CHAPTER I

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Sports is an institutionalized competitive activity that involves physical exertion or the use of relative complex physical skills by individuals who’s participation in motivated by a combination of the intrinsic satisfaction associated with the activity itself and the external rewards earned through participation.

Sports have a very important role in modern society. It is important to an individual, a group, a nation and indeed the world. Sports performance is the result and expression of the total personality of sports man. The development of a sports man enabling him to achieve high level of performance is usually concerned in four areas namely physical power, social adjustment, psychological development and physiological efficiency. Different activities make different demands on the organism with respect to circulatory, respiratory, metabolic, neurological and temperature regulating functions.

The word sport has a popular appeal among people of all ages and both sexes. Much of the attraction of sports comes from the wide verity of experience and feeling that results from participation of jog, anguish, success, failure, exhaustion, pain, relief and feeling of belonging. Sports can also bring tragedy, grief and even death. Sports
have reflected the development in a society. Sports indeed have been mirror of the society.

The concept of sports has been changed now a days. Due to the innovations brought by different sports sciences in the field of sports, now there are number of scientific methods to improve each and every quality, which determine the performance in each game and sport. At the same time development is according to the rate of demand of each sport. This is the main reason why the performance standards are going higher day by day.

From these illustrations we can understand that greater importance is given to sports and the sportsmen enjoy immense and higher social status in the modern society. Among the many leading sports existing in this modern world, Badminton is one and the investigator being a badminton player has chosen this sport for his study.

1.1. BADMINTON

Badminton is:

- Played by both men and women
- Played by some of the best behaved top athletes in the world
- The new Olympic Sport introduced from Barcelona 1992
- A sport with dynamic action
- A sport with universal appeal and with a clan,
A sport with huge National prestige in many sporting, acceptable image parts of the world

Badminton is a game played with rackets on a court divided by a net. It is distinguished from all other racket sports all of which use a ball of same size, by two intriguing features - the use of a shuttlecock, and the fact that the shuttlecock must not touch the ground during a rally. The flight characteristics of the shuttlecock and the pace created by constant volleying combine to make badminton one of the most exciting sports to play and to watch.

Badminton can be played indoors or outdoors, under artificial or natural lighting. However to avoid the wind and its disturbance all the tournaments generally would be played indoors. There may be one player or two players on a side. The shuttlecock does not bounce: it is played in the air, as it is a fast game which requires quick reflexes and good physical conditioning. There is a wide variety of strokes in the game ranging from powerfully hit smashes to very delicately played dropshots.

1.1.1. Badminton for Fitness and Recreation

As leisure increases, badminton will play a more important role in the fitness and recreational programs so vital to the Indian citizens. It can be played by men, women, and children of all ages with a minimum of expense and effort. The game itself is stimulating mentally
and physically, and it combines the values of individual and team sports. This game is easy to learn, a fact which makes it enjoyable. Basic techniques are easily learnable, yet much practice and concentration are required to perfect the skills needed for becoming an excellent badminton player.

Badminton is great fun because it is easy to learn. The racket is a light equipment and the shuttlecock can be hit back and forth in rallies even when the players possess a minimum of skill. Within a week or two after beginning of play, rallies and scoring can be learnt. There are very few sports in which it is possible to feel like an “instant player”. However, one should not assume that perfection of strokes and tournament caliber of play are by any means, less difficult in badminton than in other sports.

A typical rally in badminton singles consists of a serve and repeated high deep shots hit to the baseline, interspersed with drop shots. If and when a short clear or other type of “set-up” is forced, a smash wins the point. More often than not, an error (Shuttle hit out-of-bounds or into the net) occurs rather than a positive playing finish to the rally. A player who has enough of practice and commits few, if not outright, mistakes often wins the game. The only trick to win the game is simply waiting for the opponent to err.
In doubles, there are fewer clears and more low serves, and net play. Again, the smash often terminates the point. Here too, practice and lesser number of errors as in singles is most desirable. Doubles system requires team play and strategy. Rotating up and back on offence and defense, choice of shots – the basic qualities of doubles system – and perfect understanding between the team mates would definitely have an edge over their opponents.

1.2. BRIEF HISTORICAL BACKGROUND OF BADMINTON

The Battle dore is the root of the present Badminton Game. It is said that around 1860, the Duke of Beaufort’s daughters were playing battledore and shuttlecock in the great hall of Badminton House, the seat of the Somerset family in Gloucestershire, England. To add a little variety to the game they rigged up a string across the hall from the door way to the fireplace and tried to keep the shuttle going by playing it to each other over the string. Their guests then, some Indian Army Officers, joined the fun. They thought that it would be even more amusing if the shuttle be hit away to the player on the other side of the string than the fun then played. Baldwin a well-known sportsman of those days and a frequent visitor to Badminton House shaped this game and framed some rules and regulations as he did to some games earlier.
However it is Selby who drafted a code to this game in 1870 and it got acceptability worldwide and it was imported to India also.

1.2.1. First Club in Badminton

In the mid-latter part of the 1870s, indoor clubs began to be formed in England, initially at such places as Folke-stone and Portsmouth where there was strong Army presence and so it began to be known and to be spread through the country.

The human race thrives on competition and, in no time at all, clubs were wishing to pit their skills against each other. But, of course, there were no generally accepted rules - those prepared by Colonel Selby were not known by the newly-founded clubs in England - there were no shuttlecock manufacturers in those days - players made their own shuttles from materials at hand and many and varied were the shapes and sizes with differing numbers of such feathers as might be available.

In some cases, the game was even played with balls made of lengths of wool bound together. There were no recognized dimensions for the court, which usually consisted of the playing space available. Singles play was virtually unknown and four aside was popular as more players were involved at one time. There was no generally accepted system of scoring nor definition of what constituted a game.
1.2.2. First Organization in Badminton in 1893

In these circumstances, clearly it was difficult to arrange satisfactory inter-club matches and so it was that, in 1893, a dozen or so clubs got together under the chairmanship of Colonel S.M.C. Dolby and formed a governing body - a nationwide association which all would recognize as being the accepted authority on all matters relating to the playing of Badminton.

This worked very satisfactorily, but, as the game spread to Ireland, Scotland, Wales and the continent such countries formed their own national associations and were prepared initially to observe the English association’s authority. The game became more and more popular and spread world wide. Inevitably, there arose the desire for one country to wish to challenge another country to a test of skills.

1.2.3. International Badminton Federation in 1934

The need was fast arising for a truly international governing body and so, in 1934, the English association convened a meeting of all known national Badminton associations for the purpose of founding the International Badminton Federation.

The business of this body has changed dramatically since the early strictly amateur days and, while the I.B.F. remains the guardian of the Laws of Badminton, its responsibilities have expanded to embrace every aspect of the game. To name but a few, there is the orderly
co-ordination of national and international tournaments and of international matches; the staging of world tournaments, both for individual players and for national teams; supervision of the suitability of the manufacture of shuttles, rackets and court equipment; the government of advising players on courts as well as court dress, doping and femininity control; the provision of qualified umpires and linesmen; the welfare of players, coaching and assistance to developing Badminton countries, publicity and public relations and so on and so forth.

It is indeed a very active Federation which has grown out of the early days of the Badminton Association. An international Council, numbering some twenty-six people elected by all the national associations whose delegates govern the Federation, supervises the Federation’s business, which is processed by a small professional staff of some six people in Cheltenham in Gloucestershire, the country where it all started.

It is gratifying that such industry has been rewarded by Olympic recognition and Badminton is now accepted as a programme sport from the 1992 Games.
1.3. SKILLS IN BADMINTON

We know that the game includes the skills, the strokes, general movement and foot work. It includes tactics which we know are somehow connected with the skills.

As in other major games many fundamental skills are there in Badminton, such as:

1. Service
2. Shot making (Clears)
3. Smash
4. Drives
5. Lifts
6. Drop shots.

1.3.1. The Serve

Serving is the means of starting a rally within the games situation. The Laws of Badminton allow us to score points only when we are serving.

1.3.2. Basic Single Serve

1. Take a comfortable position in the court about three feet behind the short service line and to the right or left of the centre line.
2. Stand with your feet spread but not so far apart that you cannot move quickly. Your left foot should be in advance of your right foot.
3. Both feet must remain in contact with the floor until you contact the shuttle. Once you put your racket in motion to serve, neither foot may slide during the entire execution of the stroke.

4. Hold the shuttle at the base between your thumb and forefinger of your left hand (or use both fore and middle fingers). Extend your left arm forward about level with your shoulders.

5. Hold the racket with a forehand grip with your wrist cocked. Bring the racket behind your body at about waist level. This is the starting position. Then drop or toss the shuttle in front of you.

6. Swing the racket forward, uncock the wrist, and let the racket and shuttle meet ahead of your body at approximately knee level.

7. Rapidly rotate the forearm and wrist inward immediately prior to contact. Most strokes in badminton are made with a similar rotating movement.

8. The follow-through goes in the direction that you intend the shuttle to go, that is, high and deep. Avoid bringing the racket up to the shuttle. Let the shuttle drop. Otherwise an outright miss or a poor shot will result.

1.3.3. Shot Making

The elements of shot making are the clear, smash and drops. These profiles can also be considered as “angled shots” i.e., they can be played cross-court as well as straight.
In shot making we have Underhand strokes & Overhead strokes, i.e., Forehand or backhand

1.3.4. Clear

To strike the shuttle to the back of the court well above the maximum reach of the opponent ideally to fall vertically down onto, or just within, the back singles boundary line. The shot is used constantly within the singles game; less frequently in the doubles game.

Point of impact will be above and just in front of the head. The striking effort will be upwards and forwards. As the shuttle has to travel a great distance you should use a powerful punching action. Follow-through should be "follow after" rather than "follow down". After striking the shuttle the racket hand and racket head should follow the direction of the shuttle before being allowed to fall. The powerful upward and forward movement should have been sufficient to lift the right foot off the floor and forward to become the first step of recovery to position of readiness. Before hitting any shuttles practice, by "shadowing", the movements described above in their entirety.

1.3.5. Smash

To strike the shuttle extremely quickly and steeply down in front of and/or wide of the opponent(s). If not providing an outright winning
shot then, at least, drawing a weak lifted response for further punishment. It is used extensively in all forms of game play.

All preparatory movements and attitudes will be precisely as outlined for the clear. The point of impact will now be above and positively in front of the body. Striking action will be strongly forwards and down with very strong wrist action. Follow-through should be “follow after and down” - after striking the racket hand and racket head should powerfully follow the intended direction of the shuttle. The powerful upward (to give maximum reach, therefore, downward trajectory) and forward movement should lift the right foot of the floor and forward to become the first step of recovery to position of readiness.

Without hitting the shuttle, practice the movements a number of times by “shadowing” the complete sequence of prepare, strike and recover. Place emphasis upon throwing the arm up, forward and down. The forward and down action should be so fast that the racket produces a “swishing” sound. Such should be the power of the movement that you are obliged to bring the right foot forward to recover balance.

1.3.6. Drop

To strike the shuttle, in an apparently powerful manner, only for it to fall gently and steeply over, and very close to, the net. If played
correctly to catch the opponent unawares either gaining an outright winning shot to forcing a late lift. Used extensively in all forms of games play.

The shots can be played off the clear or smash actions. If played off the clear action the flight will be slower the trajectory initially upwards after leaving the racket, the shuttle falling steeply close to the net. When played off the smash action the shuttle will travel faster, the trajectory will be flatter and the shuttle will fall further into the opponent’s court. In both cases the opponents should be convinced, by your preliminary build-up, that either the clear or smash is about to be played. You should disguise your intentions and deceive your opponents.

1.3.7. Lifts

Having taken the shuttle near the top of the net, to strike it to the back of the court with a steep upwards trajectory, well above the maximum upwards reach of the opponent; ideally to fall vertically down onto, or just within, the back boundary line. The shot is used frequently within the singles game; less frequently in the doubles games.

Forehand Lift - Point of impact will be in front, or wide of the body. The racket is held with a loose forehand grip, racket arm bent with elbow below the hand, wrist cocked so that the racket head is below the hand. Strike the shuttle by straightening the arm and then
unlocking the wrist. The wrist should not unlock beyond point of impact. Shot momentum is maintained, primarily, by following the intended direction of the shot with the extended arm. The shot will have been played off an extended racket foot. Do not let the non-racket foot move from the extended lunge, but, having played the shot take weight back onto this and recover to position or readiness.

Backhand Lift – Point of impact will be in front, or wide of the body. The racket is held with a loose backhand grip, racket arm bent with elbow at shoulder level, the racket hand below the elbow, the wrist cocked so that the racket is below the hand. The racket head should be close to the left hip. Some part of the back will be turned to the net. Strike the shuttle by straightening the arm and then unlocking the wrist. The wrist should not unlock beyond point of impact. If executed correctly, the shoulder and elbow joints will have “locked”, therefore follow-through will be limited to wrist action only, in the intended direction of the shot. The shot will have been played off an extended racket foot. Do not let the non-racket foot move from the extended lunge but, having played the shot, take weight back onto this and recover to position or readiness.

All these skills are displayed by veteran players and amateur sportsmen in various degrees. It is very necessary for a physical educator to be able to judge the skills and techniques of the player.
1.4. THE NEW TEST, NEED AND ITS IMPORTANCE

Multifarious reasons can be attributed to why a physical educator should attempt to formulate new skill tests in the face of numerous tests already existing. The reasons are firstly, change is a universal phenomenon, Secondly the existing tests may not give exactly what is necessary at the moment.

Many existing sport skill tests were developed for the past 50 years. Since then many improvements in measurement techniques rules and regulations, playing procedures, various developments in identification and classification of skills and their patterns, are coming into practice making the old tests ineffective. While introducing the new tests, the physical educator has to keep in mind the specification of the validity, reliability objectivity and the set of norms. The major setback in the older tests is the way the norms are administered; they are unrelated to the actual game play. The applicability of tests and norms of the item should be in a general way, serve the purpose and within practicable reach of the population to which the tests are intended.

A test is, to say, a form of measurement which itself, in turn, involves all the tools of collection of data.
1.4.1. TEST

"The test as it is a form of questioning and or measuring used to assess retention of knowledge and capability or to measure the ability in some physical endeavors". Johnson & Nelson (1982).

They also pointed out some important steps in test construction. They are as follows:

Step-I

To analyse the game or physical qualities in question, in order to determine the skills or factors that are to be measured. This of course necessitates a thorough understanding of what is involved in the physical performance that is being evaluated.

Step-II

Select test items that measure the designed qualities unquestionably. This is one of the most crucial steps in the entire test construction procedure.

Step-III

Establish the exact procedures for the administration and scoring of the test.

Step-IV

Determine the Reliability of each test item.
Step-V

Compute the Objectivity of each test item.

Step-VI

Establish the Validity.

Step-VII

Revise the test in light of the findings of the steps which describes and finalize the written instructions for administering and scoring the test.

Step-VIII

Construct Norms. The test score can be converted into percentiles or T-scores and norms for each test should be prepared.

1.4.2. Measurement

Johnson and Nelson (1982) describe that “the measurement should be conducted for the purpose of evaluating the outcome of physical education in the light of educational objective. It is broader than the test alone. A test is merely one form of measurement, while measurement itself involves all the tools which may be employed in the collection of data. While testing one must conduct it in a formal manner but the measurement may be made informally as well as formally.
1.4.3. Evaluation

Johnson and Nelson (1982) further state that "The evaluation transcends mere measurement, in that basically subjective judgements are based upon the data collected in the measurement process. Such judgements may aid us in determining the extent to which we are accomplishing our objectives".

1.4.4. Significance of Tests, Measurements and Evaluation

Tests, Measurements and Evaluation are used:

1. To motivate students when they are not interested in the instruction and also help the teacher too and the unit of instruction with a high level of interest.

2. To help the teacher to assess the student’s performance.

3. To help students to evaluate their own knowledge and/or skills in various physical activities.

4. To enable the teacher to objectively measure the improvement by testing before and after the unit of instruction.

5. To assist the teacher in pinpointing the limitations as well as the strong points in a programme.

6. To aid the teacher in evaluating different methods of instructions.

7. To provide a means for determining the better performance within a group and to gain insight as to the potential ability of others.
8. To provide a basis for the classification of players and teams for practice and competition.

9. To diagnose the needs in relation to the body mechanics, fitness and motor skills.

10. To establish age, sex and grade level norms for the use within schools or districts as well as for comparison with national norms.

11. To determine status and changes in status brought about by physical education for public relation purposes.

12. To collect data for research.

13. To help for determining the relative values of sports activities in terms of meeting the designed objectives.

14. To determine the needs of individuals within the programme and the latest to which educational objectives have been accomplished.

15. Finally to enable the teacher to evaluate his own teaching effectiveness.

1.5. CRITERIA FOR THE SELECTION OF TESTS

Bosco and Gustafson (1983) determined four criteria in the selection of test for construction. 1. Validity, 2. Reliability, 3. Objectivity and 4. Administrative usability. Among these four criteria the validity is most important. However, the discussion of validity is incomplete without an analysis of reliability.
The selection and construction of tests is one of the most important phases of measurement and evaluation programmes. If poor tests are selected or constructed the evaluation program will inevitably be very weak as well. A test cannot be considered valid unless it also possesses suitable reliability. Once validity and reliability have been satisfied, the administrative usability is the next focus of attention with objectivity. In physical tests, the practice of having students paired off so that one is scoring the performance of the partner is quite common and in these setting, objectivity of the scores assumes greater importance than for a written test that is to be scored only by the teacher with a key.

1.5.1. External Criterion

The test scores are correlated with subjective ratings by Judges, Juries, Coaches etcetera or with rankings, resulting from round-robin or ladder tournaments. Whenever possible ranking obtained from actual competition are to be preferred over subjective ratings. If the individual scores highest on the skill test are the better performers under conditions, than the test is said to be valid one.

1.5.2. Internal Criterion

The test scores are correlated with an expanded battery of test items composed of fundamental components (skill elements) of a more complex skill. For example, a battery of 10 Badminton Skills is
purported to measure Badminton ability. By multiple choice of technique, it is determined that three of the items correlated highly with all the ten. It is then assumed that three item batteries is a valid test of Badminton. This is a highly questionable practice and should be avoided unless the original ten items are first validated against external criterion.

Scott going emphatically says that. "To be more useful, a test items must have validity. It must measure what it purports to measure. To be valid the test items must be reliable and objective and relate logically to the purpose of the test as a whole".

1.6. VALIDITY

"Validity is an all encompassing term. The term validity is used primarily in terms of whether a test is relevant and applicable to a particular situation".

Validity can be defined as a device that actually measures what it is intended to measure. It will help to determine who is best and who is not best. By these we can construct that a synonym for validity might be relevance. If a test has poor validity or relevance, it is a waste of time to use. In determining the validity of a test we can use four types of classified validity. They are:
1. Content or Logical Validity

This is usually the first step in constructing a valid test. If a test contains the items that logically measure the skill or ability we wish to measure, then we say it has logical or content validity. It is established by assumption or definition; hence it does not determine the degree to which a test measures what it is intended to measure. For construction of a new skill test and to determine the degree of its validity the content validity is essential but not sufficient since the degree of tests validity must be determined objectively.

2. Construct Validity

It is a statistical method used to verify content validity. Specially a construct or structure of some ability or phenomenon derived from logical thought is proposed, then a statistical check is made to determine whether that construct actually exists. The psychological constructs and physical performance constructs can be measured by using this validity.

Three techniques are used to establish construct validity. They are factor analysis, multiple regression of test batteries and testing differences between extreme groups. These techniques are more appropriate to some situations that to others.
3. Concurrent Validity

It is an empirical or a statistical means to determine the validity of a proposed test which is normally used to establish the criterion for the variable that one wishes to measure and then determine how closely the test relates or predicts this criterion. This form of validity is called concurrent or criterion related validity. For establishing this validity the most important step is determining what criterion will be used.

Three common criteria are used for establishing the concurrent validity. This can be done by a panel of judges who rate the students ability in the skill (variable) under consideration. This rating is subjective and can provide guidelines to the raters to establish some assurance that they are rating the same skill components. Then the proposed test is given to the same students. The regression equation to predict the judges ratings from the proposed test is then determined.

Secondly, tournament results are used as criterion to determine the concurrent validity. This is more effective for determining the validity of skill tests for specific sports.

Thirdly, the established valid test criterion is used as the means of establishing concurrent validity. Hence the validity coefficient is the correlation between the proposed test and the established test. The
recession equation accompanying this correlation coefficient predicts the scores on the established test by use of scores on the proposed test.

4. Predict Validity

This validity involves the use of criterion to be predicted. The correlation between the test scores and the player's success rating indicates the test's predictive validity. If the correlation is satisfactory then we determine a regression equation for the prediction is success one. If this can be used in a new group to successfully predict the relative success of the new group then we can conclude that the predictive validity has been established.

1.7. RELIABILITY

It is the second most important criterion to be considered in test construction and its selection." The reliability is the degree of consistency with which a test measures what is to measure. In another way a test's reliability is in terms of whether the test measures the true average performance of an individual".

For example, the obtained score = True score + error score, where the true score represents the performance level that truly indicate the individual's obtained scores that is due to one or more factors other than the individual's true ability. If a test is perfectly reliable, the obtained scores are equal to the true scores. When a test
is measuring true scores, a person taking the test more than once will score the same, every time when the test is conducted.

Two major areas or classifications of error contribute to the error score. They are, measurement error, and systematic error. The measurement error is because of inaccuracy in the equipment, scorer errors and the test administration. But the systematic error is because of the changes in performance or behaviour due to biological factors. Both these errors affect the reliability of a test. Among these errors the measurement error can be controllable and eliminated through careful administration of tests and the equipments. But the systematic error is generally more in the motor performance testing, because it consists of repeating more than one trial of the same task and it needs to be repeated on different days. For determining the reliability, some methods were suggested.

Firstly, Test and Re-test Reliability

In this, a test is to be administered on two different occasions to the same group (test, then retest) and determine the correlation between the two sets of scores. This correlation is called the coefficient of stability. It is because the time interval between the two administration is short so that the individuals are not likely to repeat error performance. In all cases the condition for the test administration should be precisely the same on both times the test is administered.
Secondly Equivalent Forms Reliability

This can be estimated by determining the correlation between score on two equivalent forms of a test taken by same people. This is called as coefficient of equivalence. However, as it is difficult to obtain two equivalent tests, this method is not practicable.

Thirdly, Split-Half Reliability

In this method a test is administered to a group and the test results are then split into two equal halves for scoring. Separate scores obtained for each half by splitting the scores as odd and even number of trials. The correlation between the two scores of the test results is determined.

1.8. OBJECTIVITY

The objectivity of a test is defined as the degree of agreement among testers. Objectivity is one that will be scored identically by different scorers.

A synonym for objectivity might be the rater's reliability that is the consistency with which different raters score or judge a performance. To determine rater's reliability for a test, two individuals score the test or judge the performance of all tested students, and correlation coefficient is determined. This coefficient indicates the degree of agreement between the two judges' scores or ratings. Like
the validity and reliability several factors can affect the objectivity of a test.

1.9. NORM

Norm is a standard point of reference which provides a basis for judgment. It is used to interpret relative standings to compare scores or groups and whether to combine or average scores. It can be derived from the scores obtained as raw from a specific group on a specific test. It implies a larger number of cases. One hundred cases is minimal and several hundred are more desirable. "The norms are determined for a given group of people, half of the people will fall above the middle of the distribution and half of the people will fall below. Any ruling made about the norms is by the person using the norm score".

The norm is a scale that permits conversion from raw score to a score which is capable of comparison and interpretation. In a table of norms, raw scores and derived scores are typically presented in parallel columns for easy conversion to the derived scores. Normally the raw score becomes capable of comparison and interpretation when there is a norm. It is the true representative of some larger population. Sufficient cases alone do not make good norms but coupled with proper sampling, this provides a symmetric distribution. 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 interpretive purpose. Generally the norm scale is sufficiently sensitive to make discrimination between the scores of the different subjects. "Normally the Hull scale will be the final choice and mostly preferred over the other type of scales, because this scale is more applicable to the real testing situation where great variations are present.

The norm scales are accepted as one, valid and practical criteria for evaluating the individual physical fitness tests. When norm scales are being constructed, one must consider the following practical, statistical and educational principles.

They are:

1. Sampling techniques
2. Equivalency
3. Progressively
4. Sensitiveness

1.9.1. Importance of Norm

Norms always represent the achievement level of a particular group to which the obtained scores can be compared. It is obvious that a test accompanied by norms have several advantages over the test without norms. Norms enable the instructor to interpret the student scores in relation to a larger group in the same population. Its use enables a comparison of the performance of a student with other
pupils and gives uniform meaning to the comparison of a student's score on one test with his or her score on another one. In addition, norms provide a reliable and useful basis for interpretation and evaluation of test results. The following factors must be taken into consideration in the development and use of Norms.

1. Sample

The sample must include a large number of cases so that it approximates the population considering the age, sex, race, educational level, socio-economic status and sampling method.

2. Administration

The administration of the test must be standardised.

3. Representativeness

The norms should be true representative of the population for which the test is intended.

4. Temporariness

The norms generally are temporary and can be expected to change and should be periodically evaluated.

5. Presentation

Norms should be presented in a format that is easily understood.
6. Comparability

Often it is necessary to compare the scores from different tests to evaluate the student’s performance.

1.9.2. Types of Norms

Usually four types of norms have been most commonly used in comparing the test scores.

1. Age Norm

It is based on the average performance of students at various age levels. It is relatively easy to understand. In this comparison of different traits it is difficult to make, because of the lack of uniformity of units.

2. Grade Norm

Almost the age and grade norms have similar characteristics. It is based on the average scores earned by the students and interpreted through the use of grade equivalents. It is not often used alone like age norm since the grade equivalents are based on units that are unequal from grade to grade and it complicates interpretation substantially.

3. Percentile Norm

The percentile norm is widely used in all the statistical analysis. It is easily calculated and relatively well understood. They provide a basis for interpreting an individual's score in terms of his or her
standing in some specified group. The norms using percentiles are widely applicable for many situations, and easy to interpret by the student as well as the instructor. This norm is useful in physical education because many components of the psychomotor domain can be tested. The major drawback of percentile norm is inequality of units. In the middle of the normal distribution a rather small change in the raw scores gives a rather large percentile change. At the end of the distribution the reverse is true. With careful interpretation, the limitation of percentiles can be overcome.

4. Standard Score Norms

Since the norm system has its limitations on percentiles, efforts are made to find scales that have units with the same meaning throughout the entire range of scores. Several sophisticated standard score scales have been developed to score these purpose. They are Z-score, T-score, 6-zigma scale and the Hull scale. With this types of standard score the relative performance of an individual can be expressed in units that are equal over the entire scale so that a small difference at one point on the scale has the same meaning as an equal difference at some other point.

All types of norms have advantages and disadvantages. The uses of standard scores or percentile norm are generally recommended by the experts in the field of physical education.
1.10. CRITERIA FOR SELECTING NORMS

“All educationist have been interested in this function of measurement in knowing how much a student has achieved and to examine his score in relation to the scores of others on the same test, in other words a student’s scores are compared to other students score. Here differences are anticipated because some students are expected to perform better than others. This function identifies the test as norm”.

Johnson and Nelson state the following as some of the criteria for the norms.

1. The number of subjects to compute the norms should be sufficiently larger. Generally speaking the large the sample the norm likely will approximate the population.

2. The norms should represent the performance of the population for which the test was devised.

3. The geographical distribution that norms represent should also be taken into account, considerable variation in performance is often found among students belong to different geographical locations.

4. The clarity of the directions for the administration and scoring is definitely involved in the evaluation of the accompanying norms.
5. Norms are only temporary and most of it should be periodically revised.

1.11. HULL SCALE AND ADVANTAGES

Becker says (1960) that the hull scale, which extends to ± 3.50, may be considered a compromise between the T-scale and the 6 - sigma scale, and the occurrence of an extreme score falling outside the scale is more remote than for the 6 - sigma scale. However, an exceptional score can fall outside this scale. In constructing Hull scales for Medford boy’s growth study data, a check was run on the number of scores that were sufficiently extreme as to extend above 100 points and below point in the distribution. In one study a total of 412 boys of six age groups ranging from 9 to 14 were tested, with eight anthropometric tests. Thus for the eight scales, 3.296 entries were made (412 boys x 8 scales = 3.296) for all scales, only seven entries (.02%) were above 100, and only one entry was below.

1.12. OBJECTIVES OF THE STUDY

The investigator being an intercollegiate player in the game of Badminton with 10 years of experience in the field has found it very difficult to test the fundamental skills in Badminton and fit the collected scores in the prescribed norms provided by the foreign made tests for the Indian college men. Most of the Badminton tests which have been constructed for the western countries population do not suitably fit to
the Indian population. To grade them by using those norms causes more practical difficulty to the coaches in India.

Hence the research scholar has been motivated and intends to construct two new skill tests for measuring the fundamental skills and ability of the TamilNadu State college men. After a length of discussion with the guide, Badminton experts, coaches, umpires and after going through the latest Badminton literatures, the research scholar finally has come to a conclusion that among many fundamental skills the high lob service and the forehand smash are considered to be the most important skills in Badminton. The investigator feels that the high lob service and the forehand smash are the most important fundamental skills in Badminton to be taught to the beginners at first stage.

Taking into consideration the above factors, the primary objectives of this research was to construct the new skill tests and thereafter compute the norms for the newly constructed skill tests for the college men students in Tamilnadu State.

1.13. STATEMENT OF THE PROBLEM

The primary aim of this study was to construct new skill tests for high lob service and forehand smash in Badminton and then to construct norms for the above skills to assess the talents of the college men badminton players between 18 and 25 years of the Tamilnadu State. In India most of the beginners play Badminton without learning
its fundamental skills thoroughly namely to hit, to serve properly to the opponent court without any mistake and to receive the served or tossed shuttle and sending it to the opponents court. In the absence of the above elements, the game will not be worth-while for the college men. The foremost duty of the coaches and the trainers of the game Badminton is to teach the players these fundamental skills which is the minimum requirement for the play. When the player has mastered these, fundamental skills, should be introduced to the complex style methods, skill and the positional play. Keeping all the above said aspects in mind, the research scholar made an honest attempt to construct new badminton skill tests and the computation of Norms for the above said skills for the Tamilnadu State college men in the age group of 18 - 25 years.

1.14. HYPOTHESIS

It was hypothesised that,

1. The newly constructed test for the high lob service and forehand smash skills may be reliable.

2. The newly constructed test for the high lob service and forehand smash skills may be valid.

3. The newly constructed test for the high lob service and forehand smash skills may be objective.
1.15. SIGNIFICANCE OF THE STUDY

1. The study may help to classify the Badminton players ability on the basis of their performance in high lob service and forehand smash by using these new norms.

2. The results of this study may help the coaches and physical education teachers to identify the individual proficiency in high lob service skill and forehand smash skill.

3. The study may help the coaches and physical education teachers to construct a sound training programme for the beginners in Badminton by giving more importance to the high lob service skill and forehand smash skill.

4. This study and the computed norm will provide an opportunity to identify the right type of individuals to be trained as Badminton players.

5. The findings of this study may contribute to the body of knowledge in the specialised area of tests construction and norm computation.

6. This study would stimulate the interest of the trainees in two skills namely high lob service and forehand smash through self evaluation of the performance they made.

7. This study may help to provide clear guidelines in selecting potential talents to be groomed for higher level of competition.
8. The results of this study may be helpful to have uniformity in coaching the beginners throughout the country.

9. This study would further motivate others for further research studies on other skills in Badminton and for norm construction of related skills.

10. The norm construction may be used as a measuring scale for testing the college men Badminton players for any of the selection.

11. This study may be significant in providing feedback mechanism and will add to the critical literature in the field of sports.

1.16. DELIMITATIONS

This study was delimited to the following aspects:

1. This study was conducted only to the college men, students of the Tamilnadu State.

2. This study was conducted only on two skills in Badminton namely high lob service and forehand smash.

3. This study was conducted only on men players.

4. To establish reliability on Arbitrary tests, 30 inter collegiate men Badminton players were used.

5. To establish validity of most appropriate test, one hundred and twenty men Badminton players were selected.

6. To establish the objectivity of most appropriate test, thirty men Badminton players were selected.
7. To construct the norms for the newly constructed tests, one thousand Intercollegiate, Badminton men players were selected from Tamilnadu.

8. The age of the players was 18 - 25 years only.

1.17. LIMITATIONS

1. The external factors like diet, food, lifestyle, climatic conditions and other environmental factors which may have an effect on the results of this study were considered as limitations.

2. No special motivational techniques were used during the testing which might have an effect on the results of this study and this was considered as the limitation.

3. The differences that might exist among the subjects due to varied social, cultural, economical, religious activities, and the participation in the intramural and other physical activities by the subjects were considered as the limitation.

1.18. DEFINITION OF TERMS

1.18.1. Badminton

Badminton is predominantly a “Perceptual Skill” requiring an ability to anticipate without being anticipated, to see and react to each cue in the games situation early and effectively.
1.18.2. Skill

Skill refers to the level of proficiency in a specific task or limited group of tasks. Fleishman (1964).

1.18.3. Norms

Norms are values considered to be representative of a specified population. They provide information for the individual in the programme and counsel to enable them interpret any individual's score in relation to the scores made by other individual's in the same population. Norms are usually based on age, grade, height, weight, sex or the various combinations of these characteristics. Johnson and Nelson (1988).

1.18.4. Test

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

1.18.5. Service

Service is the first act to start a game or a rally. Today the service becomes an offensive tactics to score a point directly or to disturb the opponents receiving capacity. It starts in the toss of the ball in the air and hitted or batted by one hand.
1.18.6. High Lob Service

Shuttle held in left hand, away from the body, about chest height, racket back as far as possible, wrist cocked and in shake-hand grip, transfer body weight forward swing arm racket in underarm swing, wrist cocked back and turn hips to left shoulder come square to net, release shuttle as high as possible sighting on a particular point on ceiling, so that the shuttle will land close by the back boundary line.

1.18.7. Forehand Smash

The smash is a powerful overhead stroke that directs the shuttle sharply downward. It is point winning shot. The smash is used in singles and doubles both, to win a point. Its success depends on racket head speed and angle of the shot. The racket must be over the shuttle when contact is made. The shuttle should be hit at sharpest possible angle or hit so hard that the opponent can’t handle it.

1.18.8. Shot Making

They can be played cross-court as well as straight. The profiles can also be considered as angled shots.

1.18.9. Drives

If taken it, or slightly above shoulder level. To strike the shuttle with a fast flat trajectory to pass just above the net wide of the
opponent to fall into the side boundary lines. Can also be played, with discretion cross-court.

1.18.10. Lifts

Having taken the shuttle near the top of the net, to strike it to the back of the court with a steep, upwards, well above the maximum upwards reach of the opponent ideally to fall vertically down on to, or just within, the back boundary line.

1.18.11. Drops

To strike the shuttle in an apparently powerful manner, only for it to fall gently and steeply over and very close to the net. If played currently to catch the opponent unawares.

1.18.12. Playing Ability

An individual's fundamental skills maximized into the game skills during a real game situation may be termed as the playing ability of the individual for the concerned game. This is assessed subjectively by way of experts ratings.

1.18.13. Skill Test

It requires an environment similar to the game environment and standardized procedure of administration. The validity of the skill test is judged to some extent on the consistency between testing and performance environment.
1.18.14. Criterion Test

This is a test which is already established one with high correlated reliability, validity, objectivity and the administrative feasibility.

1.18.15. Reliability

Reliability refers to the degree to which a test consistently measures a given factor. This is not to say that the factor is necessarily the one that the test or other measurement instrument is through to measure, i.e., a test may be reliable but not valid in the sense of measuring what it is throughout to be measured. Basco and Gustafson (1983).

1.18.16. Validity

Validity is an estimate of the degree to which a test measures the factor for which it was designed. Basco and Gustafson (1983).

1.18.17. Objectivity

Objectivity is similar in nature to reliability, except that it applies to the consistency of agreement among scores with respect to the quality or correctness of a performance. This is to say that the scores assigned by different scorers who have completed the same test for a group of subjects will yield high reliability coefficients. Bosco and Gustafson (1983).