1.1 Theoretical Orientation of the Problem

Measurement and Evaluation are universal practices. They reflect man's ever-present curiosity about his environment and his concern about himself. The process of evaluation in education is a never-ending cycle. Measurement and evaluation of performance are essential to determine how well the formulated objectives have been met, how efficient the process has been, and how good the product is. The results indicate the direction and the rate of change in performance. In athletics and physical education, as in education and in life, the teacher and coach are constantly evaluating and measuring the performance of their students. The most valid form of evaluation is the use of well-established norms, as a basis for comparisons. (Mary, 1972).

In physical education, evaluation plays a vital role since beginning. The phase of physical education and sports process is concerned with test, measurement and evaluation. These involve techniques to measure student’s status and progress in growth, development and achievement. The results of such application indicate not only changes in the product in these areas, but also the magnitude of such changes as well as the direction they have taken.

“Norms are the values considered to be the representative of a specified population. A test that has accompanying norms is definitely preferred to one that is usually based on age, weight, grade, height or various combination of these characteristics” (Johnson et al. 1988).

Norms are always framed in normative tables, which provide means to compare student’s performance with larger representative population. These comparisons provide valuable information to assist teacher and students to determine the relationship of individual performance scores to score of youth of same age and gender. Thus norms are average obtained under prevailing conditions good, poor and average. Raw score are expressed in term of different units, such as the number of traits taken within specified period to reach a criterion, the number of correct responses, total time taken in activity covered distance and so on. All types of raw score are meaningless. There are two references points that are applied in interpreting the test score, norms referencing and criterion referencing norms. Norms referencing
way is to interpret an examinee’s test score with the standard score of specific groups (boys and girls) of examinees on the test. This process of interpreting the raw scores is known as norm referencing. In order to interpret the raw score with the performance of the standardized sample, the raw score are transformed into what is called derived scores or standard scores. There are two purposes for such transformation of sources. First, the derived scores provide the basis for direct comparison of the examinees on different tests because they are expressed in the same unit for different tests. Second, the derived scores denote the examinees relative position in the standardization sample and therefore, the performance may be evaluated in relation to other examinees. In a criterion referenced test there is established performance criterion. This way of interpreting a test score is to evolve an external standard and compare the examinee’s test score with it. Transformed score provide a comparable measure which makes possible a direct comparison of the examinee’s performance on different tests.

There are several types of norms, such as Percentile norms, standard norms, T-score norms, age norms and grade norms. These norms are most popular and widely used in physical education and sports. As we know that physical education is as old as beginning of human culture. In pre-historical period physical activities had done for the recreational purpose and with the change of time it becomes famous in competitive way. With the development of human being sports activities have also been changed and many of new activities have come in the new trends of physical education and sports.

In the modern period physical activities are done for the purpose to keep the body healthy, mentally, emotionally, and socially fit. Physical education consist a lot of game and sports activities in which athletics have an important place. Sports are institutionalized competitive activities that involve vigorous physical exertion or the use of relatively complex physical skills by individuals, whose participation is motivated by a combination of personal enjoyment and external rewards. (Coakley1998).

On the other hand “Physical Education according to ‘Charles A. Bucher’ is an integral part of total education process and has its aim, the development of physically, mentally, emotionally and socially fit citizens through the medium of physical activities which have been selected with a view to realizing their outcomes”
History reveals that as human become more civilized, scientific and subsequently sought more exact way to measure the general as well as specific evaluation. The history of measurement and evaluation in physical education and sports has paralleled the growth and development of research which has elevated the field to a more respected position in the educational spectrum. Today, measurement of skills and knowledge of fitness testing are also deemed a necessary part of professional preparation, of physical education teacher and coaches.

By nature, human beings are competitive and aspire for excellence in every given field and a sport, not any individuals but nation also shows their Supremacy in the field of Sports. This friendly rivalry has inspired and motivated all too sweet and strive, to run faster, jump higher, throw faster and exhibit greater strength, endurance and skills in the competitive sports. Because Evaluation is an essential aspect of any educational venture and so is true for physical education. To determine the effectiveness, it’s essential to evolve a standard procedure to measure the achievement level. No efforts so far have been made to formulate scientific evolution procedures. For any evaluation procedure where performance can be obtained in terms of numerical scores, it is necessary that a standard scale should be available to interpret such scores without which the score may not convey any meaning.

Evaluation is essential in the process of teaching and coaching. Through evaluation, a teacher/coach can know the extent to which learning has taken place. Hence, the teacher/coach must be aware of some evaluation techniques, which enables him to measure the student’s skill objectively and classify them initially, as well as by measuring the progress made by the athletes. There are few tests in physical education, which help to measure the playing abilities of the students in different games and sports, skill tests are designed to measure the basic skills used in the playing of a specific sport. Because of the wide range of events in most sports, a selection of the most important event is invariably necessary (Purashawani. 2010).

According to Spiriov (1998) “The athletics scoring tables were made on the basis of exact statistical data. The scores in the tables of different events cover equivalent performances. The table can be used to compare results achieved in different athletic events. Due to obvious biological differences, we do not propose to full compare men’s and women’s performance so the system contain different scoring table for men’s event and women event”.
Physical Education is a systematic discipline. Our history also narrates the sources of all human beings that belong to physically active life style, which is identified as Physical Education which encourages the activities of sports also organized for recreation purposes and discourages the unhealthy competition. This essence of Physical Education not only restricts the human beings from unhealthy competitive life but also prevents the society from unhealthy sufferings. Because of these benefits this discipline has been accepted and included as compulsory subject in the academic institutions at different levels and all over the globe of education. To teach this subject in schools and colleges, Physical Education teachers should be well equipped with the latest technologies recent trends in the field of Physical Education, which is only possible through Colleges and departments of Physical Education in various institutes in India and the world.

In India Formal Professional Preparation of teacher of sports and Physical Education traces its history since 1923 when Y.M.C.A. College of physical education, Chennai (Madras) started preparing teachers in physical education. Mr. Harry Crowe Buck was the founder Principal of Y.M.C.A. college of Physical Education at Roypetta and later shifted to Saidapet (Madras) where he introduced one year course in theory and practice of scientific physical education for matriculates known as C.P.Ed (certificate of physical education). For graduates, one year diploma course in Physical Education was also introduced simultaneously with a missionary zeal and dedication which produced hundred of trained youths as physical educators all over India.

The trend in Madras College of Physical Education was by and large mostly on western games and sports, including athletics, major games and camping in the curriculum. In 1923 the lady Willington training college, Madras was established. And started the first diploma course for women in Physical Education in 1928 (Sandhu. 2004).

Today every state has number of Professional colleges and department of Physical Education in various universities. In these colleges and departments, various courses of physical education are running such as Diploma in physical education (DP.Ed) 2 year course, Bachelor of physical education (B.P.E) 4 year course, both are after 10+2, Bachelor in physical education (BP.Ed) one year course, after graduation and Master of physical education (M.P.Ed) 2 year course after (BP.Ed). In these
courses various theory and practical subjects are being taught. Practical aspects of curriculum include various aspects of game and athletics.

Training of teaching for practical courses of physical education and sports such as games and athletics is given by teachers of Professional colleges and universities. Athletics is a major practical course of physical education curriculum, because activities like running, jumping and throwing takes place only in athletics.

Based on man’s natural activities of running, jumping and throwing, athletic is the oldest sports recorded in the history of human civilization. As organized sports extravaganza, the ancient Greek gifted them to the modern world. Along with the gymnastics and swimming, athletics is considered as mother sport-the basis of all skill based games and sports played these days. In American terminology, athletics assumes a very wide meaning covering all sporting activity-whether recreational or competitive, in technical sense, its usage is confined to track and field events, marathon, road races and walking events. The ancient Olympics were, in fact all athletics-running, jumping and throwing contests.

Nehiolo (1998). President, International Association of Athletics federations in his message said that “Although the rich variety of events in our sport (athletics) is a great attraction. It also makes it hard. Although fascinating to make comparisons between different athletes and performance. How can you compare the results of a discus thrower with a 400 meters hurdler’’?

In modern trends, Athletics is very comprehensive sport covering wide range of events for various age groups of male and female competitors known as track and field events, the word “athletics-as it is internationally known- sprang from university sports events in England in the 19th century.

Athletics is classified into track and field events. Track events are further categorized into sprint races (100m, 200m, 400m, 400m hurdles and 110m for men and 100m hurdles for women), middle distance races (800m, 1500m), and long distance races (3000m, 5000m, 10000m, and marathon, cross country). Jumping events (High jump, Running broad jump, pole vault and triple jump) and throwing events (discus, javelin, shot put, and hammer). Undoubtedly the crowning glory of the modern world of sports truly justifying the Olympic motto-Citius (Faster), Altius
(Higher) and Fortius (Stronger). And all these are considered as the Track and Field course of curriculum, in various programme of Physical Education (Kamlesh, 2007).

In the field of Physical Education Nehra (1984) conducted a study on standardized norms on athletic in the field events for boys in Haryana secondary schools. A sample of 2400 students as subjects (1200 from rural schools and 1200 from urban schools) with the age 12 to 16 years were selected for the study. The subjects were divided into two groups. First group was under 15 year age and second was above 15 year of age. The performance of lower age group was recorded in four field events, viz. shot-put; discuss throw, long jump and high jump. The performance of upper age group was recorded for six field events, viz. shot put, discus throw, javelin throw, long jump, high jump and hammer throw.

Guleria in 2007 developed athletic norms for senior secondary school boys and girls students of Himachal Pradesh. A sample of 2400 subjects, 1200 boys and 1200 girls, with the age of 17+ to 18+ was selected from forty eight senior secondary schools. Only selected athletic events as per Himachal Pradesh school education board’s syllabus for xi and xii considered for study. Performances of subjects in athletic events were used for construction of norms. Obtained scores from subjects were converted in Z score, T score, percentile and sigma scale for construction of norms.

Till time all these events are evaluated by only observational technique, which is not a valid test/tool of measurement because it always shows partial and imperfect/biased opinions and teachers are bound to respond to a false impression of teaching and training effects. Teachings of theoretical subjects are evaluated by taking paper pencil test. As curriculum of Physical Education contains both theory and practical aspects, effective teaching in Physical Education and sports shall depend largely upon the ability of teacher/coach to test and evaluate the students with the help of standardized athletic tests and norms.

An Indian education system emphasize more on paper pencil tests according to the requirement of primary to higher education levels, as a result these tests are available in a variety of forms. But performance test in Physical Education and sports are not available in variety. The present scenario in this context represent that we are far away from the real goal of education i.e., development of overall personality. To
achieve the said educational goal we have to represent pedagogy that must includes both physical and mental aspects to ensure harmonious development of the personality.

Performance tasks provide means of assessing a variety of skills that cannot be measured by valid and reliable norms. If a performance standard must be met in public service setting, the advance knowledge of upcoming tests and norms can motivate students to practice their skill with greater intensity and achieve high level of performance.

Athletics is the one of ancient form of performing physical movements for physiological and psycho-social benefits. On the other way athletics is more important in physical education curriculum. But there is no standardized athletic performance norm for Physical Education students of Punjab. Research scholar feels that if athletic performance norms are made available to teachers/coaches, students and athletes they will definitely improve their performance because they will compare their current performance score with their previous score. It can be a motivational factor to develop the area of sports performance and Physical Education teaching. With the standardized performance norms availability, partial evaluation can be minimized. On the other hand the job of the teacher will be made easier and reliable on the basis of performance norms, which will help to evaluate the students of physical education (Teaching). In Physical Education, practical teaching plays an important role as it is an integral part of this education system. In every curriculum of physical education programs, practical teaching has equal weightage to theory courses/subjects at elementary and high school level more emphases are given on practical teaching. Therefore objectivity in evaluation is highly required it can be achieve through if Teachers of physical education should prepare and evaluate perfectly with a valid test and ideal norms. If teachers have more practical knowledge then development of the nation should be in positive manner and well practitioner teachers can produce in physical education profession.

1.2 STATEMENT OF THE PROBLEM

The present study was stated as under:

CONSTRUCTION OF NORMS FOR STUDENTS OF PHYSICAL EDUCATION
1.3 OPERATIONAL DEFINITIONS OF THE TERMS

The important term used in this study has been defined as under:

1.3.1 NORMS

Norms are the representative values for a defined population. A test with norms is definitely preferred to one that does not have. Norms are usually based on age, grade, percentile and various combinations of these characteristics.

1.3.2 PHYSICAL EDUCATION STUDENTS

Students who are pursuing professional physical education courses i.e. Diploma of Physical Education (D. P. Ed, Two year program), Bachelor of Physical Education (B. P. E, Three-year program), and Bachelor of Physical Education (B. P. Ed., One year program) and Master of Physical Education (M. P. Ed, Two year program), were considered as physical education students.

1.4 OBJECTIVES OF THE STUDY

1) To know the level of performance in the field events (Athletics) of students of physical education.

2) To differentiate the performance in the field events of male students of age group 18-21 and 21-25 years.

3) To explore differences of performance in the field events of female students of age group 18-21 and 21-25 years.

4) To know the level of performance in the track events (Athletics) of students of physical education.

5) To differentiate the performance in the track events of male students of age group 18-21 and 21-25 years.

6) To explore differences of performance in the track events of female students of age group 18-21 and 21-25 years.

7) To Construct Athletic Performance norms for students of Physical Education in Punjab and Chandigarh.

8) To construct Athletic Performance norms for Physical Education students of different age groups.
1.5 HYPOTHESES

1) The level of performance in track events of male students of physical education varies with their age group.

2) There will be significant difference of performance in the field events of male students belong to age group 18-21 and 21-25 years.

3) There will be significant difference of performance in the field events of female students belong to age group 18-21 and 21-25 years.

4) The level of performance in track events (Athletics) of female students of physical education varies with their age group.

5) There will be significant difference of performance in the track events of male students belong to age group 18-21 and 21-25 years.

6) There will be significant difference of performance in the track events of female students belong to age group 18-21 and 21-25 years.

1.6 DELIMITATIONS

1) The study was delimited to Athletic Performance Norms only.

2) The study was delimited to male and female students of Physical Education.

3) The study was delimited to students of Diploma of physical education (D.P. Ed, Two year program), Bachelor of physical education (B.P.E, Three-year program), and Bachelor of physical education (B.P. Ed. One year program) and Master of physical education (M. P. Ed, Two year program) classes only.

4) The study was delimited to Guru Nanak Dev University, Panjab University, Punjabi University, Lovely Professional University and their affiliated Physical Education colleges.

5) The study was delimited to Track and Field events only.

6) Three Normative scales, namely Percentile scale, Hull-scale and 6 sigma scales were constructed for Students of Physical Education.

1.7 SIGNIFICANCE OF THE STUDY

Measurement and evaluation is extremely important process in Physical Education and Sports. Without laying due emphasis on the procedures, it will not be
possible for the teacher and coaches to ensure the improvement in their performance. Teacher/coaches cannot analyze the strength and weakness of student’s prowess without comparing with norms. This can only be made possible through the availability of Athletic Performance norms. Hence, it is necessary to develop the Athletic Performance norms. This is also an important requirement of the competitive era because the modern era of the sports competition is becoming highly competitive with scientific and specialized foundation in connection with the potentialities of the students of Physical Education. In the light of the objectives, the study will be significant in the following way:

1) The study will provide scientifically constructed athletic performance norms to students of physical education.

2) The study will provide norms which will be helpful to Physical Education students, teachers and coaches for the evaluation, classification and selection of students for different levels of competition.

3) The study will provide criteria to teachers of physical education for objective evaluation.

4) This study will also enable students to evaluate self performance in athletic.

5) This study will help to students to compare their current performance with previous performance in athletic.

6) This study will help the coaches and physical education teachers to know the effects of their training, teaching and coaching on athlete’s performance.

7) The study will provide help to physical education teachers and coaches to grade the students.