CHAPTER – III

THE METHODOLOGY

3.1 Introduction:

This chapter describes the methodology adopted with respect to design of the study, population and sample, procedure, tools used for data collection and the statistical tools adopted for analysis.

A research design can be defined as the logical, systematic and the objective analysis of a piece of research.

The study undertaken by K.N.Kerlinger (1964)\(^1\) states that “Research design is the plan structure and strategy of investigation conceived so as to obtained answers to research questions and to control variance.”

The research design is an over-all scheme or programme of the research. It includes an outline of everything i.e., from writing the hypothesis and operational implications to the final analysis of data. The structure of the research is more specific. It includes the methods to be used to gather and analyze the data. There are various types of research design like descriptive, historical, experimental, etc. The present research work is descriptive type of research.
3.2 **Methodology:**

3.2.1 **Research Design:**

The descriptive studies are not limited only on one method of data collection; they may employ any or other methods like observations, questionnaires, interviews, and scaling techniques implemented by social scientist. In such studies the data is collected with the help of opinion surveys.

The survey method gathers data from the relatively large number of cases at a particular time. It is an important type of study. It involves a clearly defined problem and definite objective. It requires expert and imaginative planning, careful analysis and interpretation of the data gathered, and also the logical and skillful reporting of the findings.

J.W. Best (1992)\(^3\) states that the method of the descriptive research is particularly appropriate in the behavioural science because many types of behavior, that interest the researcher cannot be arranged in a realistic setting and can be analyzed with the help of descriptive research only.

J.V. Kahn (2005)\(^4\) states that the descriptive research deals with the relationship between variables, the testing of hypothesis and the development of generalization, principles, or
theories that have universal validity and they deal with the present conditions.

Hence the researcher has taken into consideration all the above facts to undergo the present research.

The researcher had taken the study of,

"AN EVALUATORY STUDY OF PARTICIPATION OF STUDENTS IN SPORTS ACTIVITIES FROM THE AFFILIATED COLLEGES OF PUNE UNIVERSITY."

To conduct this study the researcher had made the survey of non-professional colleges of University of Pune.

3.2.2 Sampling:

a) Population

The jurisdiction of University of Pune is of three districts categorized in four zones i.e., Ahmednagar, Nashik, Pune City, and Pune District, for its administration purpose. All the affiliated colleges in these zones are distributed as per the geographical jurisdiction of the concerned districts as Ahmednagar zone, Nashik zone, Pune City zone, and Pune District zone.

The affiliated colleges located in Ahmednagar district are all included in Ahmednagar zone, the affiliated colleges located in Nashik district are all included in Nashik zone, the affiliated colleges located in Pune district excluding colleges in Pune Municipal Corporation, Pune Cantonment Board are all included
in Pune district zone, the affiliated colleges located in Pune Municipal Corporation and Pune Cantonment Board area and excluded from Pimpri Chinchwad Corporation area are all included in Pune City zone. There are 387 colleges in the jurisdiction of University of Pune.

b) Sample

The researcher further decided to undergo the study of only 207 non-professional colleges i.e., Arts, Commerce and Science colleges. As per that the researcher has selected 129 non-professional colleges from University of Pune for this study where Director of Physical Education are appointed. Out of this 129 non-professional colleges selected only 112 responded positively but finally researcher could get complete information of 100 colleges which were finally considered for the present study.

The researcher has taken the Director of Physical Education, Principals of these selected colleges as the sample for the study. The researcher has also taken the sample of the non-participating students from all four zones for the study. For this he considered randomly 25% colleges from all zones and selected 20 students from each college, among which there were 10 boys and 10 girls which were also selected randomly.

Table 3.1: Table indicating the statistical information about the Non-Professional colleges having Director of Physical Education in the Year 2003-2004

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Zone</th>
<th>Population of Colleges</th>
<th>Availability of Director of Physical Education In the College</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pune City</td>
<td>34</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Pune Dist.</td>
<td>62</td>
<td>36</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>Ahmednagar</td>
<td>55</td>
<td>38</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Nashik</td>
<td>56</td>
<td>36</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>207</td>
<td>129</td>
<td>78</td>
</tr>
<tr>
<td>%</td>
<td></td>
<td>100</td>
<td>62.32</td>
<td>37.68</td>
</tr>
</tbody>
</table>

The above table 3.1 shows that there are 207 non-professional affiliated colleges in the jurisdiction of University of Pune, in which we find only 129 colleges i.e., 62.32% colleges have Director of Physical Education and rest 78 colleges i.e. 37.68% colleges do not have Director of Physical Education.
ii) Faculty wise Distribution of the Affiliated Colleges.

Table - 3.2: Table indicating the number of affiliated Non - Professional colleges categorized faculty wise

<table>
<thead>
<tr>
<th>Faculty wise colleges</th>
<th>Pune City</th>
<th>Pune District</th>
<th>Ahmednagar</th>
<th>Nashik</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>----</td>
<td>4</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Arts &amp; Commerce</td>
<td>9</td>
<td>14</td>
<td>3</td>
<td>16</td>
<td>42</td>
</tr>
<tr>
<td>Arts, Science &amp; Commerce</td>
<td>2</td>
<td>28</td>
<td>36</td>
<td>26</td>
<td>101</td>
</tr>
<tr>
<td>Commerce</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Science</td>
<td>2</td>
<td>11</td>
<td>1</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>62</td>
<td>55</td>
<td>56</td>
<td>207</td>
</tr>
</tbody>
</table>

The above table 3.2 shows that there are 207 non – professional colleges in the jurisdiction of University of Pune, categorized in four zones i.e., Pune City (34), Pune District (62), Ahmednagar (55) and Nashik (56).
iii) Director of Physical Education of the Colleges.

Table - 3.3: Table Indicating the Population and the sample of Director of Physical Education of the affiliated colleges for the study undertaken

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Zone</th>
<th>Population of the College</th>
<th>Sample Selected</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pune City</td>
<td>34</td>
<td>15</td>
<td>44.12</td>
</tr>
<tr>
<td>2</td>
<td>Pune District</td>
<td>62</td>
<td>31</td>
<td>50.00</td>
</tr>
<tr>
<td>3</td>
<td>Ahmednagar</td>
<td>55</td>
<td>29</td>
<td>52.73</td>
</tr>
<tr>
<td>4</td>
<td>Nashik</td>
<td>56</td>
<td>25</td>
<td>44.64</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>207</strong></td>
<td><strong>100</strong></td>
<td><strong>48.31</strong></td>
</tr>
</tbody>
</table>

The above table 3.3 shows that the total population of the Non-professional colleges in the jurisdiction of the University of Pune is 207, of which 100 colleges were taken under study i.e., 48.31% colleges was selected for the study.
iv) Principals of the Colleges.

Table 3.4: Table Indicating the Population and the sample of Principals of the affiliated colleges for the study undertaken

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Zone</th>
<th>Population of the College under Study</th>
<th>Sample Selected</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pune City</td>
<td>15</td>
<td>15</td>
<td>100.00</td>
</tr>
<tr>
<td>2</td>
<td>Pune District</td>
<td>31</td>
<td>25</td>
<td>80.65</td>
</tr>
<tr>
<td>3</td>
<td>Ahmednagar</td>
<td>29</td>
<td>07</td>
<td>24.13</td>
</tr>
<tr>
<td>4</td>
<td>Nashik</td>
<td>25</td>
<td>19</td>
<td>76.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>66</strong></td>
<td><strong>66.00</strong></td>
</tr>
</tbody>
</table>

The above table 3.4 shows that the total population of the Non-professional colleges under study is 100, of which only 66 principals responded positively who were considered as sample i.e.66.00% College principals were selected for the study.
v) Non Participating Students in Sports Activities.

**Table 3.5:** Table Indicating the Population and the sample of Non participating students in sports activities for the study undertaken.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Zone</th>
<th>Number of sample students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>1.</td>
<td>Pune City</td>
<td>64</td>
<td>69</td>
</tr>
<tr>
<td>2.</td>
<td>Pune District</td>
<td>51</td>
<td>35</td>
</tr>
<tr>
<td>3.</td>
<td>Ahmednagar</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>4.</td>
<td>Nashik</td>
<td>77</td>
<td>67</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>230</td>
<td>209</td>
</tr>
</tbody>
</table>

Table 3.5 indicates the sample of non participating students in sports activities from all zones i.e. For this 25% colleges were selected and 20 students from each college were taken for the study, totally 500 questionnaire were collected of which only 439 were correctly filled, so finally 439 questionnaire were undertaken for the study.
3.2.3 Tools for Data Collection:

The Researcher has selected the following tools depending upon various factors such as the study undertaken, the amount of time at the disposal of surveyor and availability of suitable tests. The tools selected for the collections of data were as follows:

Questionnaire:

It is the mean of communication when the people from whom we desire response are not personally contacted or where there is no particular reason to see the respondent personally. Questionnaire was the most important tool in the hand of researcher, for data collection from the selected affiliated colleges under study within a very short period. The questionnaire included the information, which was needed for the study. The questionnaire was prepared with the help of the guide.

Development of Questionnaire:

The study was related to the sports participation of non-professional affiliated colleges of University of Pune. The researchers after undergoing the review and study of literature on the subject various questions were initiated for the questionnaire. The sequence of the questions was analyzed in such a way that the coherence in the response statement would
be readily available in an orderly sequence. To avoid ambiguity or vagueness efforts have been taken to make the questions simplest possible with clues, and relevant meaning. Most of the questions were prepared so that the responses to them were only "Yes" or "No". Some of the responses were "Fill in the blanks", type, and "Ticking the appropriate statement or column" as per their choice. Some of the questions were prepared in a tabular form to make the response easy to the point.

To gather the information from the various colleges the following points were mainly incorporated in the questionnaire prepared.

1. Personal information of Director of Physical Education.
2. General Information regarding the college.
3. Information regarding the sports infrastructural facilities in the colleges.
4. Information regarding incentives, scholarships, etc.
5. Information regarding organisation of sports in the colleges.
6. Information regarding the participation of college in sports.
7. Information regarding coaching and training programme in the colleges.
The researcher with the frequent consultations with the guide has developed the final questionnaire; it was prepared with all the necessary topics incorporated regarding the research to be done.

**Attitude Inventory:**

The purpose of this investigation was to study the attitude of the non-participating students towards games and sports by constructing attitude inventory.

Attitude plays major role in promoting right ideas in the society. Promotion and development of games and sports somewhat depend upon favourable attitude of students of the society. Even the attitude of the parents or guardian also plays an important role in encouraging the students to participate in games and sports. To investigate the attitude of non-participation students towards games and sports, an “Attitude Inventory” was prepared.

As stated above “Attitude Inventory” was prepared on the basis of “Likert” technique to investigate the attitude of non-participation students of different colleges towards games and sports.

The attitude scale was prepared after consultation with guide, persons interested in games and sports and other related individuals and experts in this field.
Attitude inventory consisted of two parts: The first part of attitude inventory was prepared for preliminary information of the students. It was a short questionnaire. The purpose of this part was to collect information related to attitude. The heads of the first part were as follows:

1. **General Information:**

   General information contained the name, age, sex, class studying etc. of the students.

2. **Games Participation and Achievement:**

   This part was prepared to know the achievement and participation of the students in games and sports. It was also prepared to know their level of achievement and area of liking.

3. **Information about the Parents:**

   This part was prepared to know the economic status of parents or guardians and their views regarding games and sports.

   Attitude inventory-cum-short questionnaire was distributed to 500 students. Out of 500 questionnaires only 439 questionnaires were duly completed and rests were incomplete, of which we received 209 questionnaires of Girls and 230 questionnaires of Boys.
The first part of attitude inventory contained 12 questions, in which most of the questions were of check or “Yes” / “No” types.

The second part of the questionnaire was “Attitude inventory”. The attitude inventory contained 30 statements pertaining to games and sports. Out of 30 statements, 17 were favorable statements and rests 13 were unfavorable statements.

All the statements were related to games and sports and its social value, educational value, physical health aspects, recreational value, Indian standard in games and sports etc.

The subjects were directed to give their responses by checking the suitable columns of the following:

1. Strongly Agree : (SA)
2. Agree : (A)
3. Undecided : (UD)
4. Disagree : (D)
5. Strongly Disagree : (SD)

They were encouraged to give their opinion to each statement by checking any one column.

Likert found that score based upon the relatively simple assignment of interval weights correlated 99 with the more complicated normal deviated system of weights. He therefore used the simple system of giving scores as:
Strongly Agree : 5
Agree : 4
Undecided : 3
Disagree : 2
Strongly Disagree : 1

To favorable responses and reverse order i.e.

Strongly Agree : 1
Agree : 2
Undecided : 3
Disagree : 4
Strongly Disagree : 5

To unfavorable responses scoring system for each item was therefore used as stated above.

In this way the respondents who have scored maximum points are suppose to have most favorable attitude towards games and sports and one who have scored the lowest points have an unfavorable attitude towards games and sports.

If all the statements were rated in the strongly agree category with a score value of 5 the highest possible score would be 150 (30 x 5) points.

If all the statement were rated in strongly disagree category having a score value of 1, the total score would be 30 (30 x 1) points.
The subject total score was the sum of the values received on each statement.

**The Respondents:**

The purpose of this investigation was to assess the attitude of participation of non-participating students of University of Pune towards games and sports. Selections of the colleges were made on the basis of various factors which are directly and indirectly related to interest and performance of games and sports. 25% colleges of the total population was selected for the study undertaken i.e.: 25 colleges were selected from the four zones of the university of Pune of which 10 boys and 10 girls from each college was taken as respondents.

**Selection and Analysis of Items:**

25 percent respondents with the highest total scores and 25 percent with the lowest total scores were taken. Then the “t” value is calculated by the following formula:

\[
t = \frac{x_H - x_L}{\sqrt{\frac{(x_H - \bar{x}_H)^2 + (x_L - \bar{x}_L)^2}{N (n - 1)}}}
\]

In this formula:-

\[
\sum (\bar{x}_H - x_H)^2 = \sum x_H^2 - \frac{(\sum x_H)^2}{n}
\]

and

\[
\sum (\bar{x}_L - x_L)^2 = \sum x_L^2 - \frac{(\sum x_L)^2}{n}
\]

Procedure adopted for calculating “t” value was as follows:
All the 439 completed questionnaires were scored and the total score of each was calculated. The score of each respondent was than arranged in order from the highest to the lowest. Completed questionnaires were 439. Its 25 percent is 109.75. But we cannot divide questionnaire. So the 25 percent of the total number (N = 109) were selected from the highest category and another 25 percent (N = 109) from the lowest category. For Calculating “t” for evaluating the difference in the mean response for an attitude by high and low groups.

The item analysis on the basis of the “t” formula given above was done for each item.

The Scale consisted of 37 items from which after item analysis, the final scale was developed consisting of 30 items in which 17 items were favorable and 13 items were unfavorable.

3.3 Procedure of the Study:

3.3.1 Pilot Study:

Before implementing the questionnaire to the Directors of Physical Education and Principals of various selected non professional colleges:

a) The researcher had decided to get the questionnaire examined, so the questionnaire were handed over personally to the Directors of Physical Education at the
time of seminar organized by the Board of Sports. These selected Directors of Physical Education filled in the questionnaire and returned next day. It was observed in the Pilot study that the colleges did not have common policy for the utilization of fess collected, no uniformity in daily allowances of the players, managers. It is also observed that there is variation in formation of Gymkhana committee for the smooth running of the department in the college. It was also noticed that some colleges are not having adequate sports facilities.

b) The researcher also examined the questionnaire of the Principals by getting it filled by them by visiting the selected colleges personally.

c) The researcher developed the attitude inventory for the non-participating students in the intercollegiate sports; the scale that researcher adopted for this study was based on Likert’s 5-point scale. The inventory was examined by circulating them among the selected students of the colleges selected and they filled up according to the instructions given to them. Again on next day the same inventory was circulated to the same students and its reliability was checked.
On the basis of the received suggestions and information laid down by the respondents, necessary changes were made in the construction of questionnaire and finally it was constructed with the consultation of the guide.

3.3.2 Procedure of Collecting Data:

After the pilot study the researcher confirmed to send the questionnaire to Directors of Physical Education of affiliated colleges with requesting letter with self addressed stamped envelope enclosed and asked them to fill it and send back immediately.

At the beginning the response was very poor. Out of 387 only 40 (10.34 %) Directors of Physical Education had sent the questionnaire duly filled in. The reminders was send to the remaining Directors of Physical Education to send back the questionnaire at their earliest, still the response was not up to the satisfaction it was only 20% more.

The researcher then planned to select only the non professional colleges i.e. Arts, Commerce and Science colleges, than the researcher personally meet the Director of Physical Education of these colleges by attending the intercollegiate tournaments, seminars, conferences and in that place he had requested them to fill the questionnaire, in this way total 120 questionnaire were got filled in.
The researcher then verified each and every form filled in by the Directors of Physical Education of that selected colleges. He had to delete about 11 forms before applying the statistics due to incomplete filling of the questionnaire. He than further very critically and carefully scrutinized the remaining questionnaires he found that a few items were not filled in and in this respect he dropped 09 such forms.

The researcher prepared the questionnaire for the Principals of the selected affiliated colleges, to obtain the information of the sports infrastructure, incentives and other facilities availed to the sports persons in their colleges, also the sports expenditure incurred on sports events, sports literature and many other aspects related to development of sports in the colleges. For this purpose the researcher has selected same colleges from all zones. The personal visit strictly adhered to the questionnaire issued earlier. This exercise was followed to confirm the correct information furnished.

The researcher also prepared the attitude inventory to collect the data from the non-participating students in intercollegiate tournaments. For that the attitude inventory was supplied to randomly 20 students among which 10 boys and 10 girls were selected. This was administered randomly in 25% colleges of all zones. Totally 25 number of colleges was
selected for this study. The researcher collected the information on his personal visits to those colleges. This exercise was followed to get the correct information furnished.

3.4 Statistical Procedure Used:

The data collected from the questionnaire of Director of Physical Education, and Principals of non-professional colleges was analyzed by calculating the percentage.

The data collected of non-participating students in inter-collegiate sports using attitude inventory was analyzed using descriptive statistical techniques and for the inferential study Independent sample ‘t’ test was employed.
3.5 References:


