

CHAPTER III

RATIONALE AND METHODOLOGY OF THE STUDY

3.1 Introduction

In this chapter, underlying rationale and research questions that lead researcher to the present form of research, is described. These questions directed the study in all its aspects to be investigated, which further helped in formulating objectives and methodology for the study. The chapter elaborates on major gaps identified from the review of related literature and emerging research questions in the rationale of the study section. Further, Objectives and complete methodology of the study is described. Methodology forms the backbone of any research work and gives outline of a research endeavor starting from the rationale of the study and ending with techniques of data analysis. The chapter also includes, in detail, the investigational set-up of the method of research followed and the tools & techniques used for data collection.

3.2 Rationale for the Study

From the discussion in previous chapters, it was clear that Teachers are at the centre, Teacher Educators are the pioneer and Teacher Education is the pathway for bringing quality in the Education. With such noble vision, NCFTE (2006) has mapped out the following set of concluding statements relating to the actions to be taken by Teacher Educators, keeping in view the vision of teacher education:

- ☐ Engage would be teachers with the larger socio-political context in which education and learners are situated
- ☐ Engage teachers with children in real contexts than teach them about children through theories
- ☐ Engage with theory along with field experiences to help trainees to view knowledge not as external to the learner but as something that is actively constructed during learning
- ☐ Provide opportunity for trainees for reflection and independent study without packing the training schedule with teacher directed activities
- ☐ Integrate academic knowledge and professional learning into a meaningful whole
- ☐ View learning as a search for meaning out of personal experiences and knowledge generation as a continuously evolving process of reflective learning

- ❑ View knowledge not as an external reality embedded in textbooks but as constructed in the shared context of teaching - learning and personal experience
- ❑ Provide opportunities to the student teacher to critically examine curriculum, syllabi and textbooks
- ❑ Change perception of child as a receiver of knowledge and encourage its capacity to construct knowledge.

At the same time, the long list of Code of Professional Ethics for the Higher education was also published in the Gazette of India, dated September 18, 2010, by UGC as “UGC Regulations on Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities & Colleges and Measures for the Maintenance of Standards in Higher Education, 2010”. The components covered in this document were similar to that of the NCFTE (2006). In the same background the paradigm shift from ‘Teaching as Service’ to ‘Teaching as Profession’ made the hue and cry about the appraisal of work performed in the educational institutions throughout the country & teacher education is not an exception in this. Moreover, Teacher Educators are the part of higher education and they have to perform their duties according to UGC and NCTE norms & regulations. So, the teachers’ performance needs to be at par with the Norms and Regulations, which in turn firms the basis for appraising their performance.

From the *Table 2.1 on Researcher with their demographic variables taken under study*, it was clear that the different demographic variables have a mixed response in different studies i.e. they affect slightly in some studies and in others; they did not have any significant effect on teachers’ performance. So, researcher wanted to study the relationship of demographical variables with Performance Appraisal of Teacher Educators systematically.

From *Table 2.2 Researcher with their source of appraisal taken for the study*, it was clear that, most widely used technique to measure teacher competence inside the classroom is through students’ evaluation or student rating. This is based on the premise that students are the direct receiver of information and knowledge provided by teachers and is therefore in a good position to appraise their teachers’ performance. As Mishra (1983), Subbarayan (1985), Deshpande (1991), Kumar, Patel & Ramachary (2007), Kumar (2007), Thomas (2007) were of same opinion that student are best judge of teachers teaching. An alternative approach to that was appraising teacher performance is self-appraisal – where teachers rate and evaluate themselves based on a well-define set of competencies or characteristics. Sofat (1977), Mishra (1983), Subbarayan (1985), Deshpande (1991), Thomas (2007) have made the

observation that self-evaluation have the greatest potential of producing changes in teaching practices because they provide teachers with the rare opportunity to reflect on their teaching and modify accordingly. So, for teaching related activities, Self appraisal and their students' appraisal is the best source. But, the study by Mishra (1983) and Subbarayan (1985) also suggested peer appraisal where, peer appraisal is a process or system to appraise performance of teacher by a peer or colleague. The method of peer review provides for a more constructive feedback for the improvement of teachers' performance on internal relation and external work. It indeed provides lift to professional growth. Hence, extension work related information taken from self appraisal with peer appraisal is reliable source. In study by Sofat (1977) and Deshpande (1991) there was confusion regarding Head's appraisal, as one is positively related with students' appraisal and other were not. In one of the study by Subbarayan (1985), it was found that in research and publication related activities, Self-Appraisal is significant, whereas, peer and student rating differ significantly from actual. For research related activity, self appraisal could be the reliable and precise source. Concluding aforesaid, it can be elicited that the different researcher had alternative views about the Performance Appraisal by four stakeholders i.e. Peer, Head, Self and Students. Researcher strongly feels that a comprehensive and combined appraisal from these four stakeholders can give better feedback about overall teacher's performance.

In review of related literature nineteen studies were found related to Teachers' performance and teachers' effectiveness. Out of which fifteen studies were conducted at school level and four studies were conducted at higher education level. From these four studies at higher education, three studies are related to performance of student-teachers and one study is related to preparation of scale for appraising teachers in general. This indicates that there is a lack of studies at the higher education level in general and teacher education level in particular, so to increasing up the pool of studies in the area of teacher education, present study is required.

Concluding the above and from the reviewed literature, Researcher had found following research gaps pertaining to various aspects viz.

- ❑ It was found that there is disagreement about the demographic variables affecting the teachers' performance.
- ❑ There is a lack of clarity about the factors affecting the performance of the teachers at the various levels.

- ❑ A need was felt to have a comprehensive tool to appraise the performance of the Teacher Educators specially for Private TEIs.
- ❑ Scarcity of the researches related to the Performance Appraisal at the higher education level specially Teacher Education level. As many studies were found at the School and Intermediate level.
- ❑ Scarcity of research related to the Performance Appraisal at the higher education level in the Gujarat state.
- ❑ UGC had come up with the Performance Based Appraisal System (PBAS) along with the Academic performance Indicators (API) effective from June 30, 2010. Going through the PBAS system, it was found that the recommended tool to appraise the performance by the other stakeholders was missing. As there is no scope of the evaluation by students & peer of the performance of teachers. So, the researcher felt that there is a need to construct a comprehensive system to appraise the performance of the Teacher Educators systematically. Studies on Performance Appraisal in higher education for teachers after UGC's recent regulations in line with API based PBAS were not found.
- ❑ There is a lack of latest studies in the area of Performance Appraisal except Kumar (2007).
- ❑ The researcher could not locate single study related to Performance Appraisal of Teacher Educators by both self and students rating.
- ❑ There was no general consensus about "Who could best appraise the performance of the teacher?, Whether it is student or peer teachers or self?"

All these thoughts made the researcher in leading to formulate the current piece of research. In the light of aforesaid, being part and parcel of teacher education field, this study was undertaken with a view to find systematically the answers, if any, for the following broad research questions comes to every concerned mind related with the field of education.

3.3 Research Questions

1. *Can a System of the Performance Appraisal be developed for Teacher Educators?*
2. *Can discipline-specific and Institution-specific PAS be developed?*
3. *How a system of Performance Appraisal for the Teacher Educators catering the situations of Private TEIs and Grant-in-Aid TEIs can be developed?*
4. *What type of structure needed for appraising performance of Teacher Educators?*

5. *What will be different components that describe Teacher Educators' performance for appraisal under different aspects of Teaching, Research and Extension?*
6. *How the Student-Teachers, Peer, him/herself and Head of institution see to Teacher Educators' performance?*
7. *Do the feedbacks by these stakeholder assessors improve Teacher Educators' performance in a classroom?*
8. *What is the relevance of appraisal made by Teacher Educators themselves, peers, head and students about their performance?*
9. *What will be the impact of Feedback given by these assessors on the different components of teaching for a Teacher Educator?*
10. *Are demographic variables such as Gender, Type of Institutions, Experience, Qualification and Caste etc affects the Teacher Educators' Performance? And many more.*

The strive for locating the answers for the aforesaid questions and efforts to provide a comprehensive tool for appraising the performance of the Teacher Educators finds the rationale for the present study entitled as follows.

3.4 Title of the Study

'Evolving a Performance Appraisal System for Teacher Educators'

3.5 Objectives of the Study

The Objectives of the study were

1. To develop Performance Appraisal System (PAS) for Teacher Educator by Self, Student-Teachers, Peers, and Head.
2. To study the Performance of Teacher Educator through *Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS)* by
 - a. Self
 - b. Student-Teachers
 - c. Peers
 - d. Head

Objective two, was further being divided into the following sub-Objectives:

- 2.1 To compare the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators as assessed by Self, Student-teachers, Peers and Head, before the feedback was given.
 - 2.2 To compare the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators as assessed by Self, Student-teachers, Peers and Head, after the feedback was given.
 - 2.3 To compare the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to Self, Student-teachers, Peers and Head on before and after the feedback was given.
 - 2.4 To compare the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators for Different Components of Teaching-Learning, before and after the feedback was given.
 - 2.5 To compare the Teacher Educators' Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) with respect to the different subjects they teach.
3. To study the measured performance of Teacher Educators with respect to demographic variables viz.
 - a. Type of Institution in which Teacher Educator working
 - b. Experience
 - c. Stream
 - d. Gender
 - e. Performance categories
 - f. Colleges
 - g. Subjects they teach
 4. To study the correlation between Performance Appraisal Score of the Teacher Educators and Student-teachers assessment of the Performance of the Teacher Educators.

3.6 Explanation of the terms used in the Present Study

The major terms used in the present study are explained here:

□ **Performance Appraisal System (PAS):**

For the present study Performance Appraisal System comprised of rating of Teacher Educators' behavior through Tool A — Classroom Teaching-Learning Based

Performance Appraisal Scale (CTLBPAS), Tool B— Information Schedule and Tool C—Comprehensive Tool for Performance Appraisal, along with the Feedback.

Self, Student-teachers, Peer and Head appraises Teacher Educators through *Tool A — ‘Classroom Teaching-Learning Based Performance Appraisal Scale (CTLBPAS)’* with respect to the five different components viz. Classroom Management, Feedback, Communication Skills, Interpersonal Skills and Pedagogic Skills observed in classroom. Here, *Tool A* is administered before the feedback and repetitively after the feedback on same group. Feedback is given to the Teacher Educators on the basis of combined score attain after appraisal by Self, Student teachers, Peers and Head. The data provided by Self is through, Tool B— ‘Information Schedule’ regarding demographic variables and Tool C—‘Comprehensive Tool for Performance Appraisal’ regarding administrative work in institution, Research related activities and Extension work in and out of the institution for the benefit of society.

- **Performance Appraisal Score:** For the present study, two types of the performance scores were taken into consideration. One was *Classroom Teaching-Learning Based Performance Appraisal Score (CTLBPAS)* and another was *Composite Performance Appraisal Score (CPAS)*.

1. **CTLBPAS:** The *CTLBPAS* was calculated from the Tool—A.
2. **CPAS:** The *CPAS* was calculated from Tool — A and Tool—C against the differential weightage for all the categories viz. *Category A — Teaching-Learning & Evaluation; Category B — Research Publication & Guidance and Category C —Extension Institutional Growth & Community Development.*

The Calculation of the CPAS is also elaborated in the Table 4.10.

- **Teacher Educator:** Teachers who are working in the teacher education institutions and teaching compulsory course, method course, and special field further taking practical work related to the course as well as evaluate them will be considered as Teacher Educator.
- **Type of Institution:**
For the present study type of institutions comprised of Grant-in-Aid and Self-financed institutions. Here, in Grant-in-Aid institution finance and resources are managed by government, whereas in Self financed institution all the resources managed by Trust and full autonomy is with the Trust itself, for managing resources.

3.7 Methodology of the Study

It was a survey study to appraise the Teacher Educators' performance through Performance Appraisal System (PAS) by Student-teachers, Self, Head and Peer, at pre feedback and post feedback session. It was also an effort made to find relationship amongst the appraised performance by Student-Teachers, Self, Peers and Head altogether with demographic variables as Type of Institution in which Teacher Educator working, Experience, Stream, Gender, Performance Categories, Colleges and Subject they teach.

3.8 Delimitation of the Study

The study was delimited to

- ❑ Secondary Teacher Education Institutions (one year/regular) of Vadodara District.
- ❑ Secondary Teacher Education Institutions affiliated to Gujarat University only.
- ❑ Grant-in aid and Private TEIs only.
- ❑ Student teachers enrolled in the TEIs of academic session 2013-14.
- ❑ Teacher Educators working in the different TEIs in academic session 2013-14.
- ❑ Study was delimited to the five Teaching Components under Tool—A in the formal setup only.
- ❑ Demographical variables Type of Institution in which Teacher Educator working, Experience, Stream, Gender, Performance categories, Colleges and Subjects they teach.

3.9 Hypotheses for the study

A total 32 null hypotheses were tested at 0.05 level of significance using suitable statistical techniques. These were hypothesized objective wise as under.

3.9.1 Null Hypotheses related to Objective 2

For the different objectives the following null hypotheses were made.

1. Ho 2.1: There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to Self, Student-teachers, Peers and Head before the feedback was given.
2. Ho 2.2: There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to Self, Student-teachers, Peers and Head after the feedback was given.

3. Ho 2.3: There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to Self, Student-teachers, Peers and Head on before and after the feedback was given.

For comparing the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to Self, Student-teachers, Peers and Head on before and after the feedback was given, the Null Hypothesis Ho 2.4 was further formulated as:

- i. *Ho 2.3(a): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators assessed by the Student-teachers on before and after the feedback was given.*
 - ii. *Ho 2.3(b): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators assessed by the Peers on before and after the feedback was given.*
 - iii. *Ho 2.3(c): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators assessed by the Self on before and after the feedback was given.*
 - iv. *Ho 2.3(d): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators assessed by the Principal on before and after the feedback was given.*
4. Ho 2.4: There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators before and after the feedback was given.

The sub hypotheses under the Ho 2.1 were framed as under:

- i. *Ho 2.4 (a): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) on 'Classroom Management' Component of Teacher Educators before and after the feedback was given.*
- ii. *Ho 2.4 (b): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) on 'Feedback' Component of Teacher Educators before and after the feedback was given.*

- iii. *Ho 2.4 (c): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) on 'Communication Skills' Component Management Component of Teacher Educators before and after the feedback was given.*
 - iv. *Ho 2.4(d): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) on 'Interpersonal Skills' Component of Teacher Educators before and after the feedback was given.*
 - v. *Ho 2.4 (e): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) on 'Pedagogic Skills' Component of Teacher Educators before and after the feedback was given.*
5. *Ho 2.5: There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to the different subjects which they teach.*

For the convenience the Null Hypothesis Ho 2.5 was further parted as following:

- i. *Ho 2.5 (a): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to the different subjects which they teach before the feedback was given.*
- ii. *Ho 2.5 (b): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators with respect to the different subjects which they teach after the feedback was given.*
- iii. *Ho 2.5 (c): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching ECO-ACC-BOM subject on before and after the feedback was given.*
- iv. *Ho 2.5 (d): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching English subject on before and after the feedback was given.*

- v. *Ho 2.5 (e): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching Gujarati subject on before and after the feedback was given.*
- vi. *Ho 2.5 (f): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching Hindi subject on before and after the feedback was given.*
- vii. *Ho 2.5 (g): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching Sanskrit subject on before and after the feedback was given.*
- viii. *Ho 2.5 (h): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching Science-Math subject on before and after the feedback was given.*
- ix. *Ho 2.5 (i): There will be no significant difference in the Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching Social Science subject on before and after the feedback was given.*
- x. *Ho 2.5 (j): There will be no significant difference in the Overall Mean Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS) of Teacher Educators teaching Different subjects on before and after the feedback was given.*

3.9.2 Null Hypotheses related to Objective 3:

For the third objective the following null hypotheses were made.

- 1. *Ho 3.1: There will be no significant difference in the mean Composite Performance Appraisal Score (CPAS) of Teacher Educators with respect to grant-in-aid and self-financed institution.*
- 2. *Ho 3.2: There will be no significant difference in the mean Composite Performance Appraisal Score (CPAS) of Teacher Educators with respect to Experience up to 5 yrs, 5-10 yrs and 10-20yrs and above 20 years.*
- 3. *Ho 3.3: There will be no significant difference in the mean Composite Performance Appraisal Scores (CPAS) of Teacher Educators with respect to stream of Teacher Educator.*

4. *Ho 3.4: There will be no significant difference in the Composite Performance Appraisal Score (CPAS) of Teacher Educators with respect to male and female.*
5. *Ho 3.5: There will be no significant difference between the obtained mean Composite Performance Appraisal Score (CPAS) by the Teacher Educators on different categories viz. Category A, Category B and Category C.*
6. *Ho 3.6: There will be no significant difference among the Composite Performance Appraisal Score (CPAS) obtained by the Teacher Educator belongs to different colleges*
7. *Ho 3.7: There will be no significant difference among the Composite Performance Appraisal Score (CPAS) obtained by the Teacher Educator with respect to different subjects they teach.*

3.9.3 Null Hypothesis related to Objective 4:

- i. *Ho 4.1: There will be no significant correlation between the Composite Performance Appraisal Scores (CPAS) of the Teacher Educators and Student-teachers assessment of the Performance of the Teacher Educators.*

3.10 Population of the Study

Population constitutes all Teacher Educators, Head of the institution and enrolled Student-teachers in Secondary Teacher Education Institutions of Gujarat University. There were total six Teacher Education Institutions (Five Self-financed and one Grant-in-Aid colleges) affiliated to Gujarat University in Vadodara District.

Generally, in a Teacher Education Institution, one Head, seven Teacher Educators and one unit of hundred Student-teachers were there as per the NCTE regulations, 2008.

3.11 Sample for the Study

From population, all six Teacher education Institutions (TEIs) were selected. All selected Teacher Education Institutions were affiliated to Gujarat University.

The sample consisted of all Teacher Educators, Head of the teacher education institutions and the Student-teachers enrolled in selected teacher education institutions for the year 2013-14. Table 3.1 shows the exact number of entities taken under data collection.

Table 3.1: Data collected from Colleges for Performance Appraisal System

Sr. No.	Name of the Teacher Education Institution	Number of Teacher Educators including Head	Number of Student-Teachers
1.	S.D. Patel B.Ed. College	7	61
2.	Axar Mahila B.Ed. College	8	79
3.	Dabhoi B.Ed. College	8	85
4.	Sanskar B.Ed. College	7	68
5.	Sanskarbharti B.Ed. College	7	28
6.	Pipariya B.Ed. College	7	43
Total		44	364

The Performance Appraisal of Teacher Educators were measured by Self, Student-teachers, Peers and Head were precisely given in below Table 3.2. Here, differential strength of student-teachers in respective TEIs was depending on admissions held in year 2013-14 in that particular institute. In Table 3.2, the ‘total’ column values are calculated by first calculating number of appraised forms for a Teacher Educator (i.e. total of column 3 to 6) and multiplying it by number of Teacher Educators i.e. total of columns from 3 to 5.

Table 3.2: Sample size from which Data collected through Tool —A

1	2	3	4	5	6	7
Sr. No.	Name of the college	Head	Self	Peers	Student-teachers	Total
1.	S.D. Patel B.Ed. College	1	1	5	61	476
2.	Axar Mahila B.Ed. College	1	1	6	79	696
3.	Dabhoi B.Ed. College	1	1	6	85	744
4.	Sanskar B.Ed. College	1	1	5	68	525
5.	Sanskarbharti B.Ed. College	1	1	5	28	245
6.	Pipariya B.Ed. College	1	1	5	43	350
Total		6	6	32	364	3033

3.12 Tools

The researcher had constructed Performance Appraisal System (PAS) comprised of following tools, along with feedback, for collecting necessary data for the present study (Figure 4.1).

- 1) **Tool A — ‘Classroom Teaching-Learning Based Performance Appraisal Scale’:**
Through this scale data related to Teacher Educator’s performance on five components like Classroom Management, Feedback, Communication skill, Interpersonal Relation and Pedagogical skills were measured by 408 stakeholders viz. Student-Teachers, Self, Peers and Head from Six colleges and total data were 3033. For the sake of convenience, scores obtained from this scale was named as *Classroom Teaching-Learning Based Performance Appraisal Score (CTLBPAS)*. (see Appendix C)
- 2) **Tool B—‘Information schedule’** to take detailed information about Teacher Educators such as General information, Academic information, Professional information, and Demographical Variables etc. (see Appendix D).
- 3) **Tool C— ‘Comprehensive Performance Appraisal Scale’**, where data related to Training Programs attended, Faculty Development Work, Paper presented at different occasion and levels, Paper/articles published in different print media, Books published, Researches carried out at different levels, Guidance given, Membership with different institution, Invited Lectures, Innovation made in different field, Administrative roles/responsibilities, Co-curricular and Community service related activities were measured by Teacher Educators themselves only. (see Appendix E)

The Details regarding the preparation of the tools and its components are discussed in the Chapter IV under the analysis of First Objective (Figure 4.1).

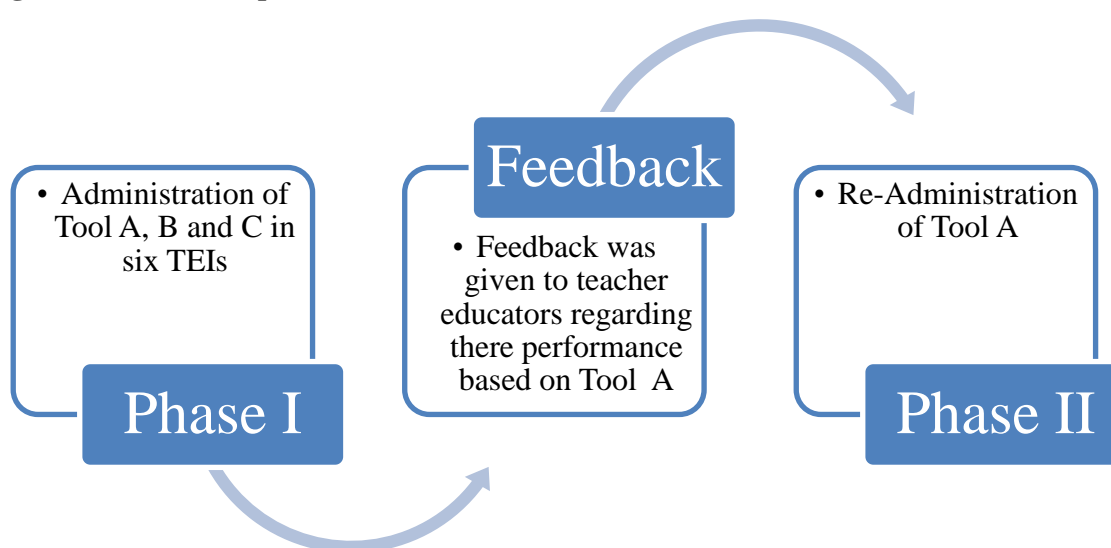
3.13 Procedure under Data Collection

The permission for data collection was taken from Head of the institutions as shown in Appendix I. Then researcher personally visited the institutions and collected the data from Teacher Educators, Head and Student-teachers of respective TEIs in two phases spanned over first and second semester. For the present study, researcher collected data from Teacher Educators through Information Schedule where research and extension related activities were mentioned under performance appraisal of professional development.

Table 3.1 and Table 3.2 depict the actual size of the sample from which the data was collected on Performance Appraisal System. The *modus operandi* of the data collection was shown in above Figure 3.1.

The first phase of data collection was carried out in the month of October, 2013 (see Appendix A and Appendix J). The enrolled Student-Teachers of the first semester in different TEIs for the academic year 2013-14 were the respondents along with the Teacher Educators and Principal of the TEIs as shown in Table 3.2.

Figure 3.1 : *Modus operandi* of the data collection



After the Data collection of the first phase, the data was analyzed for *Tool A* — ‘*Classroom Teaching-Learning Based Performance Appraisal Scale*’ with respect to the different components viz. *Classroom Management, Feedback, Communication Skills, Interpersonal Skills and Pedagogic Skills*. The *Classroom Teaching-Learning based Performance Appraisal Score (CTLBPAS)* was calculated from the Tool—A on all of its components and scores were made available to the respective Teacher Educators on their performance as perceived by Self, Peer, Student-teachers and Head. The *CTLBPAS score* was purely based on rating on Eleven point scale. The feedback on their performance was given to Teacher Educators in the month of December, 2013 during semester break (see Appendix A and Appendix J), which were acted as their mentor for improvement or sustain or develop in those areas.

The second phase of data collection was conducted in the month of March 2014, in the second semester when all activities related to course work has completed. All the dates of

different phases of data collection are mentioned at the back in *Appendix A* and certificate for the same given by different TEIs are placed in *Appendix J*.

3.14 Data Analysis

The collected data were analyzed using the quantitative both descriptive and inferential statistical techniques. Frequency, Percentage, Mean, Standard Deviation, t test (Independent and Dependent) and ANOVA were used to analyze the data.

The stepwise construction of tool with its reliability and validity has been discussed in chapter IV. As data collection has no meaning without its analysis and interpretation in present context so, detailed analysis of collected data been put forth in Chapter IV.