CHAPTER I
INTRODUCTION

"Man is the measure of all things"
- Protagoras

It has been said that orderly progress toward goals in education depends on measurement, because measurement and purposeful activity are inseparable. Generally, the more valid the measurement and the more careful the evaluation of results, the sooner the goals will be attained. This becomes especially true if proper criteria have been established for the instrument of measurement.¹

In this modern scientific age, in every field of human endeavour, systematic objectives and scientific procedures must be followed in accordance with principles based on experience, understanding and application of knowledge of science. The field of games and sports is no exception to this. The pre-historic people might have enjoyed a better and more vigorous life because they were forced to do every task by means of physical efforts rather

than mechanical. At the same time we realise, with the help of research, that today's man is much superior to the man of preceding generations. It can be further observed, when we compare the present day world records and olympic records with those of earlier days, that if today's man is much superior to pre-historic man, it is because of the continuous improvement in the field of science. Development in the science of sports has helped athletes to improve their performances to the optimal level as economically as possible.

Bucher\(^2\) points out that sports and games are a popular pastime for the young and the old, boys and girls, and for men and women, which offer an opportunity to do exercises and obtain relaxation. They can play an important part in developing physical fitness and skills for use in leisure time at present and, more importantly, in later years. Many of the skills developed through games and sports may be used in the years to come to help to keep themselves physically fit.

Renewes\(^3\) points out that the education of every child is not complete without a systematic and well-

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organised programme of physical education. Physical education programmes are not well-organised and the testing and grading methods employed are not up to the standard of such testing devices for other subjects. Besides, physical education personnel are not able to plan their testing programmes purposefully and to judge the results of these tests in terms of their objectives. Unless testing programmes are more intelligently conceived, carried out, and interpreted, they will not be considered important adjuncts to general education.

The field of testing in physical education programmes today clearly demonstrates the fact that a "Man's reach invariably exceeds his grasp." However, it presents a real challenge. The values of measurement must be realised if we wish to establish ourselves on a sound educational basis.

Modern education emphasises the importance of adopting curricula to meet the needs and individual differences of students. The application of this principle in any field of knowledge implies the need for determining the previous experience of students in that field. In physical education this implies familiarity with the previous playing experience of students. In other words, to make our physical education programme sound, we need an
analysis of the playing experience of the individual student before we can determine his present and future needs.

The need for objective measurement in physical education is recognised by the profession today. Many books have been written which describe the methods of tests and measurements but the literature in physical education is sadly lacking material in which can be used in practice. Scientific measurement has an established place in the field of education today. However, reliable and valid tests of ability and achievement in physical education activities with norms are as yet comparatively few. A battery of tests with norms for any game, if it were a valid index of playing ability, might be useful in several ways. It might be used in classifying players, in determining progress in skill, and in providing an incentive to practice.

Hopkins ⁴ states that the testing of sports skills has become an important part of the evaluation process in programmes of physical education. Results of skill-testing have been used typically for classification, diagnosis, motivational purposes, and grading. In addition, coaches have experimented with using the results of skill tests as

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an aid in identifying potential team members from a large group of initial candidates. Consins has stated that "skill tests are in reality predictive measures, since they attempt to discriminate among levels of playing ability." One of the greatest problems that confront the physical education and coaching professions is that of evaluating sports skill test results and their relationship to levels of playing ability.

The young player trained and coached through a whole spectrum of fundamentals and made aware of the various patterns of play is the best material for development to the high standards of the game. To ensure that he will achieve a high standard in the various fundamentals, the coach must adopt some forms of testing during various phases of the training programme. Tests for basketball game though complicated are not difficult to devise and the coach can easily make up a battery of tests to cover the fundamentals such as passing and receiving, dribbling, shooting, rebounding, footwork and defense.

However, while devising this battery of tests the coach has to study first the problems and needs for the tests. There are no tests available for the particular purpose, or those available may be found to be unsuitable
for various reasons. Hence the coach has to consider the important skills to be measured in order to save time.

The main characteristics of a test should be: they should measure important abilities connected with the game and should be like game situations, they should be competitive, interesting, and meaningful, and should involve only one player at a time. They should also be motivating and understandable to the trainees. When finally the tests are standardized, with the passage of time they become a norm or model, which later on may be varied slightly to rate other related abilities. The tests also provide an incentive for players of average ability to pit their skill against good players, for obviously if they can beat such opponents, then they have improved their own rating.

According to AAHPER, sports skill tests have been developed to measure the basic skills used in the playing of a specific sport. Because of the wide range of skills in most sports, a selection of the most important skills is invariably necessary. The selection is usually based on jury technique or statistical analysis, and the skill items are collectively called a test battery. The skill test

helps the students to evaluate their performance in the fundamental skills of the game and to provide an incentive for improvement. The test also serves the purpose of helping the teachers to measure students' performance and to evaluate their own teaching procedures and programmes.

Absence of standard measures results in a lot of confusion in an actual assessment of an individual at any stage of selection. Even Indian coaches and selectors have not been able to evolve unquestionable criteria for selection of players based on objective judgement. A lot of criticism comes in the press whenever a team is selected to represent India. Among other reasons, it is because there is no standard objective judgement to silence the criticism.

A large number of tests are available in physical education for basketball. These tests which are outdated and constructed by foreigners, especially Americans, to suit their conditions are blindly followed by us. The scientific measurement of basketball is not difficult, although it is complicated by the fact that there is a nonmeasurable element in the game as a whole. Even with this handicap, however, the objective evaluation of basketball is worth attempting. It is also worthwhile to construct an objective skill test in basketball for grading students and selecting players for a team on the basis of their objectively
demonstrated ability. The tests may also be used for the purpose of classifying the players into equally strong homogeneous groups as teams for facilitating instruction, for evaluating achievements, for predicting the basic abilities of the players, for comparing the skills of the players, for determining progress in skill, and for providing an incentive to practice.

Further, it may be stated that the primary purpose of skill tests is to help both the teacher and the taught. Teachers can help the students to evaluate their performance in the fundamental skills of the game and to provide them an incentive for improvement. Tests also serve the purpose of helping the teacher to measure the students' performance and to evaluate his own teaching procedure and programmes.

Basketball is one of the most popular sports in the world in terms of spectator sport and players' participation. It is fast, quick, aggressive, and attractive. It is considered a strenuous game because the game demands a high degree of fitness as well as intelligence and an alert mind. Balance, relaxation and protection are the basic skills required for all the fundamental movements in basketball.  

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Fundamental skills are the axis of any game, and basketball is no exception to this. A high degree of performance depends on the mastery of these skills. Patience, diligence and dedication are essential for learning the fundamental skills. To enjoy the game truly, one needs to develop proficiency in fundamental skills. When a player has mastered the fundamental skills of the game, a feeling of gaining mastery over the game comes. In order to measure these skills, tests should be conducted for evaluation purposes. Tactics will succeed only through individual fundamental skills. Therefore, every player must know the requirements and the importance of perfecting the fundamental skills. From this we can understand that only a player with perfection in all the fundamental skills can become a top player.

Basketball is a science, and like science, it is predictive. Results vary only when execution is not consistent. The best teams distinguish themselves by doing simple things correctly and with precision.7

The primary purpose of the game of basketball is to score points and to score more of them than the

opponents. Basic to the development of scoring opportunities is the ability to excell in fundamental skills to get the ball into a position where shooting percentage is the highest. In order to advance the ball to the scoring area, players must be skilful in passing and receiving, cutting, faking, pivoting, rebounding, dribbling, shooting, and screening. All of these must be performed with the body under control.  

All basketball lovers of this country will agree that the standard of Indian Basketball, as measured through the standings of our teams in Asian Basketball Confederation Championships and Asian Games, has either fallen, or stagnated since 1965, as compared to the performance standard of our other Asian counterparts. All the attempts of the Basketball Federation of India and the Government of India to raise the standard of Indian Basketball and to produce winning teams for international competitions have proved unsuccessful. Selection of talents at senior level, continuous coaching of senior players, and so on have not yielded any positive results. The experience of the past leads us to think of far-reaching measures to end the stagnation of the standard of basketball in our country.

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8 Mildred J. Barnes, Women's Basketball (Boston: Allyn and Bacon, Inc., 1980) : 3.
Till 1970, the national basketball championships and all-India tournaments had been conducted on mud courts. Then began an era of concrete courts, which was achieved due to the bold venture of the Basketball Federation of India making concrete courts mandatory and introducing the synthetic rubber ball instead of the stitched leather ball. This enabled the players to improve their skills and speed. Even now major championships are being conducted on outdoor courts, whereas other countries are going in for a synthetic surface spread over a wooden floor.

Introduction of the synthetic rubber ball has definitely fulfilled its aim of raising the standard of skill of Indian basketball players to a great extent. The basketball players all over the world are now playing with synthetic balls, as these balls are the only ones approved for international competitions. Our players should get used to such basketballs from the very beginning.

The Basketball Federation of India has left no stone unturned in its efforts to raise the standard of playing basketball at senior level. In spite of the support of the Government of India in its efforts, the desired results could not be achieved, the reason being that greater emphasis is placed on senior basketball and not enough attention is paid to junior basketball.
At present, evaluation of the standard of performance of our players at a given time or comparison of the performance of players with the past is done on the basis of mere observation and opinion, and not on the basis of any statistical records. In countries like the United States of America, statistical records of field goal shooting percentage, free throw shooting percentage, average height of the players, and weight of the players at different levels of national level competition are maintained for every year and this information enables them to put in efforts to overcome the deficiencies in the future. India's team performance records in various international competitions could serve as tools for evaluating our game standard.

Basketball today has undergone a tremendous amount of improvement since its origin. A basketball player is always required to be on the move on the court while playing a well-contested match, varying his pace from slow to fast, and many times jumping to collect rebounds in offence and defence, dribbling, shooting, guarding and changing directions in movement. This puts a great deal of demand in terms of physical efforts on each player.

A player in good physical condition is generally thought to have the ability to perform sustained work over a
long period of time. He should have sufficient speed, endurance, power, and agility. To enjoy the game, one needs to develop proficiency in fundamental skills. When a player has mastered the fundamental skills of the game, a feeling of gaining mastery over the game comes.

Wooden⁹ states that a sound knowledge of, and the ability to execute properly, the various fundamentals of the game are essential for successful play.

Statement of the Problem

The purpose of this study was two-fold:

a) To develop a battery of basketball fundamental skills tests for boys in the age group of 16-18 years and to establish the Multiple Regression Equation for performance prediction

b) to evolve performance norms using percentile scale as well as 'T' scores for each of the finally selected fundamental skill test items.

Delimitations

The study was limited to the following aspects:

1. The study was confined only to the male basketball players at High Schools and Higher Secondary Schools in Tamil Nadu.

2. The study was limited to the age group of 16-18 years.

3. The selection of subjects was restricted to those who participated in the Inter-District Basketball Championship for High Schools and Higher Secondary Schools of Tamil Nadu, held in the year 1991-92.

Limitations

The following are the limitations of the study which need to be recognised while interpreting and generalising the results:

1. Certain factors like personal habits, lifestyle, daily routine, diet, and climatic conditions, were not taken into account in this study.

2. The subjects had engaged themselves in different types of physical activity and the effect of these activities on their playing ability was not controlled.
Definition and Explanation of the Terms

Norm

Johnson and Nelson\textsuperscript{10} state that "Norms are values considered to be representative of a specified population. A test that has accompanying norms is definitely preferred to one that does not. Norms are usually based on age, grade, height, weight, or various combinations of these characteristics.

It is a standard point of reference that can provide a basis for judgment. It is used by the educator and research worker because the process of measuring involves comparisons.\textsuperscript{11}

"A norm as the term is used in relation to test scores, is the average or typical test score (or other measure) for members of a specific group. Norms are often presented in tables giving the typical score values for a series of different homogenous groups such as students in a grade or students in a given age."\textsuperscript{12}


The above definitions were considered relevant for the purpose of the present study and a standard 't' scale was constructed as the normative scale.

Test

A test is a specific tool, procedure or technique used to elicit a response from the student in order to gain information to be used as a basis for appraisal of quantity or quality of elements such as fitness, skill, knowledge, and values. ¹³

A test is commonly defined as a tool or instrument of measurement that is used to obtain data about a specific trait, or characteristics of an individual or group. ¹⁴

Skill

Skill refers to the level of proficiency in a specific task or limited group of tasks. ¹⁵


Fundamental Skill

Fundamental skills are the elementary or basic skills and principles involved during the execution of any movement incorporating perfect technique.

Significance of the Study

The game of basketball is more complicated than many other team games. Though it started as a recreational game, it has attained top priority as a competitive game at the international level. The dynamic movements and their proper execution in playing situations are entirely scientific. Bio-mechanical principles are fully employed in this game. A very high degree of skill development, physical fitness and motor abilities is required for outstanding performance in this game.

The frequent changes and advancements in basketball game are mainly due to the overemphasis given by sports experts in terms of systematic training and accurate application of scientific knowledge. The multivariated problems in coaching basketball do not permit a coach to have an easy way as many factors influence the total ability directly or indirectly.
However, many efforts have been made regularly to improve upon the techniques of training sportsmen with the help of research evidence and facts. Yet very little research has been done in the area of test construction in basketball game in India.

Much is known about the contribution of scientific development to the training of basketball players in most of the advanced countries. But scientific and result-oriented investigation, analysis, and assessment have not been undertaken seriously in our country to prove their worth which would perhaps help coaches and physical educators to select the players at an early age and train them accordingly for their achievement at various levels.

Even previously, technique used to be of immense significance in winning matches. Now-a-days, because of scientific advancement, basketball game too has become more systematic and only those players are chosen who are likely to win in future. This game has received the attention of coaches, experts and sports scientists. The interest developed and the quest for improvement in the selection of players promoted this research. This study may make the following significant contributions:

1. A battery of tests may serve as a useful tool for administrators in selecting players for a team
representing their institutions, District and State associations on an objective basis, minimising bias on the part of Selection Committee members.

2. Such an instrument may be used as a motivation to give feedback to the players from time to time on the degree of progress they make in their abilities.

3. This instrument may also be used in grading students in advance teaching of basketball or in coaching sessions arranged for competitions at various levels.

4. This study may aid Physical Education Teachers and Coaches in judging the adequacy of achievements of their students in basketball skills, and will be of assistance to students in diagnosing their own strengths and weaknesses in this game.

5. The results of this study may also help physical educators, coaches and other experts to identify which of the fundamental skills are more important for achieving higher proficiency in basketball.

6. The tests which are available now were either constructed a few decades ago and are thus outdated, or
they do not fulfil the requirements of the present. So with the advancement of technique, it is worthwhile to construct a battery of fundamental skill tests which could give the best possible help to the physical educators and coaches for evaluation of students.

7. The present study may help in selecting the basketball players and planning more sound and scientific training programmes for them.