CHAPTER 4

4.1 Introduction. The process involved establishing actual interpersonal contacts and communication with several individuals and institutions. It was thus anticipated that certain amount of delayed response was contemplated from these intended respondents. In order to reduce this delay to the minimum and optimise efforts the activities were planned meticulously and sequenced them well to maximise on time availability.

The entire research process as it evolved is given in the form of flow charts as appendix `F`. The process as initially planned is at appendix `G`. The variations in activities evident in the appendix `F` with respect to that of
A study of grading systems in different universities for development of normalisation technique to streamline recruitment processes

Visions are owing to delayed responses (And no response despite constant follow up with some of the respondents). It was a trying time to collect data from such a large number of students, University staff members, placement agencies etc. Several rounds needed to be made to access the samples to compile the primary data. The samples were not located in just one station but in five metros and that made the job more difficult since physical contact had to be established with them.

4.2 Universities Selected

After speaking to important persons in over 10 universities, appreciating the difficulties in sizing the sample and contacting them repeatedly it was decided to take into account the following five universities:

(a) Amravati University
(b) Nagpur University
(c) Pune University
(d) Osmania University, Hyderabad
(e) Bangalore University.

4.3 Faculties (Disciplines) Selected

It was also decided that sample should constitute students graduated in the following five faculties in all the five Universities and be subjected to questionnaires so that comparison could be drawn easily without introducing any ambiguity.
4.4 Set Of Questionnaires

Set of sample questionnaire was drafted, and test trial was given to a very small sample size. Minor corrections were made to address the feedback received from this small sample. The questionnaire set was thereafter finalized and sent to the sample with a request to solicit their response.

The set of questionnaire comprised as under:

(a) Questionnaire I : To ascertain if the problem existed.
(b) Questionnaire II : To ascertain causes of the problem.
(c) Questionnaire III : To ascertain the level of causes of the Problem.
(d) Questionnaire IV A : To Explore solutions.
(e) Questionnaire IV B : To prioritise solutions.

Letter requesting the response of respondents and the set of questionnaires is enclosed as appendix `J`.
The responses were collected and tabulated. During the process of tabulation it was discovered that:

(a) Certain members of sample did not respond correctly.
(b) Certain respondents did not respond.
(c) In certain cases the response was not to all the questions.
(d) In some cases some respondents did not state their own particulars.

In such cases the questionnaires were sent to the respondents again. Questionnaires were dispatched to the respondents afresh along with the reminders. The questionnaires were sent again where required.

### 4.5 Sample Size

After completing primary data collection following is the size of sample:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>250 (50 in each of the 5 Universities with 10 in each of the 5 faculties)</td>
</tr>
<tr>
<td>University staff</td>
<td>10 (2 in each of the 5 Universities)</td>
</tr>
<tr>
<td>Placement agencies</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>265</strong></td>
</tr>
</tbody>
</table>

Nominal Role of all the members in sample space along with their preferences awarded in response to questionnaire III against various causes is enclosed as appendix 'K'.

---

Chapter 4
4.6 Rest of The Research Process

Serious attempts were made to find any literature that dealt with the subject under consideration. The aim was to find if in India any such work has already been done. No records could be found which could suggest that some research study was carried out on the same.

It was heartening to note that in USA the problem now under reference has been noted. In USA instead of addressing the problem to rationalise the scores of the students as is being done through the present research study an attempt has been made to develop, establish and bring in place standards for evaluation of students and another set of standards to evaluate the teachers.

If the work in progress in USA is taken to logical conclusion then at least theoretically (doubtful in practice) one could say that the solution proposed through the establishment of standards would be largely a better solution. Going by the conditions prevalent in India, it is certain that merely bringing in such standards in place may not work. If this were to work then UGC would have proven itself more effective and there would not have been any difference in evaluation or grading in different universities in India.
The review of literature paved the way for channelising the research study further. Extensive search of literature relating to the subject of research was made in the libraries of Amravati University, University of Pune, Defence Institute of Psychological Research (DIPR), New Delhi and Indian Institute of Psychological Research (IIP), Kolkata. Extensive search was also made on Internet through the use of search engines to find if any reference could be made to similar study undertaken in the past.

It can be stated with a fair amount of confidence that there is no record to suggest that the research on the subject under reference has been done in India or abroad. The present research study thus appears to be fresh and the only attempt of research on the subject, though the problem has existed for several years almost ever since the Universities in India came into being i.e. 1858.

After the responses to the questionnaires from respondents came in, these were tabulated. The responses of respondents and the contents in “Review of Literature” guided in establishing the hypothesis.

Suitable realistic assumptions were made to progress the study further. The assumptions and the hypothesis are discussed in Chapter 5.
The data was analysed to work out methodology to develop the technique of normalization. Various statistical tools were examined that could be put to use to develop the technique of normalization. For this, support of existing candidate statistical tools was explored. Search was also made through the Internet if any better and more apt technique of normalization could be found. Interaction with experienced members in DIPR, New Delhi and IIP, Kolkata was also made to choose the most apt method or statistical tool for analysing (or processing) the data to develop the technique of normalization.

Based on this discussion besides studying weighted average method detailed study on the following statistical tools was undertaken:

(a) Linear programming.
(b) Data Envelopment Analysis (Enclosed as appendix `R').
(c) Factor Analysis (Enclosed as appendix `S').
(d) Conjoint Analysis (Enclosed as appendix `T').

The data was analysed and the technique of normalization was developed using weighted average method to be applied every year to the grading of all the students passed in all the universities in India.

The recommendations were then worked out for implementation by the UGC, all universities, prospective employers and the students.
The details on development of the technique of normalization are discussed in Chapter 6 and the recommendations are discussed in Chapter 7.

The guide reviewed the progress of this research work periodically.

Before the draft of thesis could be finalized and sent to the guide for validation an Executive Summary on the thesis was sent to Amravati University on 21\textsuperscript{st} October 2002 for their information that the thesis would be submitted within three months.

After obtaining Guide’s concurrence the compilation of the thesis commenced. The Guide validated compiled draft of the thesis and the same was finalized thereafter for submission.

\subsection*{4.7 Summary : Research Process As It Evolved}

The process commenced on two fronts namely, 1A and 1B as under at the same time and later culminated at the time of compilation, sifting and processing of data into front 2.

(a) Front 1A. Review of Literature and collection of secondary data.

(b) Front 1B. Collection of primary data.

The entire process is summarized in the chronological order hereafter:
Front 1A: Review of Literature and Collection of Secondary Data

(a) Search for text books, reference books, journals and such other material concerning the research work in libraries of Amravati University, Pune University, Defence Institute of Psychological Research, New Delhi, and Indian Institute of Psychometry, Kolkata.

(b) Search made to locate similar information and data on Internet.

(c) Search for various statistical tools that could be applicable for the present research study.

(d) Compilation of contents with reference to the context under reference.

(e) Listing of references and formulating of Bibliography.

(f) Keying in the text relevant to the subject.

(g) Deriving important points out of the text so compiled to draft assumptions and hypothesis.

(h) Shift to Front No. 2.

Front No. 1B: Collection of primary data.

(a) Identify respondent groups.

(b) Draft Questionnaire 1, 2, 3, 4A, 4B in that order.

(c) Obtain responses from a few respondents on the questionnaires in that order as trial run.

(d) Incorporate the changes in the questionnaires based on feedback after (c) above.
"A study of grading systems in different universities for development of normalisation technique to streamline recruitment processes"

(e) Obtain responses from all the respondents on the questionnaires in that order.

(f) Verify if the responses are received correctly. If not go to step 1B(e).

(g) Compile data received from the respondents.

(h) Sift and analyse data received.

(i) Derive correlation between various factors.

(j) Approach UGC to find out their role with respect to the present research.

(k) Move to Front 2.

Front 2.

(a) Draft assumptions.

(b) Derive hypothesis.

(c) Develop Technique of normalization of marks.

(d) Draft recommendations.

(e) Interact with the Guide and finalise the framework of the thesis.

(f) Submit executive summary to Amravati University.

(g) Compile the thesis.

(h) Finalise recommendations.

(i) Get the draft approved from the Guide.

(j) Submit the thesis.

(k) Prepare for presentation of the research work.