1. METHODOLOGY

RESEARCH METHOD

After reviewing the literature in relation to the objectives, the next step is to develop the procedural method in the instructional model. This indicated that specific operation based on objectives should be planned and performed. Objectives based on the best information available should be planned to direct the procedure. This is known as methodology and is one by which programmes are initiated and carried out.

This chapter deals with the selection of subjects, selection of the variables, research design of the study, criterion measures, reliability of data, reliability of instruments, reliability of tester, flow chart, procedure for administrating the test and statistical techniques for analyzing the data.

Data Collection

For the study, researcher will personally distribute questionnaire to the librarian for collection of data, this may be suitable for gathering data from a large number of units / respondents / representing a specific population.

Statistical tools used in this study

This is a descriptive and inferential study encompassing various modes of analysis such as descriptive analysis, tabular analysis, percentage analysis and statistical analysis. The following are the statistical tools used in the study.

1. Mean percentage score
2. Chi-square test
3. Factor Analysis

RESEARCH APPROACH

Research design of the study

To achieve the purpose of the study subjects were randomly selected from the affiliated colleges from Bihar. Age group of the selected subjects ranged from 18 to 25 years. Random group design was used for this study. The selected 50 batsmen, 50 fast bowlers, 50 spin bowlers and 50 wicketkeepers were considered as subjects for this study. The subjects were tested on selected physical, physiological, psychological and anthropometrical variables.

Selections of the subjects
To achieve the purpose of the study 200 cricket players were selected as subjects from the various affiliated colleges of Bihar. The subjects selected were 50 batsmen, 50 fast bowlers, 50 spin bowlers and 50 wicket keepers in cricket. The subjects were in the age group of 18 to 25 years and all the subjects were healthy. Before the administration of tests, the subjects were oriented about the purpose of the study and their cooperation was sought. The subjects participated throughout the testing period and cooperated for the success of collection of necessary data.

**Selections of the variables**

The game cricket has different skills. However, the investigator found common skills like batting, fast bowling, spin bowling and wicket keeping are basically involved in the game of cricket. Experts have found significant relationship that mastering these skills improved proficiency of the game of the individuals. Hence, the investigator selected batsmen, fast bowlers, spin bowlers and wicketkeepers in cricket to achieve the purpose of this study.

Cricket matches can last for very long periods of time, particularly at the highest levels during 50 over matches. Players can be on the pitch for up to four hours at a time before a break in play which will test their concentration levels as well as fitness. The better physical condition a player is in the better their concentration will be and the more effective their performance, regardless of whether they are batting, bowling or wicket keeping. As every player will be required to bat and field during a match, it is crucial that training encompasses all aspects of the game in order for them to perform. While the dynamics of the game mean that play is very stop start, as the bowler resets for every ball delivery, the players need to be focused and ready to explode into life once the batsman has played a shot. This applies to players in each position.

The batsman must be able to sprint from one end of the pitch to the other; the wicket keeper must be alert and agile to get to the ball as quick as possible and the bowlers must be able to sustain concentration and fitness throughout each of their bowling sessions, which can often last for three to four hours. Cricket should involve conditioning the players on aerobically, anaerobically, physiologically, psychologically and anthropometrically. This will provide them with a good base to work from and will prepare them physically for the challenges ahead.
The research scholar reviewed the available scientific literature pertaining to the games of cricket from books, journals, periodicals, magazines and research papers. From the literatures of the previous studies, the discussion with the guide and experts in the field and consideration of the feasibility of the study the following physical, physiological, psychological and anthropometrical variables were selected for the study. Therefore, based on literary evidence and scholar's own understanding the following variables have been selected for the purpose of this study.

- **Physical Variables**
  1. Cardio Respiratory Endurance
  2. Flexibility
  3. Strength
  4. Speed
  5. Agility
  6. Balance
- **Physiological Variables**
  1. Anaerobic power
  2. Vital Capacity
  3. Blood Pressure
  4. Blood Glucose
  5. Blood Lactate
- **Psychological Variables**
  1. Mental Toughness
  2. Achievement Motivation
  3. Competition Anxiety
  4. Team Cohesion
  5. Emotional Intelligent
- **Anthropometrical Variables**
  1. Height
  2. Arm Length
  3. Upper Arm Girth
  4. Fore Arm Girth
5. Thigh Girth
6. Leg Length
2. LIMITATIONS OF RESEARCH WORK

The study will be limited in the following aspects:

Regular activities pertaining to their day to day affairs can not be controlled. The factors such as climate, study hours and motivation of the subjects will not taken into consideration. The subjects’ diet and nutrition will not taken into consideration. The parental influence and support towards participation in the study will not considered. The growth and maturity factors will be not controlled The influence of academic work on the performance variables and training can not be controlled. Participation in various cricket tournaments can not be controlled.
3. **DELIMITATIONS**

The study will be delimited as follows:

1. The study is mainly delimited with 200 subjects, 50 batsmen (Top order batsmen), 50 fast bowlers, 50 spin bowlers and 50 wicketkeepers in cricket.
2. The age groups of the subjects will be between 18 and 25 years.
3. The male inter collegiate level cricketers will be selected from the various affiliated colleges from Bihar.
4. **SCOPE OF STUDY**

The study will help to identify the selected physical fitness variables such as cardiorespiratory endurance, flexibility, strength, agility, speed, and balance which contribute to the high level of performance of the batsmen, fast bowlers, spin bowlers and wicketkeepers. The study will help to identify the selected physiological variables such as anaerobic power, vital capacity, blood pressure, blood glucose and blood lactate which contribute to the high level of performance of the batsmen, fast bowlers, spin bowlers and wicketkeepers. The study may help to identify the selected anthropometrical variables such as height, arm length, upper arm girth, fore arm girth, thigh girth and leg girth which contribute to the high level of performance of the batsmen, fast bowlers, spin bowlers and wicketkeepers. The study may help to identify the selected psychological variables such as mental toughness, achievement motivation, competition anxiety, team cohesion and emotional intelligent which contribute to the high level of performance of the batsmen, fast bowlers, spin bowlers and wicketkeepers. The study will help to compare the selected physical, physiological, psychological and anthropometrical of batsmen, fast bowlers, spin bowlers and wicketkeepers. The findings of this study will be beneficial to the players in improving their physical fitness, physiological and psychological levels. The findings would be helpful to the coaches and sports scientists to know the strengths and weakness of the batsmen, fast bowlers, spin bowlers and wicketkeepers.
5. **PLAN OF WORK**

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Literature Search</td>
<td>3 Months</td>
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<tr>
<td>Survey</td>
<td>9 Months</td>
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<tr>
<td>Data Gathering &amp; distribution</td>
<td>3 Months</td>
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<tr>
<td>Data Analysis</td>
<td>6 Months</td>
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<tr>
<td>Summary Writing</td>
<td>3 Months</td>
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<tr>
<td>Thesis Writing</td>
<td>9 Months</td>
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<tr>
<td>Thesis submission &amp; Pre- thesis</td>
<td>3 Months</td>
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<tr>
<td>Paper Publication</td>
<td>3 Months</td>
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