much dependents exclusively on students health and fitness. For efficient functioning of different motor mechanism of body one needs to perform Physical fitness exercise daily. A fit student possesses sufficient reserve of energy to meet emergencies. The physical fitness play an important role for balanced life of every student. Health and fitness is important as it improves the total efficiency of student, ensures better growth and development of body better functions of the body systems prevents health hazard, improves shape, size structure and weight of body etc. It prevents premature ageing and develops social qualities to lead a better life. Students are the vulnerable to stress, tension anxiety mental disorder and other health disorder in this competitive world. The useful energy which can be utilized for the development of a student gets spoiled to overcome these diseases. This useful energy can be saved and channelized for the benefit of student.

Various people have their different emblems of their physical fitness. Acceding to most of the doctors, the appropriate working of physiological system is physical fitness. While going through this term of the physical fitness is a simple and which has deeper meaning in it of the physical fitness of a common person means the ability of to do day to day life task without any tiredness or exertion and physical fitness of a common person means the capacity to do the routine work without any fatigue or exertion and after doing his work he has poor to do some more work and the recovery is quicker. The chapter concludes with information on how to translate assessment data into information that can be used to plan a program and create appropriate IFP goals. Physical fitness implies a relation between the task to be performed and the individual’s capability to perform it. As noted throughout this chapter, working with children with physical fitness presents unique challenges. This is no more evident than when trying to assess a child’s motor, fitness, or sport skills. To get accurate assessment data, educators must make sure children with physical fitness understand what to do and try their best during testing a sufficient reserve of energy to meet the demands of emergencies in which a person is unexpectedly called upon to perform activities demanding unusual expenditure of strength, energy and adaptive ability under unfavorable environment.

It is very important thing which helps to leads happy and satisfactory life which get form Physical fitness. This fitness is also primary requisite for getting reduce from the danger which are related to lungs and heart diseases. Physically fit individuals tend to have lower resting blood pressure. Everyone want to maintenance it is one of the important tool which make one to do his/her daily routine and work easily therefore generally it is said that one’s wants to get rid from barriers of the life for life time is only possible by the physical fitness.
Components for physical fitness is flexibility, Endurance, Strength, Speed, Power, physique, posture, nutrition and co=coordinative abilities. Fitness not involves not only physical but intellectual, emotional, social and spiritual aspects of an individual. Interaction and interdependence of these phases of man’s health or such that any deviation from normal in any aspect of these components of fitness will make a person inactive to get the requirement imposed on him by his work on way of life. Following are suggestions for areas to address when testing children with physical fitness.

Learning about the child

It is critical that the physical educator learn as much as possible about the child before testing is started. Many children with physical fitness present unique behaviors, communication issues, and other challenges that require unique testing procedures. Following are some key aspects of the child that may influence how testing is conducted.

Medical background before beginning an assessment, the examiner should ask the child’s parents or special education teacher about any medical or health issues that might affect testing. For example a child might be on medication for anxiety that has led to weight gain and lethargy. Which would clearly affect fitness testing and general motivation. A complete medical and health history of the child is not necessary; examiners need only information that may influence testing such as the child’s energy level and ability to pay attention and focus.

Behaviors: The child’s special education teacher or parents, or both, can provide information about any behavior issues that might influence or facilitate testing. For example, it would be helpful to know of any triggers that may upset the child’s so these can be avoided during testing. For example for a child who does not like loud sounds, balloons in the environment may be scary- examiners should also be aware of any behaviors that may pose a danger to themselves or the child such as running away or self-injurious or aggressive behavior. Related to this is knowing how to help the child calm down if she does get upset. Again, this type of information is available from the child’s special education teacher and parents.

Teaching style: Many children with physical fitness are under a special teaching system such as applied behavior analysis or structured teaching (treatment and education of autistic and related communication handicapped children. Whatever system is being used needs to be incorporated into the testing setting. For example, a child in an ABA program will most likely receive reinforcement after a set number of successful trials or a set time period. This system of reinforcement should be used in the gymnasium during assessment. The child would be given a token toward reinforce after two minutes; then, after receiving a
set number of token, the child should receive the reinforce. Similarly, a child in the TEACCH program might be used to having all materials in basket; when the basket is empty

**METHODS OF EXERCISE FOR PHYSICAL FITNESS:**

1. Place cones or other markers (lines) at the required distance to provide a visual cue of where to start and stop.

2. Allow the student to run along a line marked on the floor.

3. Allow the student to run laps without regard to the cadence.
   Shorten the distance required.

4. Allow a peer or instructor to run alongside the student to provide verbal cues such as start and stop and provide demonstrations.

5. Allow the student to watch others perform the test prior to attempting.

6. Use additional visual cues such as picture cards or a stop sign to show to the student at appropriate times.

7. Allow the student to complete as many curl-ups as possible without following the cadence.

8. See how many curl-ups the student can perform in a set amount of time

9. Place an object, such as a Koosh ball or beanbag, on the far side of the test strip to give the student a tactile cue when his hands have slid the required distance. Cue the child by saying, “touch the beanbag.”

10. Instead of using the test strip, allow the student to place her hands on her thighs and slide her hands up to her knees when performing the curl-up.

11. Place a sticker on the student’s knees as a visual cue and ask him to touch the sticker to promote the proper form

12. Place colored pieces of tape at various distances on the measurement board of the student’s leg, and use short verbal cues to ask the student to reach for different colors.
13. Have a peer demonstrate alongside the student.

14. Provide a footprint or other marker to help to identify where the feet should be placed.

15. Allow the student to perform modified push-ups.

16. Allow the student to perform a static push-up. Have the student get into a correct push-up position with elbows extended and body straight. Time how long the student can hold this position.

17. Place buckets or hula hoops at certain distances around the track or running area. Give the student a beanbag and have him run and place it in the next bucket. Have him continue until he has completed the distance.

18. Allow the student to run a shorter distance instead

19. Have a peer run alongside the student to provide encouragement and verbal cues

The term physical fitness conveys different meanings to different people according to their own viewpoints. For physicians it is absence of ill health. For an employer it is ability of performing maximum work. For military recruitment it is body built and psychic stubbornness. For lay people it is sometimes resistance to disease or at other times absence of fatigue or athletic ability. It is therefore not possible to have any universally acceptable criterion of physical fitness. In general the various criteria of physical fitness can be classified in three groups.

1. The morphological or anatomical characters e.g. height, weight and other body measurements. Their optimal values depend upon the hereditary factors. But not all individuals possess them to their optimum degree. Nutrition and graded habitual use of the part are essential factors for the optimum development of the various parameters.

2. Psychological Set Up: This depends upon the moral and religious training of the individual and the impact of the social and economic environment upon his life.

3. The physiological balance: The ability of the various systems to respond optimally to stress and to return back to the resting state forms the basis of the physiological balance or dynamic equilibrium.
The term fitness implies the stamina and capability of the person to perform or to do a given task. For determining the physical fitness for any particular task, the appropriate characters from each group should be chosen and their minimal acceptable values or standards for that particular task must be determined. The examination of the subject should then be carried out accordingly and his degree of fitness evaluated by comparing the findings in his case with those accepted as standards.

A medical practitioner may be asked to pronounce on the fitness of an individual or to advise on techniques of getting fit. This term of the physical fitness comprises a condition in which some of the dysfunction has been omitted and all organic dysfunction are explicated which generated from disuse. Many of the attempts to find an objective measure of fitness have been, perhaps unfortunately, dominated by consideration of elite athletes and physiological indices which may limit their performance. This is of course very different from the case of the ordinary individual wishing to achieve longevity or competence and enjoyment in a particular field of sport. Measurement of vo2max Commination. One of the key characteristics of children with physical fitness is significant deficits in speech and language. With regard to expressive language, some children with physical fitness can speak, others use picture boards to communicate, and still others use rudimentary forms of sign language. It is important to find out the communication system used by the child and then use this system during testing. It should be noted that most children with physical fitness understand some verbal language, and most teachers use verbal cues when presenting information. The key is for the physical educator to find out as much as possible about a child’s receptive language and how to present information verbally. Many children with physical fitness get confused when presented with long verbal directions. It may be more appropriate and effective to use a one-or two word verbal cue coupled with a gesture such as pointing to the target, rather than saying, “take your ball and throw it toward the target.” The simple command “jump” coupled with an exaggerated arm swing is better than saying, “stand on this poly spot, and then when you are ready, swing your arms like I am doing and jump as far as you can” even better would be to show a picture of a child throwing. Say “throw,” and then demonstrate throwing.

Preparing the child for assessment

A key to a successful valid assessment session with a child with physical fitness is preparing the child ahead of time. Children with physical fitness are easily confused and as a result may become anxious, withdrawn, or agitated. These unwanted behaviors can be
avoided by helping the child understand what is going to happen during the testing session. This preparation can be accomplished by using social stories, using schedules, practicing some of the test items in the classroom, and meeting the person who will be conducting the assessment.

But undoubtedly training exerts some of its effects at a much higher level in that skills are increased and movements performed and work done with greater economy and psychologically a well-trained subject enters on the task with enhanced confidence. (Wilmore et. al., 1978).

**Meaning of Physical fitness to Children and Young People:**

To discover what the term physical fitness means to elementary, high school and college students, we surveyed 10,000 children and young people throughout the United States. The answers given were then analyzed to determine the most common concepts held by students in regard to their understanding of the term physical fitness.

The implications of the results of this survey include the following:

(1) As an objective of physical education, students do not clearly understand the meaning of physical fitness and its place in educational programs.

(2) The meaning of the term physical fitness should be communicated to students’ at all educational levels and to the public in general.

(3) Physical educators should assume the responsibility for communicating key concepts to students in regard to physical fitness. This responsibility should be part of the subject matter and the theory underlying their field of endeavor.

(4) Communication should be better between professional leaders in physical education and those practitioners functioning in schools, colleges and various agencies at the grass roots level.

(5) Physical education cannot be limited to activity alone. Basic concepts underlying the field of physical education should be learned and understood by all persons concerned. (Rogers, 2007).

**Anaerobic Capacity:**

Anaerobic capacity is defined as the energy production during exercise that occurs from reactions other than mitochondrial respiration. Anaerobic activities are those which are
on the high level in short duration with its high intensity. Several tests are commonly used to assess anaerobic power; one of the most frequently used is the Wingate test. The Wingate test is designed to determine both peak anaerobic power and mean power output at the time of a 30-s assessment test. The Wingate test has been used extensively in assessing the anaerobic capacity of children.

Young children have a distinctly lower anaerobic capacity when compared to adolescents and adults. Some of the reasons for these differences may be related to (1) low levels of male hormones, (2) a lower glycolytic capacity, (3) lower lactate production during exercise, (4) a decreased capacity to buffer acidosis during exercise, (5) lower rates of glycogenolysis during exercise and (6) a lower lactate threshold. As children mature their ability to increase anaerobic capacity improves.

The responses to training improve with maturity. Maximal oxygen uptake is strongly related to lean body mass, which increases throughout childhood. In addition, oxygen delivery to the working muscles and oxygen extraction and utilization all improve with age and growth. Peak anaerobic power also increases with age and growth. Social stories are very helpful for children with physical fitness who have strong language skills. The child’s teacher or the physical educator writes and then reads an explanation or what will happen in the upcoming activity, what the child might seem, who might be there, and what the expected behaviors are. The following is an example of a piece of a social story for testing. Finally, an excellent way to prepare a child for testing is to practice some test items in the classroom or the gymnasium. Initially, it is best to practice the test items in the classroom because it is a safe, familiar place for the child. The teacher or teacher assistant can present test items at first, and then later the physical educator can come into the classroom and present others.

**Basic Guidelines for Fitness Program:**

Many people are confused about the type and amount of exercise needed to become and stay fit. Some people who workout regularly started out improperly and found it a struggle. Fortunately, they survived the early rigors to become regular adherents. But for all those who made it, there are many more who didn’t. In my lectures throughout the country, the same basic questions are asked. How hard do I have to exercise? How far do I have to run? Do I have to run to be physically fit? How long do I need to work out? How often do I need to work out? What are the best activities for getting in shape? These are fundamental questions and they need to be answered before starting or resuming a fitness program. The
concept and guidelines that are needed to set up a sound and reasonable program are provided. This information will help you determine for yourself what the best activities are and how hard you should work out to get the results you want.

As the child becomes comfortable with the test items and with the physical educator, he can be brought down to the gym to practice items so they can became comfortable with the testing setting. This does not have to be a long. It recently published a position paper based on the existing evidence from all over the world concerning exercise prescriptions for healthy adults. This paper summarized the most widely accepted guidelines for developing and maintaining cardiorespiratory fitness. The fitness training methods in this book are in accord with these guidelines.

Drawn-out process. Practicing in the classroom can take place three or four times each day for two days. Then practicing in the gym can be done two to three times over two or three days. As noted earlier, children with physical fitness often have behavior and communication challenges. These challenges must be addressed to obtain the most valid and reliable assessment results. In other works, Physical educators want to make sure they are assessing the child’s motor and fitness skills and not her ability to understand directions and stay on task. This section describes how to conduct the assessment in a way that accommodates the child’s unique learning needs. Setting up the testing environment an important key to successful testing is carefully setting up the environment to make the child as comfortable as possible.

The time bound activity of physical exercise is directly concerned to consolidation of the activity which exert our expect heart rate which makes able us to extend our work for a long duration. Than is allowed by a more intense level of exercise. Most research and our own experiences suggest that an exercise session of 30 minutes is sufficient to produce beneficial fitness changes. Thirty minutes seems to be the threshold for significant improvement even though there is some additional enhancement in cardiovascular functions from training sessions for up to an hour or more. For a beginning program it is often unwise for you to be able to exercise continuously for 30 minutes or even reach a 75% level. Due to your present fitness level your beginning workouts will most likely be limited to short periods of vigorous exercise alternated with more moderate levels of exercise such as walking.

**Frequency:**
Continuous persistency to a spontaneous exercise schedule is requisite if anybody wants to fulfill and manage sufficient level of the physical fitness. This research suggests that training effects are both gained and lost rather quickly. Therefore you must work out regularly.

Surprisingly, we have found that daily activity, though desirable, is not necessary to improve one’s cardio respiratory fitness. The things mentioned above can be achieved through regular work and enough practice. Keep in mind, however, that improvements in many aspects of physical fitness continue over many months. It is wise to allow several of the initial weeks for adaptation. This recommendation is based on the assumption that your conditioning workouts will eventually be at your target heart rate intensity for at least 30 minutes. In our programs, adherence to such a vigorous physical fitness program has yielded physiological benefits for the participants.

**Mode:**

The environment should be free of extraneous distractions such as other people and equipment that will not be used during testing. Equipment that will be used during testing should be neatly organized, ideally in the order in which it will be presented to the child. As noted earlier, equipment can be placed in one big basket to cue the child when testing is completed. However, vigorous, continuous, and rhythmic activities that involve the large muscle groups can be excellent for the development the whole body which helps the heart to get beat at a rhythmic which is sufficient enough to show the effect of the physical fitness, challenging your cardio respiratory system.

In common, routine where there is need of short bursts of speed and rapid motions do little to develop cardio respiratory system. For example, 30 to 60 minutes of racquetball or tennis, even four days a week, is not as good as rhythmic, endurance type activities for substantial physical fitness. Obviously, the skill of the participant determines the training benefit of any sports activity. If you and your opponent have a reasonable amount of skill, you may be able to stay active enough to keep your heart rate elevated for conditioning purposes. However, a sustained workout for 30 minutes at your 75% HR reserve intensity four days a week, will produce greater cardio respiratory fitness. You will be better prepared for your racquetball or tennis game. In other words, you can gain specific size to play your favorite sports rather than getting in shape by playing. If you have been inactive, you should avoid highly competitive sports which usually require sudden bursts of energy and quick
movements. The older you grow, the more dangerous these activities become till one has been taking regularly part in the proper physical fitness activities. Today, nearly everyone preaches the virtues of physical fitness, yet many of these same people do not themselves maintain a regular fitness program. Two primary reasons for this failure to maintain individual fitness are not knowing: (1) How much exercise is enough, (2) The kinds of exercise that work best for physical fitness. In fact many written on physical fitness activities. One frequently hears vague statements, such as, “There are many ways to develop fitness,” Do your own thing, choose whatever activity you enjoy, or don’t overdo it, Don’t seat. Such suggestions are chaotic and groundless and confuse the reader. Of course there are different ways to develop cardiorespiratory fitness. Nevertheless, you must exert yourself, in a continuous and rhythmic activity at a substantial level of exertion for at least 30 minutes. And you must adhere to this program regularly.

The key is the heart rate. It must be pushed high enough and held there long enough for cardiorespiratory conditioning to take place. Let’s be clear about it: it takes effort to be physically fit. This does not mean punishing, exhaustive exercise, but rather a workout that is well within your present physical capacity.

It is not like behavioral processes of exercise and physical activity which health attributes of physical fitness a person possess such as cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition which contribute to one’s capacity to do physical activity. Different fitness levels are mainly an outcome of our level of physical exercise and activity which is channelized to enhance the multiple features of fitness. The American college of sports medicine which ascribed these physical fitness attributes can be attained through exercising at the duration, consolidation, level of frequency and kind of exercise prescribed. Our physical fitness levels however are also partly a result of our genetic endowment. There is no question that some individuals have a higher natural capacity to excel at various exercises or sports because of their genetic makeup. Scientific evidence, the part which is related to the health indicates that taking part in physical exercise has been our regular activity in comparison to traditional part of fitness. Those who feel they cannot benefit from physical activity because they have not been dealt genetic cards allowing them to obtain elite fitness levels are mistaken. Physical activity is required to make use of the genetic makeup of any individual. Sedentary individuals differ in their health related fitness level because of physical inactivity and not genetic capabilities. Although we cannot choose our parents, we can choose how we live our lives.it is the boon that human body has
specifically designed to do physical activities therefore no should get surprise that symbols of breakdown in chronic sedentary.

According to many people physical fitness is somewhat like stamina strength, capability, enthusiasm and zeal which make a man able to do a work though this view of fitness is partial. The term of fitness is in reality a very wide term which is required to be viewed and perceived in large. It should be taken into consideration that physical fitness is complete physical fitness which comprise readiness to the life and soundness as well as it functions. There may be special kinds of fitness such as fitness for certain occupations and behaviors etc. that perhaps is the reason why people talk of physical fitness, mental fitness, emotional fitness or social fitness referring to its specific nature in specific context. Most people by mistake, consider strength as the sole basis of fitness. Strength is important but there is however no fitness that solely rests on muscle strength with adequate strength only we can resist disease postponed fatigue and has enough vigour and vitality in order to perform our life routines efficiently. But strength is end in itself, it is valuable only when other part of the fitness of the human body like velocity, tolerances etc. are in proportion and simultaneously developed. No individual is capable of performing life function satisfactorily without total fitness. Moreover the muscle strength does not give any hint about man’s skills, internal body concept of fitness. According to Williams, equipment can be place in separate baskets relating to each activity. When an activity is complete and the basket is empty. The child will know he is finished with the item. It also may be helpful to allow the child to walk by the equipment so he can see all the things he will do during the testing session. If he is very distractible, it may be useful to keep the equipment for each section of the test hidden until needed.

Total fitness is an ideal concept difficult to concretize, because rarely is person totally fitness in real sense of the term of all the dimensions of fitness, physical fitness is the most observable and achievable condition in which the individual is truly supposed to be functioning efficiently and effectively. Some people associates good at games and sports. This again is wrong because fitness for each sport is different and specific while jogging; aerobics, weight training etc. are becoming popular these days. The concept of fitness for a common man, in general, has undergone tremendous change. Strength power and cardio-vascular efficiency are inter-related terms. These are also extremely important through they exist as different aspect of total fitness. The total fitness would imply that in addition to demonstrating acceptable degree of performance in physical attributes, individual must
demonstrating social adaptability, emotional stability, mental efficiency and even positive mental, spiritual as well as cultural qualities. Cones, mats, and other visuals can be used to set up boundaries to define the testing area, particularly if testing is taking place in a large gymnasium. A clearly marked spot such as a poly spot or carpet square should be placed for the child to sit or stand on upon entering the gym. Finally, the child should be allowed to bring a favorite toy or object that he can hold during breaks or sit next to during testing. This may help alleviate anxiety.

**Using visual schedules**

Schedules are often used with children with physical fitness to help them understand what is expected during the course of a day or a particular period of time. Schedules can be made of words or sentences for children who can read. Pictures for children who cannot read, or real objects for children who have not learned to identify pictures. In the case of testing, the physical educator can create a schedule that explains all the things the child will do during testing. For example, when testing object control skills for the test of gross motor development the teacher might create a picture schedule that includes all the object control skills to be practiced during this session. Men’s existence and effectiveness depends upon his physical fitness. Physical fitness really implies more than the ability to do a work without much efforts. Physical fitness affects, to same degree all of life activities, not only his physical well-being but also mental effectiveness and personal social adjustment as well.

Since many youths and adults do not fully understand and appreciate the importance of health and fitness, a heavy responsibility rests on the shoulders of educators. As discussed previously, student with physical fitness tend to be visual learners and frequently rely on visual cues when communicating and trying to understand instructions. Visual cues can be in many forms including demonstrations, photographs, and the picture exchange communication system. Visual cues are helpful when conducting motor skill assessments. For example, a peer or teacher may demonstrate a skill and then ask the child to imitate it. If the child uses picture cards or PECS to communicate in the classroom or at home, they may be useful during the testing situations as well. They must continually strive for sound school and community programs in their special fields.

It is also essential that an effort be made by professionals to reach adults no longer in the school setting. The fitness boom and knowledge of the health gains and related benefits to be derived from participation have motivated many adults, after years of inactivity to get up from their armchairs and begin exercising. Corporate fitness programs, commercial health
and fitness clubs, community sponsored programs and continuing educational activity plays a vital role in educating all segments of the population about fitness and health. It is of critical importance that these programs be conducted under the direction of qualified professionals so that the desired outcomes can be achieved.

When the child attempts the skill the teacher offers verbal feedback while showing the child a card. With a picture representing the massage “good job.” Another useful visual cue may be in the form of video modeling, in which the child watches a video clip of a model performing the desired skill or behavior and then attempts to imitate the skill. Education is essential to help people follow a healthful regimen. Video modeling has been shown to be an effective strategy in improving play skills, social behaviors, and functional skills in children with physical fitness. The video can be of a peer, a teacher, or even the child himself performing the targeted skill or test item. Video modeling can be a useful visual tool in the assessment of motor skills and can be easily watched one laptop computer, I-pad, or smart phone. The video can be viewed ahead of time at home or in the classroom to prepare the student for the assessment and can be brought to the testing site so the student can watch it prior to each test item to help her understand the expected skill or behavior.

**Providing breaks**

Examiners need to consider the time needed to conduct the assessment and determine whether the child can attend to directions, stay on task, and remain motivated for that length of time. One option is to break the assessment into sections and conduct the testing over a period of several days. Another option is to arrange for frequent breaks during testing to allow the child time to rest and transition between activities. For example, after the child performs four test items or remains on task for minutes. He earns a three-minute break.

Some children with physical fitness may become over stimulated or agitated by the change in their daily routine, being in an unfamiliar setting, or being asked to follow so many directions during the assessment. For some children with physical fitness sensory activities help them calm down and regulate their behaviors. If this is the case, a sensor break may be a useful option. For example, a break that includes spinning on a scooter, playing with a favorite sensory object, bouncing on a therapy ball, or listening to calming music might be provided between test items or at specific intervals throughout the assessment.

**Testing in authentic setting**

Information about a student’s abilities can also be gathered while the student is engaged in a real-life situation or game like activity. This is known as authentic assessment.
It is the fact that due to insufficient educational activity thousands of school children have undesirable health. For that sound school physical education programs are needed. To have outstanding programs educators must have a clear understanding of the philosophy of physical education and its worth in education. The following definitions’ of terms and concepts will be helpful in setting the stage for fitness education of young and old persons alike be it in a school or a non-school setting.

It is a non-standardized test that takes place in the student’s typical settings, such as in the classroom, on the playground, and during physical education. Authentic assessments often use rubrics or other alternative techniques to gather information on the child’s abilities.

Testing in authentic setting may provide more realistic and accurate information than standardized, authentic assessments don’t focus on isolated skills in an artificial testing environment or follow strict test guidelines. Instead, student’s skills are measured in their traditional tasks that pertain to real-world skills and situations. For example, running, fleeing, and dodging skills can be assessed while the student is participating in a tag game on the playground. Physical fitness is related to the tasks the person must perform the potential for physical effort, and the relationship of physical fitness to the total self. The equivalent level of physical exercise is not required for everyone. It should be sufficient to meet the requirements of the job plus a little extra as a reserve for emergencies. The student who plays football needs a type of physical fitness different from the student who plays in the school orchestra. The question fitness for what must always be asked.

Furthermore, determining the physical fitness of a person must be done in relation to that person’s own human resources and not those of others. It depends on one’s potentialities in the light of individual physical makeup. Finally physical fitness cannot be considered by itself but, instead, as it is affected by mental, emotional and social factors. A human being functions as a whole and not as segmented parts.

Student’s ability to interact appropriately with peers can be observed and assessed while they participate in small-group warm up activities in physical education. Testing in authentic settings may be particularly useful when assessing the motor skills of student with more severe physical fitness who have difficulty following directions or participating in a structured testing environment, living healthfully at home and providing services for health improvement.

(a) Physical education contributes to physical activity. It should be requisite that the student must go through regular physical fitness practice which reacts on him positively this
practice has on the body and mind. The student not only requires to be gone and followed to get physical fit to personal needs as well as the same activities organized for safe and healthy. The students should develop skill in various sports as well as in first aid. Those are mere some citations which show that how physical fitness and physical education program helps to achieve the objective of physical fitness.

(b) It should be inevitable part where there is Physical education is concerned educational program to achieve the goal of physical fitness most effectively. This subject is not a frill or appendage of the school’s curriculum or a medium for the amusement of the students. It also should be take into consideration that it must be a live part and parcel of every educational program in this country. Furthermore, such a concept must repeatedly be injected into programming, scheduling and other practices that reflect the true educational philosophy of each school.

Getting children with physical fitness to score well on tests of fundamental motor patterns can be a real challenge for the examiner. It is not that the child cannot perform these basic fundamental skills; rather, the problem is getting the child to demonstrate all the components of a mature pattern for each skill. For example, with the two-footed jump, the child is expected to swing the arms back and then forward forcefully. Although most children with physical fitness can jump, getting them to understand the concept of swinging their arms forcefully may be difficult. A teacher can evaluate a child’s developmental level in throwing and other fundamental motor skills to determine his present level and then determine what to focus on with instruction. Fundamental motor patterns also can be assessed by simply determining whether the child has mastered the mature level of the pattern. For example, in the popular test of gross motor development, the mature throwing pattern is broken down into the following four components:

1. Initiates windup with a downward movement of the hand or arm.
2. Rotates hips and shoulders so the non-throwing side faces the target.
3. Transfers weight by stepping with the foot opposite the throwing hand.
4. Follows through diagonally across the body toward the non-preferred side after releasing the ball.

Interscholastic only a signal part of the physical education is reflected by athletics which contributes to physical fitness. The as children get older, they begin to develop basic motor patterns including skills such as running, jumping, throwing, and catching. These
fundamental motor patterns can be assessed qualitatively to examine how the child performs each skill. These qualitative assessments can be developmental where developmental progressions are presented. For example, when just learning how to throw, children do not step with either foot. As they develop more advanced throwing skills, they progress to first stepping with the same side foot to eventually the most skillful pattern of stepping with the opposite foot. The development of physical skills is a major contribution to long-term physical fitness of students. Obstacle In this case, equipment stations or various types of equipment can be set out for the student to choose from and explore in an unstructured manner. As the student engages in play with the equipment, tools such as checklists and rubrics can be used to evaluate general motor abilities.

Many standardized assessment tools are appropriate for children with physical fitness. Following are the keys to choosing one:

a) Age of the child
b) Purpose of the assessment
c) Ability of the child to understand test directions

The following assessment categories, taken from Horvath and colleagues, should be considered when testing children with physical fitness. Assessments are listed in order from tests appropriate for younger children to those for older children.

**Developmental motor assessment**

For children ages two through six, the most appropriate tests are developmental motor assessments. These typically evaluate children’s present motor skills compared to age norms. For example, children who follow a normal course of motor development would be expected to jump on two feet by around the age of two, catch a large ball by age three, and walk on a balance beam without stepping off by age four. The typical developmental motor test has several motor tasks listed by the expected age of mastery. For the most part these tests are quantitative, measuring whether a child can perform a particular task rather than examining the quality of the pattern. The most popular developmental motor-scales. These scales present several motor skills in six-month age strands. The age strands represent when most children are expected to have mastered particular skills.

Items found in most developmental motor tests are fairly self-explanatory, so most children with physical fitness should not have too much trouble understanding what to do. In addition, many items are things they probably have done before. Items targeting older
preschool children may require more forceful movements and it may be difficult to get some children with physical fitness to do these forcefully enough to meet the criteria with these items it is important, although challenging to make the sure the child foresees on the demonstration and understands the forcefulness needed to be successful.

Fitness is not a static state it is dynamic, ever changing. Awareness about health and fitness is greater now than ever before, and the means to protect it available. This is true for most fundamental motor patterns. Although there is no easy solution, the best way to help children with physical fitness understand what to do is to provide a clear demonstration exaggerating key components and setting up the task so that it forces the pattern.

**Motor ability assessment**

Another popular form of assessment is motor ability assessment. Motor ability tests force on such areas as balance, eye-hand coordination, agility, and dexterity. Items in motor ability tests tend to be novel for children, such as jumping and clapping hands, standing on one foot, performing a shuttle run, or sorting a deck of cards. The advantage of motor ability tests is that they are highly standardized with age norms.

Motor ability tests are perhaps the most challenging type of test for children with physical fitness. Items tend to be things the child has not attempted. In addition, many items on motor ability tests are timed, requiring the child to move as quickly as possible. Many children with physical fitness have difficulty understanding exactly what to do and doing the activity quickly enough to score well on these tests. As noted in the earlier section on fundamental motor skill assessment, demonstrations may help the child understand some items, and cheering and clapping might help the child speed up her performance. (Jones, 2004).

**Effective Physical fitness:**

Physical fitness testing is popular in school settings, beginning in upper elementary grades and continuing through high school. Most physical fitness tests measure strength, flexibility, endurance, and body composition, and most tests have age-normed criteria for what constitutes physical fitness proficiency. For example, in the fitness gram physically fit 10-year-old boys should be able to do 50-sit-ups in one minute, and physically fit 10 year old girls should be able to do 35 sit-ups in this same time period. Many students with physical fitness can participate in fitness testing without modifications to the assessment items. Some,
however, require accommodations or alternative test items. Total health comprises of both mental and physical well-being, our lifestyle determines our fitness consciousness they will to deep fit or the ignorance which would ruins our health. The stress of the world today requires a striking balance between our physical fitness and our mental will being for ensuring success without physical harm or degeneration.

When using standardized tests to assess the physical fitness of children with physical fitness, examiners need to determine whether the children understand the instructions to ensure that the results are a fair representations of their fitness levels. Many physical fitness test items involve multiple-step directions, which may pose a challenged for some students with physical fitness. For example, in the fitness gram pacer test, the student must understand where to start and stop as well as how to follow the cadence of the beeps to complete the test successfully. The curl-up test also requires students to understand how to slide their hands the appropriate distance across the testing strip while performing the curl-up motion and follow a recorded cadence at the same time. These multiple-step directions and multiple cues may cause confusion or be over stimulating for students with physical fitness. In addition, these students may become agitated by the noise and activity around them during fitness testing, particularly if many children are participating in the assessment.

Modifications can be made to physical fitness tests such as the fitness gram to allow for the successful participation of students with physical fitness general modifications might include testing in a quieter area or room for children who become overstimulated by the noise and activity, or providing a schedule, visual aids such as pictures or video, and multiple demonstrations of the test items to help students understand the directions. Suggestions for modifications to specific test items to encourage and motivate students with physical fitness.

The statistical estimates reveal that the main cause of death today are basically fife style related. Majority of the deaths is caused by cardio vascular problems and the fact is that more than 75% of these could be prevented. Therefore to improve the quality of life and also to increase longevity one has to follow all the health rules and adopt a positive lifestyle programmed. It is recommended that each individual should regularly take part in fitness and wellness programmers for developing positive addictions and continue with them throughout so as to experience a new quality of life.

Obesity is one of the main causes which leads to cardio vascular problems among people. It is important to note that if a test has been modified. It may not be appropriate to compare the student’s results with the regular standards.
All of the input we receive comes through our seven senses before it goes to the brain where emotion and judgment are attached to that sensation. Many students with physical fitness have problems processing sensory information, which can create added stress. People with as have described sensory information as painful. For some people, trying to process more than one mode of information at a time can also be overwhelming. Some students with the teacher is saying. (Dexter, 1981).

President’s Council on Physical fitness and Sports:

As understanding students’ particular sensory needs can give teachers insight into why certain behaviors occur. They can than plan strategies to important to improve learning through stress reduction. It is important to appreciate that no two people with physical fitness process information in exactly the same way. The council has continued to active under the Carter and Reagan administrations.

The PCPFS has devoted much time to promoting a school centered program for physical fitness. In addition, it has accomplished special working relationships with institutions of higher learning, community groups, voluntary agencies and other key organizations. It has mobilized mass media to communicate to the general public the need to be fit. It has utilized television, movies, radio and articles in national magazines effectively in this promotional campaign.

In recent years the PCPFS has been responsible for the conduct of various regional physical fitness clinics that have featured so of the nation’s physical fitness leaders and also the council staff. Statewide councils or commissions have been established in many states by either the governor of the state or another agency or organization. Stat superintendents of education have indicated their active support of the physical fitness movement in approximately one half of the states. Statewide conferences on fitness have been held in a majority of the states in the country. Several fitness films have been produced. Publications have been printed for all segments of the population, including children, adolescents and adults. Materials have been prepared for release to television stations, radio stations and other communication media. Millions of dollars’ worth of free advertising has been made available to the council. Presidential Fitness Awards have been established and demonstration centers have been developed. The PCPFS has also been active in promoting industrial fitness programs and fitness for elderly persons.
The nation’s schools were surveyed to find the impact on physical education of the President’s Council and found that 56% of the 108,000 public schools improved their programs during one school year. Improvement meant that they added screenings to identify physically underdeveloped pupils and/or a comprehensive test of physical achievement, and/or more vigorous physical activity during the class period. Leadership, such as that offered by the president’s Council, can have a significant impact on physical education programs.

The American Medical Association (AMA) has outlined seven paths that lead to physical fitness.

(1) Proper Medical Care:

To be physically fit requires regular medical examinations, immunizations against communicable diseases, emergency care and prompt treatment by qualified medical personnel when such care is warranted.

(2) Nutrition:

You are what you eat is meaningful in regard to physical fitness. The right foods should be eaten in the right amounts.

(3) Dental Services:

Good oral hygiene is essential to physical fitness. This means regular visits to the dentist, treatment of dental caries and proper mastication.

(4) Exercise:

Exercise is important, but to have a salutary effect there must be a proper selection of activities adapted to the age, condition and other needs of the individual together with proper exposure to these activities in terms of time and intensity of workout.

(5) Satisfying Work:

Work that is adapted to one’s interests and abilities and performed in a satisfying working climate is essential to physical fitness. Good mental attitude, recognition and a sense of achievement and belonging should be encouraged.

(6) Healthy Play and Recreation:
To achieve physical fitness requires play and recreation in an atmosphere that has as its byproducts fun enjoyable companionship; and happy thoughts.

(7) Rest and Relaxation:

Adequate sleep, rest and relaxation are essential to good health and physical fitness. (Cooper, 1970)

Components of Physical fitness:

Physical fitness is constituted of many components. The basic of these components is the Physio-Physiological qualities required by the body to meet the stress of a given work load. Larson lists such constituents as below:

(1) Freedom From Disease:

Ability to maintain high energy level and freedom from strain, worry and frustration.

(2) Freedom From Defects:

Due to lack of deviation from the function of the human body and its structure.

(3) Body Tissue Proportions:

The bone, muscle, fat proportions for adequate nutrition and well-being.

(4) Muscular Strength:

 Represents the maximum amount of force developed in a single muscular contraction.

(5) Muscular Endurance:

Ability to continue successive movement of muscular strength over an unlimited time span.

(6) Muscular Explosive Power:

Ability in the combination of strength and speed of movement.

(7) Circulatory Respiratory Endurance:

Ability to sustain long continued physical activity.

(8) Flexibility:
Ability in the range of movement static or repetition of movement dynamic.

(9) **Speed:**

Number of movements per unit of time (Legs or Arms).

(10) **Agility:**

To divert the path instantly and rapidly is known as agility.

(11) **Balance:**

Control of body movements.

(12) **Co-ordination:**

Integration of movement patterns (Legs, total body, arms and band).

(13) **Accuracy:**

Ability to direct movements with precision (Legs, arms and head).

(14) **Rhythm:**

Ability to direct body movement in relationship to an external force or stimulus.

**Factors which do Effect on Physical fitness:**

(1) **Factors related to human body part:**

A student who is highly sensitive to the sun could wear sunglasses outdoors. A student who is highly distracted by the echoes of the gym can wear earplugs or sound-blocking headphones. Perform the activity outside, or work with fewer people. These limit an individual’s capacity for strength, endurance and skill.

(2) **Physiological Factors:**

There should be effective if anybody want to fit human organism in the physiological system to sustain the particular activity that the individual is performing. From when the various activities ask for various demands pertaining in to circulatory metabolic, neurological, temperature and respiratory fitness is specific to each activity.

(3) **Psychological Factors:**

Psychological factors like motivation, intelligence, emotional, stability and perception are of crucial significance to consider one’s fitness level. Anxiety can become a barrier to
performance by contributing, elevated heart rate and blood, pressure and endocrine disturbances that add to the stress of the task and therefore affect one’s fitness level.

(4) Age:

Age is the major factor influencing physical fitness. Usually maturity can be defined by chronological skeletal and physiological age. The period of life is generally divided into infancy, childhoods, adolescence, adulthood and seniors. So children and adolescence must not be regarded as miniature versions of adults. They are unique at each stage in their development. Their physiological and physical performance in terms of physical fitness mainly depends on the growth and development of their bones, muscles, nerves and other organs. As children size increases, their functional capacities along with physical fitness also increases improves. The child is physiologically distinct from the adult and must be considered differently while planning fitness programmed. The training can improve the physical fitness of the child. Generally youngsters, adapt well to the same type of training used by adults. But training programmed for children and adolescents should be specifically prepared for each age group, keeping in mind the developmental factors associated with that age.

Studies have shown that humans tend to decrease their physical activity as they grow older, which affects the physical fitness. When older people participate in training, most of the changes associated with aging are lessened. It is clear that mode and nature of fitness training is an individual matter, which differs from person to person.

(5) Sex:

Prior to adolescence boys and girls do not differ substantially in height, weight, and girth, bone width and body composition. But at maturity they differed significantly on various parameters. These physically, Physiological and anthropometrical differences also affect the physical fitness of male and female. Thus the sex differences affect the type of exercise frequency of participation, duration and intensity of the exercise for developing physical fitness. Due consideration should be given to these factors while preparing a training programmed for males and females.

(6) Body Composition:

Such strategies may be the difference between tolerating a learning space and having a behavioral melt down. The next section provides a very brief overview of the sensory systems and examples of how they are used in physical education setting.
Visual. Visual receptor cells are located at the back of the eye in the retina. This system provides information for light and dark, color, edge, size, shape, contrast, depth, whole versus parts. Examples in physical education include recognizing numbers and colors, judging size distances for throwing and catching, and maneuvering through a space or among others during an activity.

Auditory. This system is made up of the external ear, middle ear, and inner ear. Receptors for the auditory system are located in the cochlea. This system processes information about sound, pitch, location, timing, intensity, patterns, sound difference and auditory figure-ground. During physical education class, students need to respond to cues and follow music timing or sequencing. They may also need to process directions or discriminate information from a peer or teacher from the background noise of balls and other activities.

As it plays important role in developing fitness. For athletes weight gain must be in the form of lean body weight i.e, muscle mass. Strength training seems to increase muscle mass and strength effectively. Actually affecting factor which gains the weight is differentiations in training and physiologic. Because of this body weight and body fat should be monitored on a regular basis and training programmed should be developed accordingly.

(7) Diet:

Diet plays an important role in maintaining physical fitness level. Gustatory. The sense of taste includes, salty, sweet, bitter, and sour. People also sense textures when eating. This system is typically not used during physical activity. However, some students can be calmed by chewing gum for proprioceptive input. Diet requirement varies from training to training and form individual to individual. An athlete required good diet while he is undergoing vigorous training schedules. While planning a physical fitness programmed diet factor must also be given due consideration.

Physical growth during adolescence plays a considerable role in deciding food requirements. Adolescents undergo a second large growth spurt before reaching adulthood. This rapid growth is accompanied by sexual maturation. It is observed that increased food needs are easier for boys to achieve than for girls. This may be due to sex discrimination in the Indian context. The remarkable changes which take at adolescent age happen due to hormonal effects which regulate the development of the children. The rate at which these changes occur varies and shows up in the growth patterns of boys and girls. In cause of girls the limit of fact help to increase specifically in stomach area. For the sake of the reproduction the preparation widens at the hip breadth. The pelvic girth of fat also appears. This is often a
source of anxiety for many young girls. In adolescent boys physical growth is manifested more by an increased muscle mass and long bone growth the boy’s physical growth is manifested more by an increased muscle mass and long born growth the boys growth spurt is slower than that of the girl initially but soon he becomes heavier and taller.

(8)Climate:

Physical fitness by and large also gets influenced by different climatic conditions such as winter, summer, humid etc. (Bovard, 1999)

Performance-Related and Health-Related Physical fitness:

Physical fitness is a very desirable quality to possess. However, physical fitness can be defined many ways and several components of physical fitness have been identified. The following question needs to able asked: Fitness for what? Does the student desire physical fitness that will contribute to general health or does he or she want physical fitness that will ensure outstanding performance in some particular sport?

The qualities that make up both performance related and health-related physical fitness are largely the same. However some of the qualities may need to be developed to a greater extent in response pertaining to physical fitness than in health concerned physical fitness. The qualities essential in both types of fitness are cardiovascular function body strength, flexibility and composition.

(1)Cardiovascular Function:

The first physical fitness component is regarded by fitness experts as the most important of the four fitness qualities specifically in the part of health concerning physical fitness. The reason for this is that diseases associated with the circulatory system are some of the principal causes of death among people of the world, and it is though that vigorous physical activity improves cardiovascular function and thus reduces the incidence of circulatory disease.

(2)Body Composition:

The second physical fitness component relates to the buildup shape of the body does mean of fat bone, muscle and other elements. In respect to physical fitness it particularly refers to percentages of fat in the body as they relate to the fat free content. Fat out of limit in the body is dangerous because it needs more energy for movement and perhaps reflect a diet high in saturated fat. Furthermore it is believed that obesity contributes to degenerative
diseases such as high blood pressure and atherosclerosis. Obesity can also result in psychological maladjustments and it also may shorten life. A balance between caloric intake and caloric expenditure is necessary to maintain proper body fat content. Exercise is effective as one way to control body fat.

(3) Strength:

The third physical fitness component is the capability or ability of a muscle or muscle group for avoiding force against resistance. Strength is needed in all kinds of work and physical activity. Muscles that are strong result in this may be possible during walking exercise but is not advisable during other activities because it can be a choking hazard. Olfactory Air passes through the nasal canals to the olfactory nerve and then to the brain for interpretation. The sense of smell can also play a role in the physical education class. Strength is also a very important element for engaging in sports. The best athletes pay particular attention to developing strength in various muscle groups.

(4) Flexibility:

The fourth physical fitness component for the child who is extra sensitive, the small of rubber balls or the scent of a sweaty locker room can affect behavior. In some people severe sensitivity can activate the gag reflex in the presence of particular smells. Furthermore, it is essential for carrying on many of life’s activities. It can help to prevent muscle strain and orthopedic problems such as backaches. (Bender et al., 1964)

Effect of Modernism on Fitness:

I may be sounding orthodox and rustic at first instance when you read the title, but it is true. With almost all are the backburner. Advanced technology has given the mankind many equipment’s to live abundantly, but at the same time has rejected in the method, the fundamental laws of nature. Science of course has developed the life span of human but issue of it could give a crippling effect on health. Most of people instead of boosting their efficiency by use of modern luxurious equipment’s have become lazy, unwilling and comfort loving slaves of modernism and have eventually hordes of chronic ailments’. We can get over these ailments and remain healthy by leading a disciplined way of life naturally.

Modernism:

In today’s world we have automobiles and aero planes to give faster mobility, air conditioners to give protected environment precooked preserved food and refrigerators to preserve cooked food to save housewife’s energy in cooking soft mattresses and allows for
comfortable sloop, hordes of medicine to cure ailment, fleet of servants as domestic help and energy giving capsules, all are required to lead healthy life and work efficiently. In the process most of us have forgotten the basic norms of life had fallen prey to luxuries. Therefore let us analyses the ill effects of modernism.

**Electro Mechanical Mobility:**

Human being have been given physical mobility by way of two legs but we have carped it by excessive use of mechanical mobility which has given rise to obesity, abdomen diseases and joint pain. Look at the animals and birds, they are using their legs and wings to walk/fly. Through use of vehicle saves time but at the same time were should also find time to walk and exercise early morning on evening to give adequate exercise.

**Protective Environment:**

The nature has bestowed seasons and weathers in the Universe for survival of all living beings. Summer and winter are a must for good health. Human body can very well adopt to changing environment. Then, why to give it full time protective environment by way of air conditioners? It weakens the body immunity against the diseases. Let the body sweat in summer and feel the chill of it in winter for some time. Find time to get out in the open, it will do a lot good to your health than air conditioners, Science has rightly invented these comforts to be used to derive better efficiency and productivity, but alas most people misuse these inventions by treating them as necessities.

**Refrigerated and Fast Food:**

Our digestive system likes only simple, well balanced and fresh nutritive food. Have time for it. Once a while when you are in hurry, fast food is alright but not always. Fast food is always either deep fired or added with preservatives, which are harmful to the body in the long run. Similarly refrigerated food cooked earlier will lose its nutritional value due to oxidation. Therefore always cook fresh food and eat it.

**Remote Controlled Electronic Equipment:**

TV, music system, air conditioners, fans and other equipment’s operated by remote control have added to human beings laziness/ immobility. Everything is at control of finger’s tip and one does not have to move around to operate the system. Most of the gifts of science
are good but one has to use these to save energy and time for better utilization later and one should not become an addict it.

**Domestic Servants:**

Servants in house are becoming a status symbol. The house that has more servants, will generally have move ailments to its occupants as they become inactive and depend more on servants. They want to be served tea in their beds early morning and also yell for them seven for a glass of water. In families with natural habits even elders are seen doing a bit of gardening, cooking and dusting to sweat themselves out and thus remain healthy.

According to the latest statistics of the World Health Organization an estimated number of approximately 2 million people are dying every year just because of not doing enough exercise. The world population to Shum the inactive sedentary life style which can be responsible factor to death in the world’s 10 danger diseases. Inactivity doubles the mortality risk of cardiovascular obesity, diseases, diabetes and at the same time enhances the risk of colon cancer, high blood pressure osteoporosis lipid disorders depression and anxiety. The other negative aspect of modern life style is the ever increasing stress, tension and anxiety. With the per capita income showing an upward swing ironically the national health graph is dropping gradually. Immediate tactile. The sense of touch is regulated by cutaneous receptors. These receptors allow people to locate touch and determine pressure. Simple daily activities such as giving and receiving hugs, wearing clothes, eating a variety of textured foods, and sitting on furniture are all related to the ability to process touch. *(Victor, 1984)*

**System Related To Physical fitness:**

Maintenance of Physical fitness depends upon the efficiency and proper functioning of the system of the body.

The systems which are chiefly related to physical fitness and its components are:

**(1) Skeletal System:**

Skeletal System provides the bony frame work of the body along with the cartilage’s and ligament which hold the bones together. The skeleton serves in three ways, protection support and movement in association with muscles. The last two function i.e. support and
movement are basic to physical fitness. Skeletal system provides the body posture which plays a significant role is carrying out smooth and coordinated movements.

(2) Muscular System:

A muscle is an organ made up of bundles of contractual tissues by which movement is brought about. There are three types of muscles in the human body namely skeletal (voluntary or striated) smooth (involuntary or plane) and the cardiac muscle. It is the skeletal muscle which is primarily responsible for body movements. If the skeletal muscles are properly developed an efficient movement is possible.

(3) Circulo-Respiratory System:

Circulo-respiratory system includes the blood, blood vessels, heart and lungs. It is concerned with the supply of oxygen in the running muscles. The blood provides the mean for oxygen and nutrition transport through. Blood vessels and the heart acts as a pump which decides the force and rats of movement of blood through blood vessels. The lungs supply the required amount of oxygen depending upon the bodily needs. The cardio-respiratory fitness is an important aspect of physical fitness which is dependent on the efficient working of circular-respiratory system supplying an adequate amount of oxygen based on the exercise demands.

4) Nervous System:

Nervous system is the main system of control in the body. All the body movements take place after receiving necessary signals from the nervous system. The range of contraction of various muscles is directly related to the strength of nervous stimulation.

Values of Physical exercise:

(1) Efficiency performance and work:

A fit person is in a position to work efficiently to put up better performance as compared to a person who is unfit. A fit person can carry out the task for a prolonged period without getting undue fatigue.

(2) Resistance to Disease:
Physical fitness increases and individuals body resistance to some of the common diseases. Conditions important to control diseases operate more efficiently in a physically fit individuals, than they do in the case of unfit individual.

(3) Efficient Functioning of Various System of the Body:

Physical fitness improves and promotes the efficiency of the whole organism and essential to the proper functioning and maintenance of all system of the body.

(4) Aging Longevity and Processes:

Physical fitness improves vitality and health of the individuals which in turn delays the phenomena of aging. It is believed that a physically fit person, all other things being equal, may be expected to live longer than his sedentary and unfit counterpart. Physically fit persons are less prone to heart attacks and this improves the chance of a longer life.

(5) Proportionate Development of Body:

A carefully prepared physical fitness programmed contributes to proper development of skeletal and muscular system and body posture.

(6) Mental Health and Alertness:

Physical fitness is important to human mind because every movement, everybody position and every tension in the muscle tendon and joint helps to contribute to the formation of concepts and ideas. Physical fitness contributes to the efficient working of muscles and enables the mind to make quick and correct decisions while maintaining control over the emotions.

(7) Preparedness for Emergency:

A physically fit person performs his job effectively and yet has a store of energy to face emergency condition.

(8) Success Sports and Games:

Physical fitness is necessary for success in most of the games and sports, without a high level of physical fitness an individual will not be able to withstand the stress and strain caused on the body by various games and sports, physical fitness in addition to bringing about better performance in games and sports, also helps in prevention of injuries in the long run.
Principles of Physical fitness:

Regular physical activity is required or an individual to develop and maintain physical fitness. Proper development and maintenance of physical fitness demands a deeper understanding of the various principles that control the building up of the different components of physical fitness. The principles are:

(1) Regularity:

Regular physical activity is required for an individual to develop and maintain physical fitness. It is a biological necessity.

(2) Progression:

The dosage of exercise should be progressively increased to guarantee the improvement of physical fitness level of an individual. At the beginning of the exercise programmed, the exercise which a person undertakes, should commensurate with his ability.

(3) Total body involvement:

The exercise programmed should be designed in such a way that it should exercise every part of the body to ensure proportionate body development.

(4) Specificity:

The nature and the type of exercise programmed must be specific to a component of physical fitness to be developed e.g. if speed is desired, speed exercises should be given if strength is aimed at, strength producing exercise should be given. However if the aim is to develop general physical fitness, the aim is to develop general physical fitness, the programmed should include a variety of exercises.

(5) Tolerance:

Exercises performed by an individual should be adapted to one’s tolerance level. Exercise tolerance is the level at which the human body favorably responds to an exercise. The physical exercises which are too easy for an individual fall short of his tolerance and on the other hand, the exercises which are too difficult should not be attempted.

(6) Warming up:

Before starting an exercise programmed a brief session of warming up is recommended o condition the body for strenuous work and to prevent soreness and muscle injury.
(7)Limbering down:

Just as the body needs warming up, it also needs gradual cooling down after the exercise. At the completion of vigorous exercises, the person should keep moving for several minutes until his breathing and pulse rate come down close to normal. Stretching movements form an important part of limbering down.

(8)Rest and sleep:

Adequate amount of rest and sleep are vital for regular participation in a physical fitness exercise programmed. Insufficient rest and sleep result in fatigue and adversely affect regularity and progression of physical fitness program me.

Designing Fitness and Training Programs:

In designing a program or writing an exercise prescription to improve fitness, physical educators must take several factors into consideration. These factors are the same regardless if the exercise program is being designed by a coach for athletes, a teacher for students or an exercise physiologist for a post stroke client. Pollock and Blair delineated several physiological and behavioral factors that must be taken into account if the sought after benefits improvement and maintenance of fitness or specific fitness components for example cardiovascular endurance are to be realized.

To attain desired physiological changes associated with fitness, individuals must exercise on a regular basis. Physical educators must consider the frequency, intensity and duration of exercise as well as the mode of exercise in planning exercise programs for individuals. Frequency refers to how often an individual should exercise, such as three to five times a week. Intensity reflects the degree of attempt should keep before by the individual, for example, 80%. Duration refers to the length of the activity, such as swimming for 40 minutes. These three factors are interrelated and can be manipulated to produce exercise programs appropriate to the individual and the outcomes desired. Mode refers to the type of activity such as running, swimming, or biking.
Warm-Up, Training and Fitness:

A major discussion concerns the use of some type of warm-up procedure before engaging in physical activity. The physical educator and coach should be familiar with the available evidence before determining whether or not to use the warm-up or how to use it most effectively.

Numerous research studies have demonstrated that to achieve peak physical performance the individual should warm up. Warm-ups have been found to increase speed, strength, muscular endurance and power. The research indicates that vigorous, long warm ups are better than less moderate ones. Related warm ups are preferable to unrelated ones because of the practice effect that also results. Attitudes toward warm up are also related to efficiency in performance. An individual with a positive attitude toward warm up appears to benefit more from such an experience than one who has a negative attitude. It has been determined that combinations of intensity and duration contribute to the desired effect of a warm up. Insufficient warm up does not achieve the high level of muscle strength and temperature desired, and excessive warm up can lead to fatigue and thus decrease the performance level.

Warm ups have been sought to be significant to stop injury and muscle soreness. It appears that muscle injury can result when vigorous exercises are not preceded by a related warm up. An effective quick warm up in physical education, standing in line or touching others in the course of a game can be very distressing for some students with physical fitness. In an activity such as basketball, having an opponent in one’s space or bumping them can be extremely stressful or even painful.

Jogging, Training and Fitness:

In recent years jogging, which is basically a combination of walking and running has become popular as an aid to keeping physically fit. It has received wide approval from many groups because it is a sustained type of exercise that is noncompetitive. An individual does not have to possess any particular skill to jog, and the majority of joggers range in age from 18 to 70 years. Advocates of jogging think that men and women up to the age of 70 years can learn to jog at a good pace. It is extremely important for individuals to have a medical examination or a stress test or both and to discover the limits of heart endurance before beginning to jog. Jogging has been found beneficial to some heart attack victims to rebuild the endurance of their heart and lungs. Dr. Kenneth H. Cooper, author of the much publicized book entitled Aerobics, has stated that exercises such as jogging force the body to become
conditioned to an increased need for oxygen. When the body reaches the level of fitness that meets this need, the cardiopulmonary and oxygen transport systems become more efficient. Among other benefits, jogging also helps the healthy individual who wants to lose weight.

**Stress, Training and Fitness:**

Stress, according to Selye, is essentially the rate of all the wear and tear caused by life. Each person experiences some degree of stress during each moment of existence. Stress can be caused by an injury, but it can also be caused by a happy occasion. Stress can be good and it can also be bad for a person. The term stress is commonly used in two ways one, a stressful stimulus itself such as a death in the family and two the result of events such as the psychological or physiological condition that occurs in the body as a result of such a stimulus. Stressor is the term used to mean a stressful stimulus. Stress can have both positive and negative effects. A positive effect might result if an athlete is psyched up for a game and thus performs better. A negative effect might be the very high level of stress that results in depression.

A variety of stressors affect people today. Psychological stressors arouse emotions such as fear, anxiety anger and love. Physiological stressors are pollution, noise, heat and cold for example. Worrying about an examination is a stressor, and vigorous exercise and strenuous sports are stressors. All illnesses are stressors. Many stressors are environmental such as air pollution and crowding. Stressors have different effects on different people. Also, people vary in the amount of stress that is part of their life styles. Medically for example type A people are always in a hurry, competitive and aggressive. Type B people are relaxed and take more time to accomplish their tasks. Signs of stress may include insomnia, backaches, headaches, inability to cope, anxiety and irritability.

When a person encounters a stressor, the brain puts into action two interrelated physiological systems the autonomic nervous system and the endocrine system. The result is an increased blood pressure and heart rate and elevated levels of oxygen and glucose in the blood. These responses prepare us for fight or flight. Evidence is mounting that many chronic ailments that affect persons, especially those in middle age are directly related to stress. The hard driving, competitive corporation employee may be recognized as a likely candidate for a heart attack at any early age. Conditions such as ulcerative colitis asthma migraine headaches and ulcers are directly related to stress as are many psychosomatic disorders.
The important thing is that the body must be prepared to meet stress. The formula for enjoying life is learning how to make adjustments in a world that is constantly changing and in which events do not always run smoothly. These adjustments can more readily be made by the person who understands the body and ways of meeting stress. It is thought that to some extent disorders involving nervous disturbances, high blood pressure and ulcers are caused by lack of understanding of adaptation. Physical activity has been found to be very helpful in controlling stress. It is believed that exercise burns up stress hormones. Exercise helps to release the tension that can accumulate when one is under stress. One the other hand sitting and inactivity inhibit natural expression. As a result hormone induced tension is alleviated by activity. Some psychiatrists have found that physical exercise performed on a regular basis produces psychological benefits such as relieving depression and anxiety. A stress regulated and controlled life style is thought by some persons to provide a balance between work and play and rest and exercise.

**Relaxation, Recreation, Training and Fitness:**

Relaxation contributes to health and may actually be in the form of physical activity. Relaxation is essentially a mental phenomenon concerned with the reduction of tensions that could originate from muscular activity but that are more likely to result from pressures of contemporary living. A technique for achieving relaxation or nervous reeducation has been developed by Jacobson. It has two basic steps.

In the first step the individual learns to recognize muscle tension in subtle as well as gross terms. Gross tension is easily identified. With fists tightly clenched, one holds the arms outstretched to the side at shoulder height for one minute. The individual observes the feeling of exertion and discomfort in the forearms and shoulders. The arms are dropped to the sides and the muscles of the arms and hands are relaxed completely. The effortless relaxation, which Jacobson calls the negative of exertion, can be noted. Subtle tension involving less muscle effort than that just illustrated is sometimes difficult to detect. It takes concentration and practice to learn to recognize minor tension in the trunk neck face throat and other body parts.

In the second step the individual learns to relax completely. First the large muscle group’s arms, legs, trunk and neck are relaxed. Then the fore head, eyes, face and even the throat have tension eased through a program of passive relaxation. Carried out in the proper fashion, the program teaches the subject to relax the whole body to the point of negative
exertion. The result is a release of tension an antidote to fatigue and also an inducement to sleep.

Leisure time activities such as games and sports, hobbies and avocations and intellectual and artistic endeavors such as painting and sculpturing are considered to be excellent means for eliminating boredom and tension. These recreational activities provide a means of relaxation. Long abused as simply childish diversion or amusement, recreation is currently being suggested as an antidote for some of the tensions each person experiences in daily life. (Pollock et. al., 1981).

Vestibular. The vestibular system includes the semicircular canals and the eolith organs of the inner ear. This system provides information about head and body position in space and orientation to horizontal and vertical planes of movement. Standing and balancing independently, riding a bike, walking a balance beam, balancing on an unstable surface such as sand or grass, and turning upside down for a forward roll are all skills that require an effective vestibular system.

**Deterrents to Fitness:**

Several deterrents to a high state of fitness can be discussed. Some of the more important of these are life style, tobacco, alcohol and drugs.

**Life Style and Fitness:**

Once of the greatest deterrents to physical fitness is the general life style of our modern age. Many people are eating the wrong foods and drinking and smoking excessively. In many cases excessive affluence is detrimental to physical fitness in that affluence directly affects diet and promotes a sedentary life in which driving is favored over walking and watching television is given priority over physical exercise.

The results of our life style may be seen in increased coronary heart disease at younger ages. It is no longer unusual to see coronary patients in their mid-twenties or younger. Obesity has become a great problem and persons who are overweight tend to have a poor self-image are disinterested in physical activity and most importantly have a greater risk of heart disease and other malfunctions.

Positive changes in life style can best occur through education. This education for fitness needs to start with young children to make them aware of their bodies and the value of physical fitness to their emotional and physical well-being. In addition public communication
through literature, television and radio should endeavor to educate adults so that they may take positive steps in improving their physical fitness.

Proprioceptive. Input from muscle spindles and joint receptors tells the body where it is in space, in addition to sensing the direction and velocity of movement. As well as the effort needed to perform a task. The proprioceptive system is in play when picking up a weight or ball, stepping off a low beam, or mirroring a position from a demonstration. This system is also important for all motor skills such as climbing, crawling, rolling, jumping, and manipulating objects.

In summary, the sensory systems must all be in good working order to be successful in the physical education setting. A child who struggles with processing information from any of the sensory systems will experience a detrimental effect on performance. In many people with physical fitness, multiple sensory systems are affected. Imagine trying to play basketball if your visual, auditory, and tactile systems were not processing correctly. The environment becomes a highly stressful, unpredictable space full of threat because of an inability to judge distance, filter auditory input, or prevent physical contact with others because of poor spatial orientation, poor proprioception, or motor planning.

Stress reduction strategies are important for getting the most out of any learning environment. To learn, a student needs to be in an optimal state of arousal. People with physical fitness are often either over-aroused or under aroused. Thus, the challenge is finding ways to support the nervous system so that an individual can be as close as possible to an optimal state of arousal for learning. For some people with physical fitness.

Tobacco and Fitness:

Smoking speeds up the pulse rate, raises the blood pressure, constricts the blood vessels, and may cause other physical damage. Some evidence has shown that cigarette smoking interferes with the ability of red blood cells to reuse oxygen to body tissue. Although the evidence is not fully conclusive, it apparently indicates that blood from heavy smokers should be rejected for donation purposes because of this deficiency. Smoking has also been linked to many diseases. For example, the correlation between cancer and smoking has been established. Considerable evidence indicates that smoking is detrimental to the maintenance of physical fitness. No evidence indicates that it contributes to a higher level of physical performance.
Studies have been conducted in respect to smoking and physical performance. One study of 2000 runners was conducted over several track seasons. It showed that the nonsmokers took more first places in competition than did those runners who smoked. Another study showed that students who did not smoke grew more in height, weight and lung capacity than did those who smoked. The increase in the chest development among the non-smokers was also greater. Tests of physical steadiness have shown that nonsmokers are steadier than smokers.

Coaches and physical educators are almost unanimous in thinking that athletic performance and muscular power are decreased by smoking. They believe that fatigue begins earlier among the smokers. Few coaches of high school and college teams knowingly permit their athletes to smoke.

In recent years the use of smokeless or chewing tobacco by young teens and adults has increased. As evidence mounts that its use could be hazardous to one’s health, teachers and coaches must educate individuals about its dangers.

**Alcohol and Fitness:**

Alcohol depresses the central nervous system. It acts on the higher brain centers that affect decisions, judgment and memory. The control of the lower brain centers is lost, reaction time is slowed and physical and emotional pain are reacted to more slowly.

Coaches almost universally will not permit their athletes to drink during the season of play or at any time during the school year. As in smoking, although considerable evidence shows that alcohol hinders physical performance, no evidence shows that it improves performance in any way. A great number of automobile accidents can be attributed to loss of control as a result of drinking.

Although drinking has become a popular custom in society, the young man or woman who is striving to achieve or maintain a high level of fitness should objectively examine the evidence that shows the results of such a habit.

**Drugs and Fitness:**

The use of drugs such as amphetamine, marijuana, cocaine, heroin and LSD has become popular among some young people. Amphetamines have been found to produce toxic side effects and cause dependency. Research has indicated that amphetamines do not improve an individual’s performance, but rather give an illusory feeling of an improved performance.
The use of drugs such as marijuana, heroin and LSD is illegal. The continued use of drugs brings about a permanent physical deterioration. Some drugs have also been used in sports for which a high level of energy is required, such as in long distance cycling races. Such a practice is denounced by physical educators, coaches and sports medicine associations.

Many athletes are the present time are utilizing drugs known as anabolic steroids. They have been known to receive large doses of testosterone, the male sex hormone. Such drugs can have serious side effects on the user. Large doses can cause atrophy of the tubules and also interfere with the functioning of the prostate gland.

Caffeine, which can be found in coffee, tea and cola is a stimulant. Moderate doses of caffeine can increase motor activity. Large doses however can decrease the pulse rate, blood pressure and respiratory rate and produce nervousness. Caffeine has also been found to interfere with carbohydrate and protein metabolism, which is necessary for the production of energy. Most researchers agree that large amounts of caffeine should not be part of the athlete’s daily diet.

Within the profession interest in health related fitness as opposed to performance related fitness has increased. The components that comprise both performance related and health related physical fitness are largely the same. However these components are developed to a greater extent in performance related fitness. The fitness components are cardiovascular flexibility, function, and strength and body composition. Lack of a desirable level of these components can lead to health problems. On the other hand, attainment of the desirable level of these components can enhance one’s health and well-being. Many benefits are derived from participation in exercise and physical activity. The belief that being active is essential for good health is strongly supported. Participants should follow medical guidelines and be sure that their programs follow sound training principles. Individuals should be cognizant that exercise performance can be affected by warm-up and nutrition and that exercise can be beneficial I alleviating stress and fatigue. Several deterrents to fitness are life style and tobacco, alcohol and drug use. (Katch, 1993)

Norms:

A norm is a scale that permits conversion from a raw score to a score capable of comparisons and interpretations. If a test is accompanied by norms, its usefulness is enhanced. Its characteristics of average and range are known. A raw score of 16 is quite
meaningless, but if that 16 falls at the 78th percentile or is equivalent to a T-Score of 58, it becomes capable of comparisons and interpretations.

Characteristics and Comparisons of Various Normative Scales. A word of caution should be stated about norms. They should not be accepted at face value. Norms are representative of some larger population. They should be based on a particular type of group that is well identified. For example, percentile norms on the Basketball Wall Pass for High School Girls, or T-Scores on the AAHPERD Fitness Test for 11 year old boys level the norms. Age and sex are usually the 2 essential classifications. Other factors might be geographic location race and skill level. Norms should be based on large numbers of cases. Sufficient cases alone do not make good norms but coupled with proper sampling, they provide a symmetric distributions.

If the performance of a group is not similar in range and average to the normative group then the norms are not appropriate and should not be used for interpretative purposes. It is far better for the teacher to construct norms based on the scores of his/her own students.

Several general evaluative factors are discussed briefly below to indicate the nature of Norm’s process.

(1) Sampling procedures for the construction of norms should be based upon a wide distribution of the population. In physical education, quite frequently such samples are definitely limited to rather small geographical areas. Typically, researchers have test data. To attempt a broader sampling has its difficulties. Not only is it costly it would depend upon the utilization of many testers.

(2) The testing sample should be representative of the population for which the test is intended. For example, data for skill test norms collected from athletes would be representative of athletes, but not of the population as a whole. Norms for weight charts based upon boys and girls residing in favored neighborhoods might not properly reflect the status of all classes of children, unless they can be shown to be appropriate for other groups as well.

(3) Norms should be used for the specific groups for which they are prepared. As an illustration, the Dyer Tennis Test was originally constructed for college women and the norms were based upon a sampling of women in a number of colleges. To use these norms therefore for college men or for any other group would be inappropriate.
Norms for standard tests should be based upon a relatively large number of cases. An arbitrary assignment of a specific number for this purpose is impossible. However, as the reliability of the sample depends in part upon the variability of the test data, i.e. the range of scores for the element being tested. The greater the variability of scores the larger the number required to reduce the standard error of estimate to a negligible quantity. To illustrate, the heights of individuals in a defined population do not vary so greatly as weight or strength for the same population and as a consequence, in the development of norms they will vary within narrower limits. The possibility of securing reliable norms for this trait is much better, therefore and can be accomplished with a smaller sample of the population.

**Norm-Referenced Tests:**

To interpret a student’s score by comparing it with scores of other students, norm referenced tests are used. They are used and characterized in various ways.

1. They reflect individual differences in the amount learned.
2. They are used when the amount of content learned varies, but the amount of time allotted for learning is set.
3. They are useful for testing complex material and a broad coverage of content.
4. They tend to encourage open, divergent thinking.
5. They reveal maximum achievement in a content area.
6. They reflect the proportion of students who learned less than each other student.
7. They require a range of scores in order to make the proper statistical applications and interpretations.
8. They are often used for summative evaluation at the completion of a unit of instruction.
9. They produce a scale of scores anchored in the middle of the distribution. Interpretations are made in relation to achievement above and below the average.
10. They are useful when fixed quotas have been set and decisions have to be made about who is to be admitted to the next level, for example, or to the team. *(Clarke, 1975).*

Fitness physically perform a very crucial act in the curriculum of physical education. Among the various objectives of physical education such as Health, participation in games and sports, as cultural heritage, develop qualities conductive to social and sports and national unity, mental alertness, maturity and citizenship, the objective of physical fitness can be realized only through a program of physical education, whereas in the realization of other areas the school curriculum may also play its part. Physical fitness is requisite also for achieving better success in other areas of physical education curriculum such as ministry in sports. Physical fitness has been a subject of controversy throughout the years and an elusive one to define objectively.
It seems that there could hardly be any compromise about the standardization of the term physical fitness among the authorities working in this field. The simplest definition of physical fitness is the key of a man which makes him to perform the physical tasks given to him where there are muscular efforts are involved. Physical fitness is considered to be a part and parcel of the complete physical fitness. The term Physical fitness is included in many familiar test batteries commonly used in the schools, but present researcher feels that many of these tests in these batteries were not actually tests of physical fitness. Part of this misconception about physical fitness may stem from the lack of agreement among experts as to exactly what elements constitute physical fitness. Johnson and his associates placed the common test parameters into two basic categories. (a) Physical fitness parameters (those that are actually essential for health and functional fitness; Flexibility, Muscular endurance, Muscular strength and Cardio-respiratory capacity), and (b) Motor performance parameter (adds to the physical fitness parameters power, Agility, Speed, Balance, co-ordination and Reaction time). Mayers in his book measurement in Physical Education has explained it could be the mode of living to do the given task through physical fitness as a function.

Clark and Clarke explain that the basic physical fitness components are muscular strength, Circulatory-repertory and Muscular endurance. Muscular speed, Agility, flexibility and Power are assimilated to construct the motor fitness, arm-eye co-ordination is required as well as kinesthetic foot-eye for common motor capability. However, as our objective was to measure and reflect to reliable degree the status of students in terms of fitness, the researcher notes in a more precise manner the tangible component such as muscular strength muscular endurance, power speed and agility that can be used in construction of physical fitness norms. The time we are living in can be justly, called the golden age of physical training and sports. Never before have had people enjoyed such actual opportunities for the development of their strength and capabilities, nor have they realized so distinctly that a physical weak person can hardly expect to keep abreast with the accelerating pace of today.

**Measurement and Evaluation:**

In sport the time they are in the optimal state of arousal may be only seconds at a time or minutes at a time, while many neurontypical individuals are able to be in a focused state for hours in a day. The challenge is to help the student who is over aroused or under aroused attain a comfortable arousal state and stay there for as long as possible so that focused learning can take place. One is over aroused, one is under aroused, and several float in and out of the optimal state of arousal as the day goes on. Most people float in and out of the
optimal state of learning or arousal throughout the day, depending on fatigue, hunger, outside events, and other stress factors.

Stress reduction strategies are not a new idea, and most techniques that work for anyone can also be applied to students with physical fitness. They include physical activity, meditation or quiet spaces, environmental changes, music, and breaks. Measurement tried to the generated thing: Effective utilization of evaluation occurs in physical education in 2 ways. First, it occurs when measurement procedures are applied directly to the product in order to measure accomplishment in a hierarchy of objectives that have been agreed upon historically by practically all authorities in the field. These objectives are: (1) Organic development including fitness. (2) Psychomotor development with emphasis on sport skills. (3) Cognitive learning, including knowledge and understandings concerning sport and exercise, and (4) Affective development, including social learning involving sports and participation with emphasis on sportsmanship. Basically a good program of physical education includes skills fitness, knowledge and values to be evaluated.

Measurement Applied to the Process: Second evaluation occurs when special techniques are used to measure the process of physical education directly. The teacher administrator must know the degree to which the program and other aspects of the process met acceptable educational standards. In evaluation of the process, techniques are used to measure the procedures of education and these procedures should be investigated at all educational levels according to the required program, the individual program the intramural program and the interschool program. Process measurement has several approaches, all of which provide the means for an improved service to the product. However, it should be pointed out here that the evaluation of the product is one of the best means of assessing the quality of the process. These approaches should improve the overall process by making instruction and administration more efficient and program more effective and in the final analysis should enhance the growth and development of the student.

How Measurements are applied: Measurement can be applied in several ways. In evaluating the product the teacher and coach can do the evaluating or the students may evaluate each other. In some cases the students may evaluate themselves. This student participation in the evaluation procedure is one of the great challenges in the field of teaching. When the process is evaluated, evaluation techniques may be applied by the administrator, by teachers, or by an evaluation team. In some cases, students and parents participate.
Measurement in physical education can be applied for two basic purposes. First it may be used to measure status. However when this same measurement is repeated on the same group I or more times, then progress or achievement may be noted. Generally both status and progress are compared with other values such as norms, standards or criteria. Thus a status measurement repeated at any given time not only reveals how students have progresses, but also how they relate to goals and to other students. In both the product and the process, measurement can show status, changes and significances.

In measurement of the product evaluation becomes a temporal matter. For example tests may be given during the ongoing instructional program where they become a part of the procedures of instruction. On the other hand they may be administered at the end of the instructional unit or term where their resulting data can only be used to evaluate the process or to inform the students of their final status or achievement. When tests are surrendering the learning period. They become an integral part of the learning process. Their results are diagnostic and therefore can be used in formative evaluation, whereas tests administered at the end of a term are useful only for summative evaluation. Formative measures can better serve the immediate needs of the students because their results are diagnostic and can become feedback and input into the learning cycle as they provide the means for self-analysis and self-knowledge. Formative evaluation furnishes students a realistic assessment of their present status and if given often enough can reveal successive stages of progress. This feedback showing progress provides those pupils who have self-motivation and self-satisfaction and therefore provides more effective reinforcement and identification of errors leading to correction.

Summative measurement at the end of the unit or period is important for evaluating the final status of the students and the worth of the process, but it loses much of its value as a feedback mechanisms for positive learning on the part of the students. Since evaluation of the product is perhaps the most viable way to judge the worth of the process, cumulative results are valuable in process evaluation. If the product is shown to be satisfactory through cumulative measurement, the need for process measurement directly may not be necessary.

**Need for selecting appropriate Tests:**

Selection of appropriate tests is necessary if wise application of results is to be realized. The little time allotted for measurement activities should be spent wisely. The choices of tests should be made in light of the objectives sought. If the tester is a researcher a
detailed, technical measurement may be desired. The teacher is just as concerned about the accuracy and honesty of the results, but needs to find a test that is easy to use and appropriate to the group situation present in most schools. The theme of this test is centered on helping the teacher get the best answers with the best tools. The pressure of time probably should not be the deciding factor, but it must be considered. A test should serve the student directly and indirectly, but it must do so with efficiency. Some selection has been made in choosing the tests to be included in this book. Further selections need to be made by the teacher in light of each teaching situation. Judgments about test selection will continue to be needed as new tests become available.

**Reliability of the Test:**

Reliability is related to the test performance itself. The tester is the same the students are the same and the test is the same. Assume that the test is administered and then re-administered. If the students’ scores fall in the same positions the test is reliable. The student who performed best the first time is still best, the poorest performer is still poorest, and all in between are approximately in the same order. A test is given to position students on a ladder so to speak. If their positions are true indications of their skill then the test is said to be valid; if their positions are dependable and consistent then the test is considered to be reliable.

Countless factors influence reliability. The equipment used in the test may not be of sufficient quality to produce consistent results. The instrument recording the measurement may be too gross, such as a 100 pound spring scale to measure flexion of the wrist. The number and length of the trials needed to get a stable measure are important. Usually the best of 3 broad jumps is considered adequate, whereas most accuracy tests require about 20 trials. Actually it is such a longer test the most reliable and genuine. The test may be so long, however as to introduce a fatigue factor. Averaging scores usually produce more reliable results than taking only the best score because averaging has a leveling influence on the scores.

The directions may be so complicated that the student cannot remember the procedure. The student may be in a different motivational frame from one day to the next. The teacher may present the test in a different way. If all things are standardized as much as practically possible, the test should prove to be reliable and therefore worthy of confidence.

**Methods of Establishing Reliability:**
Reliability is also interpreted by using the statistical technique called a correlation coefficient. The reliability coefficient is obtained by correlating one measure of the test with another measure of the same test and thus is judged by an internal and dependent measure. Consequently, reliability coefficients are generally higher than validity coefficients. Reliability coefficients may be derived either by the interclass method suggested by the product moment correlation or by the intra class approach employed in analysis of variance.

Test-Retest: One method of setting genuineis to administer the test completely one time and then to give it another time. Usually the second administration is on the next day or two under very similar conditions and certainly before forgetting practicing and learning factors become too influential in the results. This method is time consuming and sacrifices some of the interest factor of the students during the second administration. The scores of the first and second administrations are correlated to determine the coefficient.

Split Halves: An alternative time saving method is to administer the test only once and then correlate the total of the even numbered trials with the total of the odd numbered trials. In a 10 trial test, the third, fifth, seventh, and ninth trials totaled provide 1 score and the second, fourth, sixth, eighth, and tenth trials total provide the second score for the correlation problem.

Validity of the Test:

Validity is the most important of the technical standards because it tests the honesty of a test. The teacher wants to have confidence that a test selected to use as measure of the tennis serve, for example is indeed just that and not a test of shoulder girdle strength or of general motor ability. It must be a measure of a rather specific skill namely, the tennis serve. It would be unfair to use a fitness test as one basis for assigning grades if the test were so complicated that an intelligence factor weighed heavily in the performance score of each student. If a test is presented as a measure of the volleyball volley, then to be valid, it must measure volleying ability and ideally it must measure it to such a degree that other influencing factors such as height and weight are incidental to the final results. A test may be considered valid if it is measuring as accurately as possible what it is described as measuring. Validity is inherent in the purpose of the test. Validity can be ascertained either empirically or statistically. Logical validity usually comes first and is sometimes considered sufficient without the follow-up of either concurrent or construct validity using statistical techniques.

Logical Validity:
Logical validity is a more precise term for what has formerly been referred to as face validity or empirical judgment. The obviousness of what a test is measuring is supplemented by a stated, clear-cut definition of the skill to be measured. Then if the skill test satisfies that definition a logical validity can be inferred. The 50 yard dash is considered to be a measure of running ability if speed in running also means excellence in running. The tester considers the dash and defines it as a measure of running. He she concludes this on the basis of logic, common sense, and judgment; one can see inherently what it is measuring. For example, the basketball wall pass may be measure of shoulder girdle strength, reaction time, ball handling ability, basketball playing ability and height. It is perhaps related to each of these factors to some degree. On the other hand the dash, while influenced by reaction time, weight, and the like, is basically a measure of running ability and there is very little controversy over that definition. It is generally accepted to be such a measure and thus the dash is an example of a test that is said to have logical validity. Logical validity involves no statistical procedure, it is useful at times, and often recommended for use in conjunction with ways of establishing concurrent validity.

**Concurrent Validity:**

Concurrent validity measures the degree of relationship between 2 measures taken at approximately the same time. For example, if a group of tennis serve test, the relationship between the 2 performances would be an indication of the concurrent validity of the new test. Did the new test measure about the same thing as the old one at about the same time? There are several ways of ascertaining concurrent validity. Each way involves the comparison of the new test with some external standard, called a criterion which has already been established. This results in 2 sets of scores: 1 for the new test being developed, and 1 for the criterion measure. These sets of scores, I set for each student are correlated. If the relationship is close, the test is considered valid. If the standard chosen for making the comparison is poor, then the validity reported is often misleading. The standard or criterion used as the comparison factor must be the best possible. Several have been used to establish the validity of various motor tests and reach will be discussed. They may be used in combination as well as separately. For example, a new test may be compared with tournament standings as well as will subjective ratings. This multiple use of criterion measures is an attempt by researchers to make doubly sure that the new test is valid.

Subjective Ratings: Subjective Ratings are given by the teacher sometimes to use in grading. When used for establishing validity however, they are given by at least 3 judges and
often 5 to 7. Ratings generally involve judgments on the form of a performance. The tennis serve provides an example. The technique of the serve, its execution, force, form accuracy and the like are noted for each student by 3 distinguishing points between a performance worth 5 points and one worth only 2 points, for instance. As a second step, these same students are given a service placement test. Then the composite or average of the 3 judges ratings is compared with the objective service placement test score for each student. Two assessments are available for each student. They are correlated and the resultant coefficient is used as the basis for interpreting the validity of the service placement test. If the scores on the test rank the students in approximately the same order that the judges evaluate them, the coefficient is relatively high and the service test said to be valid on the basis of the criterion of judges ratings. The opinion of experts is often a more accurate measure than a poor test. No apologies need be made for the use of subjective ratings. Care should be taken, however, that the skill is well-defined, that the rating scale is refined, and the raters are competent. Ratings can be poor criteria, but if carefully done they may be relied upon to yield dependable results.

Many of the motor tests reported in the professional literature have been validated on the basis of subjective ratings. Many others have been validated on the basis of other objective measures. The teacher needs to realize that the objective test used as a criterion was probably itself validated by subjective ratings were poorly executed and this emphasizes the need for constant revaluation of the object give test that are available in the measurement literature. There is one other controversial point about the use of subjective ratings: they make a judgment on the process of the skill when the product or result o the skill is what counts in the game. Some would argue that good performance is high related to good form. Others would argue that it does not matter how the performer looks when executing the skill as long as the results are effective. This might imply that the proper use of subjective ratings would be reserved for establishing test for gymnastics routines or diving. Where a highly objective score is not available. It is not possible to settle the argument here, but only to alert the user of tests about this reservation regarding subjective ratings as a criterion for establishing concurrent validity.

Previously Validated Tests: Some skill tests are created as refinements of other tests already available. The test may be simplified, shortened, or revised in some way. The old form of the test is administered to a group and then the new form is given to the same group. If the standings of the people in the group remain similar, then the new test may be said to
measure appreciably what the old test measured. And, if the old test was reputed to be a
measure of the badminton clear, for example, then the new test may assume validated tests as
criteria for establishing concurrent validity because the tests yield objective scores as opposed
to subjective ones. Care should be taken that the previously validated test was itself carefully
and accurately validated before it is taken as a standard for counting the validity of a new test.

Composite Scores: Composite scores have been used as a criterion when tests for a
broad type of ability such as fitness or motor ability have been developed. Validity for such
measures, however, should probably be established by construct validity, a concept to be
discussed subsequently. Composite scores might be used wisely as the criterion when the
development of a test battery is anticipated instead of a single test item.

A composite score is achieved by administering a gamut of tests, each supposedly
related to the measurement area in question. The scores are put into some type of comparable
form, such as T-Scores, and are added to get 1 total or composite score. Other tests or perhaps
even some that were in the composite listing are then correlated with the composite score,
each in turn, and in various combinations. The composite score is then used to help select the
battery of tests that comes closest to measuring whatever all the individual tests collectively
were attempting to measure. The composite score uses the “buck shot” theory which implies
that if enough related tests are given, some of them will be measures of the skill in question.
This particular standard for establishing validity is somewhat in question for this reason. It
may encompass too broad a base of skills to identify anything but very general kinds of
ability. If, on the other hand, the test items are carefully selected, the composite score theory
has merit.

Construct Validity:

Construct validity is used to establish validity of tests for complex ideas such as
overall playing ability in some sort or fitness. The isolated, specific and well defined motor
acts can be validated with concurrent validity. The more obscure, general less easily defend
motor acts can be validated by construct validity. Occasionally a new test appears in the
measurement literature which uses a combination of these approaches to establish validity.
This procedure adds further credence to the validity or honesty of the new test. Concurrent
validity usually involves the statistical technique of the correlation to measure the
relationship; of one measure to another. Construct validity, on the other hand, is determined
by comparing the differences in performance of groups.
Comparison Over Time: Assuming that a test battery claims to measure validity of overall playing ability in tennis, the battery is administered to a group of players early in the unit, but not until a reliable in tennis, the battery is administered to a group of players early in the unit, but not until a reliable measure of skill development can result. Toward the end of the unit, after considerable time has been provided for skill acquisition to occur, a second administration of the test battery is given. The mean performance of the group of the 2 administration is compared and if statistically different, the group can be assumed to have gained something they did not have early in the unit: the ability to play tennis. Consequently, construct validity can be claimed for the test battery. This is a comparison between groups essentially because the original group has changed, is different, by the time of the second administration of the test battery.

Comparison with Levels: Assuming that the same test battery is under study for validity purposes, it might be administered to a group completing a beginning class in tennis and to another group completing an intermediate course in tennis. If the comparison of means scores revealed a statistically significant difference, then it would be assumed that the test was able to distinguish between those who could be expected to perform better and those who could be expected to perform with less skill. Sometimes such validation procedures use varsity groups as one of the comparison groups to be sure those who should be good: are clearly distinguishable from those who could not be expected to perform as well. The inference is that some construct, in this case tennis playing ability, is present in one group which is not present to such a degree in the other group. Construct validity is more indirect than concurrent validity because it infers the presence of some quality whereas the latter shows a direct relationship.

Today there has been a keen awareness of the need for physical fitness on a nationwide scale and it is in this context that method content and aim of physical education have to be visualized. The development of physical fitness is one of the objectives of physical education which is widely understood and appreciated. Physical fitness is a very desirable quality to be possessed. The amount of fitness factor differs from State to State with geographical condition race and so on. The present researcher’s experienced that the needs merely that, various district have developed their own physical norms, and they differ from another.

1.1 STATEMENT OF THE PROBLEM:
India is a big country with a total area of about 3,166,414 square kilometers in which there are total of 29 states and 7 union territories. These states are distributed geographically in such a manner that in every state and in every union territory there are different geographical conditions which lead them into different physical structure of human beings. In India there are fitness norms same for every state and union territory but as the Amravati district is having different geographical conditions which in turn affects their physical fitness, therefore it is necessary to study the real status of Physical fitness of Secondary School Boys of Amravati districts, so that there will be suitable Physical fitness Norms for the Amravati district. In this regard, the researcher is interested to undertake the research work on the problem entitled “Standardization of Physical fitness Norms for the Secondary School Boys of Amravati district.”

1.2 OBJECTIVES OF THIS STUDY:

The prime objective of this research was to Standardization of Physical fitness Norms for the Secondary School Boys of Amravati district, with a view to further realizing the followings:

i) To determine the Physical fitness status of the Secondary school boys of Amravati district.

ii) To provide motivation to the Secondary School boys for improving their basic Physical fitness.

iii) To develop necessary plan and programmers for improving the Physical fitness of the Secondary School of Amravati district for a fit citizen and nation in future.

Keeping in the view of the needs, importance and purpose of the study the investigator listed the following major objectives.

i) To study and assess the status of physical fitness of secondary school boys of Amravati district by preparing the associated norms.

ii) To study and identify the problems associated in administrating the test and to suggest measures to improve and overcome them.
iii) To find out the reliability and validity of the physical fitness norms of Amravati district.

1.3 HYPOTHESIS FOR THE STUDY:

The investigator formulated the following hypothesis:

\( (H_1) \): The norms of physical fitness for the secondary level boys would bear sufficient level of reliability and validity.

1.4 DELIMITATIONS OF THE STUDY:

The scope of the present study was delimited to the following aspects.

i) The study was delimited only Amravati districts.

ii) The study was further delimited only to the secondary school going Boys.

iii) The study was conducted on 1000 school going Boys.

iv) The age group of the subject was 14-16 years.

v) The study was delimited into Ten Tahsils (i.e. Amravati, Badnera, Daryapur, Akot, Achalpur, Chikhaldara, Dharni, Morshi, Warud and Dhamangaon) of Amravati District.

vi) Only six components i.e. muscular strength, abdominal strength and endurance, agility, speed, power and cardio-respiratory endurance aimed at assessing the related physical fitness components was selected in this study.

vii) Only Six test items i.e. Sit-Ups, Pull-Ups, Standing Broad Jump, Shuttle Run, and 600 Yard Run/Walk was selected in this study, 50 Yard Dash.

1.5 LIMITATIONS OF THE STUDY:

The limitations of the study were recognized as follows:

i) Extra curriculum involvement of the subjects was unknown and hence will not be possible to keep.
ii) Nutritional factors were unknown to the scholar.

iii) Boys coming in their school from various socio-economic background which was not be controlled.

iv) Various climatic conditions were not being controlled.

v) Various psychological conditions of the subjects during the test administration will not be controlled which would have some effect in performance.

vi) No special motivational technique applied while conducting the test.

1.6 OPERATIONAL DEFINITIONS:

The following terms pertinent to the study are defined for the clarification of succeeding discussion.

PHYSICAL FITNESS:

“Physical fitness is the potentiality to bring out every day task with enthusiasm and alertness without undue tiredness with abundant energy to involve in leisure time pursuit and to get unseen condition and unexpected emergencies. (Clarke, 1975)

MUSCULAR ENDURANCE:

“Muscular tolerance is the potentiality to continue muscular exertions of submaximal magnitude.

AGILITY:

It can be call as the potentiality of man’s body to transform the way quickly and perfectly. (Uppal, 1986)

SPEED:

“Rapidly with which successive movements of the same kind can be performed. (Hockey, 1982)

POWER:
It is the specialty of that muscle which duty is to contract rapidly in the fastest within duration. (Uppal, 1986)

**STRENGTH:**

Stamina is like the ability of a muscle or its group’s capacity for working force against resistance. (Bucher, 1983)

**NORMS:**

“A Norms is a scale, which permits conversion from a raw score to a score capable of comparison and interpretation. It is a standard to which an obtained score may be compared. Norms are assumed to be representatives of some larger population. (Bucher, 1983)

**1.8 SIGNIFICANCE OF THE STUDY:**

The present study would be significant in the following ways:

i) The study would provide Physical fitness Norms for the Secondary School Boys of Amravati district.

ii) This study would help in determination of Physical fitness status of the Secondary school Boys of Amravati district and promotion of Physical activity programmes for them.

iii) It would help to adopt evaluative procedures on the basis of norms established.

iv) It would help the students to understand himself and his potentialities through such appraisal.

v) It would help to organize the Physical Education Programmed on the base of the classification of the students.

vi) The study would also enable to the Secondary school students for their better performance in Physical activities and Sports.
vii) The study was used to help the physical education teachers and educational planners to compare the status of the students of Amravati district.

viii) The study would create a consciousness and enthusiasm amongst the students of the country for physical welfare.

ix) The study would also open avenues for further research in this direction.