Chapter 4

Data Analysis

4.0 Introduction

In the previous chapter, the research methodology including a detailed description of the sample for the study, the tools used and their construction and justification were discussed. The process of interpreting the data gathered through the tools and ways and means of triangulation was also presented. This chapter describes the data gathered through different tools.

Analysis of data is presented using descriptions while analyzing data from interviews and focus group discussions in a qualitative manner; and descriptive statistics while presenting data quantitatively gathered through questionnaires. Therefore, this chapter presents, describes (4.1) and analyses the data gathered from the respondents through questionnaires (4.2), interviews (4.3) and focus group discussions (4.4). Towards the end of the chapter a summary of the findings is presented (4.5). The following section begins with the description.

4.1 Data Description

The quantitative data obtained from the questionnaire responses is presented in the form of statistical tables using percentages and values, while the qualitative data obtained from the questionnaire, interviews and focus group discussions is presented in the form of descriptions.

After transcribing data from the notes taken during the processes, using a qualitative method of content analysis, text segments with distinct ideas were
tagged by code names. Codes were not rigid, but empirical; each new code marked a separate idea not previously raised. Using Excel spreadsheet, codes and their associated text passages were linked, amassing a data set of codes and their frequency of use. Codes similar in nature were grouped together to define themes; the clustered frequencies represented as grouped themes describe both the range and relative weighting of issues in participants’ collective report. The data gathered through different sources is presented separately and compared to arrive at a meaningful conclusion (Myers, 2009).

4.2 Data from Questionnaires

In section 3.6.1.3, a detailed description of the questionnaire administered to teacher trainees was provided. This section presents the analysis of data gathered from the questionnaires. The focus of the questionnaire was to tap the trainee teachers’ awareness about reflection and identify the reflective tools they use.

The type of questions used and their aims and objectives were already presented in detail in chapter three. There were chiefly two types of questions: close ended questions that were quantitative in nature and open – ended questions which produced responses that were qualitative in nature.

As indicated before, the questionnaire was divided into two sections: general and specific.

The general section attempted to build the profile of the teacher trainee in terms of their name, institution’s name, teaching experience and contact details. The
specific section of the questionnaire attempted to examine teacher trainees’ awareness on reflection and looked for evidences of reflective practices. This section of the questionnaire had 10 questions (with sub-questions); these 10 questions were classified under 5 specific areas: Learning to reflect in pre-service teacher education (Q 5&6), Opportunities available to reflect (Q 7 to 10), Tools used for reflection (Q11 to Q 17), and Approaches to reflection (Q 18), Digital literacy (Q 19) and Reflective narrative (Q 20). This section also recorded teacher trainees’ perceptions on reflection, methods of reflection, frequency, documentation of reflection and awareness of benefits of reflection.

The data collected from the questionnaires was analyzed, question wise, using a spreadsheet. Data collected using quantitative questions are presented through column charts, and the qualitative questions were grouped under broad themes using codes. In this chapter, the data and results are presented using tables, bar graphs and diagrams. In the case of preferential questions, the tables presenting the respondents’ preferences regarding the option are produced. As for qualitative data, the respondents’ responses are grouped under themes and then presented after analysis.

60 questionnaires were administered to teacher trainees or B.Ed participants of two universities in Hyderabad. 42 teacher trainees responded to the questionnaires. Out of the 42 respondents, 29 were female and 13 were male teacher trainees.

Among the teacher trainees participated in the study, it is found that 33% of the respondents have worked as teachers with teaching experience with in the rage of
0 to 4 years, while 66.67% had never worked as teachers. The data indicates that 21.88% trainee teachers had about a year’s work experience, 18.75% had around 2 years experience and 3.13% had about 4 years of experience. None of them had more than 4 years of experience.

The specific section has 6 sub-sections. First, the sub-section titled ‘Learning reflection’ is described below:

**Learning Reflection**

Questions 5 and 6 are related questions asked to note teacher trainees’ understanding of the term ‘reflection’ and how they learnt to reflect.

Question no. 5, *How would you define ‘Reflection’?* was asked to know about the teacher’s perception about reflection. The data is presented below:

All teacher trainees responded to this question and defined reflection as a process of introspection that is essential for professional development.

Question no. 6, *How did you learn to reflect?* was asked to know how they (teacher trainee) learnt to reflect. The data is presented below:
Figure 4.1 – Learning Reflection

Data from 38 responses was analysed, 4 teacher trainees did not respond to the question.

As manifested in the figure 4.1, less than one third of the teacher trainees stated that they learnt to reflect in pre-service teacher education. Most of them stated that they learnt to reflect on their own or from their friends.

Opportunities for Reflection

Questions in this section were set to find an answer to the first Research Question - What are the opportunities available to develop reflective practice in Pre-service teacher education?

This section had seven questions, which were asked to find out if the teacher trainees were asked to reflect as a part of their course, to identify the opportunities provided to develop reflective practice. The data is presented below:
Except for two teacher trainees (who did not respond to the question), everybody (N=40) answered the question on the importance of developing reflective practice in pre-service teacher education saying that it was important to develop reflective practice in pre-service teacher education (100%).

On opportunities provided to reflect, teacher trainees mentioned peer teaching, micro teaching, teaching practice, school internship, projects, presentations, community study project, lesson planning, debates, group work, feedback etc. These were grouped under four themes related to; pedagogy, working with community, practicum, and assignments. The data is presented below:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>Working with Community</td>
<td>4</td>
</tr>
<tr>
<td>Practicum</td>
<td>17</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 4.1, Opportunities for reflection

The number of observation (N) from 42 teacher trainees were 53, as few of them have mentioned opportunities from more than one group. More than half (57%) of the teacher trainees stated that they were encouraged to reflect through assignments like presentations, projects, portfolios, competitions etc. The pie diagram (4.1) below shows that 32% (17) teacher trainees stated that they were encouraged to reflect during or after the practicum phase and 8% (4) teacher
trainees stated that they were provided opportunities to reflect during and after working with community.

Only 3 teacher trainees mentioned that opportunities were provided to reflect while teaching pedagogical theories e.g., reflecting on possible pedagogical issues, related to the theory taught.

![Figure 4.1.1, Opportunities for reflection](image)

**Figure 4.1.1, Opportunities for reflection**

It was observed that for most of the teacher trainees (66%) it was mandatory to either write a journal or maintain a diary in pre-service teacher education.

**Tools used for Reflection**

Questions in this section were set to answer the second Research Question - How are these opportunities being used to develop reflection in teacher trainees?
Teacher trainees responded to questions on frequency of reflection on teaching, stating that they practiced reflection on teaching. Most of them (76%) said they always practice reflection. The table (4.2) below presents the frequency:

![Graph showing frequency of reflection](image)

**Figure 4.2 Practicing reflection**

Teacher trainees stated that they used narrative forms of reflection like using lesson plans, diaries, journals and logs to practice reflection (32%). More than those reflective tools, teacher trainees stated that they engaged in collaborative reflection by sharing experiences with fellow teacher trainees (41%). A good number of teacher trainees mentioned that they reflected on the learners’ responses (27%).

All teacher trainees responded to the question on tools used for reflection. The Figure (4.6) below, presents the data collected:
Almost all teacher trainees (95%) stated that engaging in reflection was beneficial. They (N=35) mentioned that by reflection helped them to rectify mistakes and correct them, teach better, understand the concepts, use better approaches, manage time, move towards perfection, develop critical thinking, develop positive attitude etc. The responses were coded and grouped under four themes (Reflecting on teaching helped them in); Improving teaching, Identifying strengths and weaknesses, engaging with subject knowledge and developing an attitude towards teaching.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve Teaching</td>
<td>16</td>
<td>46%</td>
</tr>
<tr>
<td>Identifying strengths and weaknesses</td>
<td>9</td>
<td>26%</td>
</tr>
<tr>
<td>Engaging with the subject knowledge</td>
<td>7</td>
<td>20%</td>
</tr>
<tr>
<td>Develop an attitude towards teaching</td>
<td>3</td>
<td>9%</td>
</tr>
</tbody>
</table>

Table 4.2, Impact of reflection on teaching

**Approaches to Reflection**

Questions in this section were set to see if teacher trainees shared their experiences and reflective narratives, in the form of stories, with others and vice versa, and if learning from someone else’s narrative was helpful. The focus of the questions in this section was also to find answers to the third Research Question – How can narratives be used to develop reflective practice in pre-service teacher education.

It was observed that 69% of teacher trainees shared reflective narratives with colleagues. An overwhelming 74% of teacher trainees stated that they learnt from someone else’s narratives. About quarter of the population (26%) said they neither
shared their narratives and nor did they learn from narratives of others. The teacher trainees who said they learnt from other narratives mentioned learning to make better lesson plans, use different aids and methods, apply learning effectively, better understanding of the concepts, better preparation, better performance etc. The responses were coded and were divided into 3 broad themes: Engaging with subject knowledge, understanding the process of ‘learning to teach’ and preparing for the real classroom. Data is presented using a Pie Diagram (4.2) below:

![Pie Diagram]

**Figure 4.4 Learning from peer/other narratives**

Only 28 (N=28) teacher trainees responded to this question with mentioning various ways in which they found the narratives useful. More than half of the teacher trainees (16) have stated that they helped them in engaging with subject knowledge. While equal number of people opined that the narratives helped them in understanding the ‘learning to teach’ process (6) and in preparing for the real classroom (6).
Question no. 18 had 9 sub-points. Responses of the teacher trainees were measured on a 5 point Likert scale strongly agree, agree, neutral, disagree, strongly disagree. This question was asked to understand if the teacher trainees believed they were practitioners of reflection and if they preferred reflecting alone or in a group (collaborative work). The analysis of the teacher responses is shown in the following table:

<table>
<thead>
<tr>
<th>Response</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I consider myself to be a reflective person</td>
<td>10 (24%)</td>
<td>24 (57%)</td>
<td>8 (19%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I think that reflection is important</td>
<td>24 (57%)</td>
<td>17 (40%)</td>
<td>1 (3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I think that being alone helps me reflect</td>
<td>0 (0%)</td>
<td>9 (21%)</td>
<td>15 (36%)</td>
<td>15 (36%)</td>
<td>3 (7%)</td>
</tr>
<tr>
<td>I think that being in a group helps me reflect</td>
<td>6 (14%)</td>
<td>24 (57%)</td>
<td>10 (24%)</td>
<td>1 (3%)</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>I think that it is not important for teachers to reflect in a group</td>
<td>2 (5%)</td>
<td>4 (10%)</td>
<td>13 (31%)</td>
<td>18 (43%)</td>
<td>5 (12%)</td>
</tr>
<tr>
<td>I think listening/reading to others’ (Narratives)</td>
<td>6 (14%)</td>
<td>27</td>
<td>9 (21%)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
reflections/reflective stories help me reflect better

| I think other teachers can learn from my experiences/reflections/reflective stories (Narratives) | 9 (21%) | 21 (50%) | 10 (24%) | 2 (4.5%) | 0 |

| I think that reflection is an easy thing to practice. | 0 | 4 (10%) | 25 (59%) | 11 (26%) | 2 (5%) |

Table 4.3 for Approaches to Reflection

All teacher trainees responded to the question (N=42). A massive 81% of teacher trainees stated that they believed they were reflective practitioners, however, only 10% considered reflection to be an easy thing to practice, 90% of the teacher trainees considered it as a very difficult task. Most of the teacher trainees (71%) stated that engaging in collaborative work helped them reflect better, however, more than half (23) of the total population (42) stated that it is not important though, to engage in collaborative work to develop reflective practice. On learning using ‘Narratives’, 78% stated that they learnt from reflective stories of others and 71% believed that many can learn from their Narratives.
Digital Literacy

Question no. 19 was asked to understand trainee teachers’ familiarization with internet and social networking, to know if they participate in online discussions, webinars or blogging. The data is presented below:

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>Email</th>
<th>Web browsing</th>
<th>Participation in online discussions/webinars</th>
<th>Blogging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>18 (43%)</td>
<td>18 (43%)</td>
<td>4 (10%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Good</td>
<td>16 (38%)</td>
<td>14 (33%)</td>
<td>7 (17%)</td>
<td>4 (10%)</td>
</tr>
<tr>
<td>Average</td>
<td>5 (12%)</td>
<td>7 (17%)</td>
<td>14 (33%)</td>
<td>16 (38%)</td>
</tr>
<tr>
<td>Poor</td>
<td>2 (5%)</td>
<td>3 (7%)</td>
<td>11 (26%)</td>
<td>12 (29%)</td>
</tr>
<tr>
<td>Not at all</td>
<td>1 (2%)</td>
<td>0</td>
<td>6 (14%)</td>
<td>9 (21%)</td>
</tr>
</tbody>
</table>

Table 4.4, Digital Literacy

The data indicated that about half of the teacher trainees (48%) stated they used technology extensively (Excellent + Good). It was observed that except for having an email ID, 10% of teacher trainees stated that they did not use technology at all. The data collected is presented in the bar graph (4.5) in the next page.
One open ended question was set in this section, where, teacher trainees were asked to narrate their story on how they learnt to reflect. The focus here was on understanding through their narratives, if teacher trainees considered reflecting for the first time to be an enriching experience. This question helped to observe if teacher trainees were able to reflect effectively.

While 33 teacher trainees responded to the question (78%), only 64% of the teacher trainees’ responses (N=27) could be considered as Narratives. A few responses were too small to be called a narrative or story (from T1, T26, T2, T3, T19, and T25). This question produced wealth of data from the respondents, where they quite briefly narrated their experiences of reflecting for the first time.
While few teacher trainees shared narratives on reflecting before joining the B.Ed course, teacher trainees stated that they reflected for the first time in the course and narrated their reflective experiences while performing co-curricular activities, while participating in various competitions, during practicum phase of pre-service teacher education, interacting with seniors and while learning pedagogical theories. While most of the teacher trainees stated that they reflected for the first time during practice teaching (40%), about a quarter of the population (23%) stated that they learnt reflect through assignments. Few stated that they reflected for the first time while learning pedagogical theories (13%).

4.2.1 Overall discussion on data gathered through Questionnaire

It was found that 67% teacher trainees joined pre-service teacher education without any prior teaching experience. All teacher trainees defined reflection as the process of self examination or introspection, which helps them in becoming better teachers. About half of the population stated that they reflected on their teaching practice for the first time during practicum phase of pre-service teacher education.

While all teacher trainees stated that practicing reflection is important, most of them believed they were reflective practitioners, only 10% of them stated that it was easy for them to reflect on their teaching. It was observe that 90% of teacher
trainees found it difficult to reflect. Teacher trainees stated that reflection helped them in identifying their strengths and weaknesses in teaching, in better understanding of the subject knowledge and improving their teaching. They stated that engaging in collaborative reflection also helped them in developing the above traits.

Teacher trainees stated that there were opportunities to reflect throughout pre-service teacher education, that is, while learning pedagogical theories, while working with communities and during practicum phase of pre-service teacher education.

Many stated they were given opportunities to reflect throughout pre-service teacher education through assignments. While they stated that they have used narrative forms of reflection like, Journals, diaries, logs etc., in pre-service teacher education, it was observed that most of them were not able to write a reflective narrative. It was found that all teacher trainees had access to computers and they had email ID. However, only 20% stated that they are good at using technology.

4.3 Data gathered through focus group discussions

Focus group discussions were initiated online on the professional networking site LinkedIn where 21 teaching professionals participated in the discussion from various parts of the world. The discussions were conducted online, where participants with experience in teaching voluntarily participated. This was done to overcome the barrier of distance and to get an outside perspective. The discussions titled ‘Developing reflective practice in Pre-service teacher education’ were
started and the researcher acted as a moderator and introduced topic of discussion and helped the group to participate in a lively and natural discussion amongst them.

As mentioned in chapter 3, to maintain the authenticity of the data collected, Vignettes, like Richards and Farrell (2005) did, are used to present results of focus group discussion as they provide a valuable technique for exploring people’s perceptions, beliefs and meanings about specific situations.

Learning Reflection

The first point of discussion was ‘importance of reflection teacher education’. The first vignette is from a teacher turned entrepreneur who stated that Reflection is inevitable in any profession, be it teaching or construction or technology.

<table>
<thead>
<tr>
<th>Vignette 01</th>
</tr>
</thead>
</table>

*This is surely a requirement of any job, not just teaching. Many other jobs - such as software writing, digging a ditch, sales - are every bit as demanding as teaching. If no one reflects then there is never any improvement. Teaching is not special in this respect. I repeat, I would expect any professional to be doing this - explicitly or implicitly.*

The participants stated that it is extremely important in any profession to identify if something did or did not go as per the plan, and work towards fixing the issue before it gets repeated. All teachers, teacher educators and teacher trainees stated
that it was extremely important to engage in reflection and it helped them in identifying their shortcomings and helped them in moving towards perfection (in teaching). Another teacher (as presented in Vignette 02 below) stated that refreshing intellect by continual reflection is every teacher’s responsibility.

<table>
<thead>
<tr>
<th>Vignette 02</th>
</tr>
</thead>
</table>

Reflection, no doubt, is the mark of being a good teacher. If the teacher has a sincere desire to give his best to the students he will take all the trouble to reflect and re-reflect on what he is doing. Unfortunately, such teachers have become a rare commodity nowadays. Most of them work for money. There is nothing bad about it but one should understand that he/she is in contact with young minds and refreshing intellect by continual reflection is our duty and let us not make virtue out of it.

Opportunities for reflection

Findings from questionnaires revealed that teacher trainees looked at the ‘opportunities provided to reflect’ as tasks and performed them to get grades. During the focus group discussions, it was observed that teacher educators strongly believe teacher trainees should engage in reflection in order to develop their own teaching, rather than looking at it as an assignment for grades. The following vignette describes how reflection should become a habit or discipline for every teacher.
My sense is that this reflection should be at the unit level, class period, or at the very least daily activities. I know that every time I present a topic I use slightly different phrasing, vocabulary, pacing, visuals, etc. Each time the students react differently. I try to gauge how well did I communicate? Was the vocabulary appropriate for the students? Were my illustrations effective or did they lead to confusion and questions? Did the activities reinforce the knowledge and lead to further understanding? Did the activities go as planned? Were my instructions clear? Did the “I get it now!” light bulb go on?

The reflection might be something as simple as ‘Thorns, Buds, and Flowers”. Thorns – things that need improvement; Buds – items that will require further evaluation or testing; Flowers – items that worked well or achieved the desired results.

Building this reflection in as a step in the curriculum design, delivery, and evaluation process to try to establish it as a habit, discipline, or best practice would at least get teachers and trainers thinking about this.

Many agreed to the opinion that reflection should be built into the curriculum of pre-service teacher education itself, so that teacher trainees develop reflective practice and it becomes a habit for them to engage in reflection when they start teaching in the real classroom. The following vignette if from a teacher educator who believes that teaching without reflection can become mechanical.
We may as well draw their (teacher trainees’) attention to the facts that (a) if teachers do not stop for a few seconds to "think" about the immediate and long term effects of their classroom performance on the students, and teach non-stop from the first to the last minute, it's more like a mechanical, feeling-free operation than a humanistic interaction; (b) "thinking", or reflection, is a skill that should be developed in both the teacher and the students: asking themselves the whys and hows of things; Teachers should think if an activity had a positive or negative or even neutral effect on the students, if their mannerism fits the classroom atmosphere in a given session, etc. Even students should have the right to ask how a given activity or course would contribute to their lifestyle or social skills; and many other arguments for reflection.

It clearly indicates that irrespective of the outcome of the activity, teacher trainees should be encouraged to reflect. Feedback on practicum or any other assignment or activity during pre-service teacher education doesn’t necessarily have to be negative of developmental. Teacher trainees should be encouraged to reflect on both success and failures.

**Tools used for Reflection**

On ‘how the opportunities for developing reflective practice were being used in pre-service teacher education’, teachers stated that reflection is an intrinsic part of
learning process and is built in to initial teacher education course. The following vignette is from one of those teachers.

<table>
<thead>
<tr>
<th>Vignette 05</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reflection is built in to initial teacher education courses in many countries and not just in relation to practice. As Socrates is claimed to have said, &quot;The unexamined life is not worth living.&quot;</strong></td>
</tr>
<tr>
<td><strong>Reflection is an intrinsic part of the learning process.</strong></td>
</tr>
<tr>
<td><strong>While self-reflection is important both &quot;in and &quot;on action&quot; (reference here to Schon's work), what is most important is the move from personal reflection through &quot;reflection on the words and works of others&quot; (spoken and written - which would include feedback and academic or professional texts) - here I am citing myself, 2001 - and then to &quot;reflexivity&quot; (that is, taking action on the basis of what you have learned).</strong></td>
</tr>
<tr>
<td><strong>Understanding that reflection leads to learning (defined as leading to a change in behaviour or understanding) and consequent action might cause some teachers to recognise the enormous benefits of such engagement.</strong></td>
</tr>
</tbody>
</table>

While it is evident that there are opportunities provided to teacher trainees to reflect through narrative forms like Journals, autobiographies, diaries etc., it is essential to encourage collaborative work, where teacher trainees share and discuss their experiences with peers and learn from others’ experiences. The
I am really interested in all contributions on the subject of reflection in teaching practice.

My view is 'Reflective Practice' and the notion of 'critical reflection' is not adequately taught in teacher training, and is often something seen as an extra chore for the students, when they are told to compile a number of reflective commentaries to complete their teaching practice portfolio. I wish to campaign for a greater understanding and teaching of reflective practice, not only in the teacher training filed but across other disciplines like management and business. How can we expect trainee teachers to 'grasp' the concept of reflection, let alone use if for effective practice, when the trainers’ themselves have little knowledge or understanding of the philosophical origins and the theories which have developed over recent years?

It suggests that teacher trainees are asked to reflect, however, the ‘art of reflecting’ is not taught effectively. The following vignette from a teacher educator presents information on training modules and inclusion of reflection in the training program.
We initiated a pre service program in 2013. The 14 week intensive teacher training comprises 8 modules including: Teaching methodology, Inquiry based learning, Practicum, Learner Centered approach, Classroom management, Assessment and mock presentations. As a regular feature of the program our trainees and trainers are expected to write their reflections from day 1. The maintained portfolios help us to improve our program.

Opportunities to reflect can be provided to teacher trainees, not only at the end of the course after the practicum component of the programme, but throughout the programme. This helps in developing a habit of reflecting among teacher trainees.

**Approaches to reflection**

Many discussions took place on this theme, only 5 of the narratives are presented below, the remaining are made available in the appendix (Appendix 4.1, p.301). It was observed that narrative forms of reflection like journals, diaries, logs etc., are extensively used in pre-service teacher education. It was observed that Narratives have been restricted to writing alone. In the following Vignette a teacher shares his opinion on using journals.
I think one problem is how we define "reflection". Too often (and I fall into that trap), we think of this as writing. Not all teachers will find that a great method. There must be video, oral, social and many other creative ways for teachers to be reflective - if any pre-service program of study is to successfully develop a reflective practitioner.

Findings from interviews revealed that teacher educators believed that diaries or journals do not have to be personal. The participants were asked to share their opinion on sharing journal writings. The participants stated that sharing reflections have greater implication, teacher trainees should be allowed to share their reflections with peers. In the following Vignette, a principal of the teacher education college stated that he replaced the lesson plans with interactive diaries.

As a principal I replaced requiring teachers to hand in lesson plans to me for approval with interactive diaries. My leadership team and I engaged in reflective written conversations with groups of teachers on the diary entries. Often these dialogs blossomed into study groups, school professional development topics, and action research projects. The idea is to create an adult environment that encourages and scaffolds reflective practice. The same basic structure could be implemented in a pre-service context among aspiring teachers with support of education faculty - perhaps enlisting graduate students as well.
The participants state that the emphasis in pre-service teacher education has always been on ‘why’ to reflect. There needs to be a shift in approach where the emphasis needs to be on ‘how’ to reflect. In the following vignette a teacher states the importance of training teacher trainees on ‘how to’ to reflect.

**Vignette 10**

*To my mind reflection is the seed of quality education and a potent means to improve the teacher in you - first reflecting before teaching the topic concerned and then reflecting after teaching that topic. Doing like this on regular basis makes a teacher deliver the goods effectively.

Incidentally, your question takes me back to 1956, when I was appearing at the M.A. final examination, One day I said to my teacher, "Sir, how come, you may hardly study for half an hour or so to prepare your talk for us and yet you are so effective and confident. On the contrary, we prepare what you teach us for hours to-gether, but we are not so confident as you are." The teacher smiled at me and said; " It is because I do a lot of reflection both before and after giving the talk."

And I realized the veracity of his answer only when I tried it out after becoming a teacher. Unfortunately, thinking is the biggest casualty in India. We never teach our students how to think, what to think and how to reflect. Thoughts being the seeds of all our actions how to think and reflect should be included in the curriculum of Pre- service teacher education and taught how to create positive thoughts and do hourly reflection on them. Congrats once again for having raised such an important educational issue, irrespective of what we teach!*
The participants believed that apart from narrative forms of reflection, inquiry oriented research can also help teacher trainees in developing reflective practice.

One of the participants shared a Vignette from the book ‘Professional Development for language teachers’ and participants were asked to share their opinion on ‘Using Narrative to maximize reflection in teacher education’, teacher and researcher explained how useful it was. Vignette below is taken from his response.

The next vignette is from another participant who stated that the concept of using narratives is “attractive” for language experts and classroom practitioners.

<table>
<thead>
<tr>
<th>Vignette 11</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I absolutely love the idea. Being unsolicited, spontaneous, natural and covering a wide spectrum of styles from formal to very informal, can truthfully reflect the real life language, narrow the distance between the learners and the target language used in reality, it becomes increasingly attractive to language experts, classroom practitioners and the learners. However I think it comes with its own considerations and challenges example Grammatical differences, cognitive demands, Cultural appropriateness etc. For most students, the challenges are that such materials may be “too culturally based” and often contain “difficult language, unneeded vocabulary items and complex language structures. But then at the end, that is exactly how a planned teacher scans and skims the important text and extracts the essential in a presentable manner.</em></td>
</tr>
</tbody>
</table>

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Teacher educators stated that narratives can be great for raising awareness among teacher trainees. The following vignette is from a teacher educator who believes that narrative approach can help teacher trainees in becoming reflective practitioners.

**Vignette 12**

*I’ve been thinking a lot about ways to connect reflective practice with personal well-being. We now know that being mindful can help to build the areas of the brain that support resilience. Because teaching is one the most stressful fields in which to work, instructing pre-service teachers on ways to care for themselves that have been proven to increase their resilience may have multiple benefits—teachers won’t burn out, at least not as quickly as they otherwise might, and in becoming reflective practitioners, they’ll model this approach to their students as well.*

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4.3.1 Overall discussion on data from focus group discussion

A careful analysis of the above vignettes and discussions helps us to arrive at the following inferences.

- All participants believed that reflection is quintessential in any job, be it teaching, sales or software writing and stated that reflecting on one’s own teaching was every teacher’s responsibility and mentioned that understanding that reflection leads to learning and consequent action might
cause some teachers to recognize the enormous benefits of such engagement.

- The participants stated that 'Reflective Practice' and the notion of 'critical reflection' is not adequately taught in teacher training, and is often seen as an extra chore for teacher trainees. Reflection should be built in to the curriculum, design, and delivery and evaluation process; and should be made a habit in teacher education. How to think and reflect should be included in the curriculum in Pre-service teacher education.

- It was observed that most of the participants had an opinion that journals can provide a wealth of data not only from teachers but also from teacher trainees who really are the ones who will experience the benefits of the teacher's training and reflections. Hence, teacher trainees are asked to maintain diaries and journals in order to foster reflection. However, they stated that reflective journals are not personal and should be shared with colleagues or a mentor. Whichever way, they believed that it is very important to document, record or share reflection.

- All participants stated that Narratives can be a great way to reflect and can be shared online as well. They said after listening to narratives of individual teachers, teacher trainees gradually learn how to step back from their own behaviors and become reflective.
4.4 Data from interviews

The details regarding the conduct of interviews have already been provided in section 3.6.2. Interviews were conducted with 3 teacher trainees and 3 teachers (who have been a part of the preliminary study) and 3 teacher educators. It was important to interview teachers to know if they are practicing reflection while teaching. They were participants of the B.Ed program in 2013. The preliminary study was conducted in February 2013 and the interviews for the main study were conducted in March 2015. The interviews with the teacher educators presented a third dimension. Teacher trainees from 2014 – 15 batch were interviewed face-to-face and teacher trainees from 2013 batch and teacher educators were interviewed over the phone, since they were not available for a face-to-face interview. The interviews were informal.

The qualitative responses derived from questionnaires yielded some evidence and explanations in support of responses made to open-ended questions. However, the questionnaires did not provide participants with an opportunity to explain all possible reasons behind a given response.

Interviews with teacher trainees were conducted to gain further insights behind the questionnaire responses, 3 teacher trainees were interviewed.

Some advantages of interviews are that they provide a flexible and adaptable way to gather information, which allows the interviewer to probe issues more deeply to provide rich, illuminating material and develop a particular line of enquiry, which might have arisen during the interview. The most appropriate style of interview to
realize this aim was the semi-structured interview as by ‘funnelling questions’, it was possible to pursue an area of interest by asking additional questions around the same theme. Through such discourse, the narratives of experience of those interviewed were captured and both the contextual and situational facets of their experiences could be better understood (Elliott, 2005).

Another feature of semi-structured interviews, which supports the purpose behind this study, was that key questions were constructed and backed up by prompts to guide the line of enquiry and complement questions featured on the questionnaire.

All interviews opened with an introduction and explanation of the intention behind the interview. It was important to establish a positive rapport and clarify how data would be used.

The participants were encouraged to respond openly and freely to each question posed. Interviews were relatively informal, which provided enough flexibility to guide the conversation toward the focus of questions being probed. Teacher trainees were able to shift from one theme to another to explain, highlight and contextualise their opinion. Their responses often led to more in-depth information.

Two principle factors guided decisions during the selection of interview excerpts. First, narratives of experience were set aside which portrayed richness, depth and insights into the theories, beliefs and aspirations behind the ideas and issues expressed within the themes and sub themes identified. Second, excerpts were selected to provide enough primary source data to ensure the meaning behind each
narrative of experience could be clearly presented. This procedure also allowed searching for additional themes, which had not surfaced during the analysis of questionnaire.

Interviews lasted from between 25 to 38 minutes and were held in a silent room away from possible external distractions. Each interview was audio-recorded, and later transcribed. Transcriptions were double checked for correctness. The interview transcripts were analysed systematically, question by question, for data on each type of reflective conversation. Sentences were deconstructed and separated into units of relevant meaning, in the same way as that adopted for the open-ended textual data of questionnaires.

To reduce risk of imposing the researcher’s interpretation onto open-ended textual data and support the credibility of the human instrument, a peer participant assisted in the analysis of interview transcripts. This peer helped in verification purposes to establish accuracy and clarity, and to reduce the possibility of ambiguity and subjectivity in coding the participants’ interview transcripts.

The areas guided that framework of the questionnaires were used to build the interview questions and prompts. The findings are presented below:

**Learning Reflection**

It was observed that out of the 3 teachers interviewed, 2 stated that they learnt to reflect after Pre-service teacher education, in their real classroom. They said that while the concept of reflection was introduced to them in pre-service teacher education, they never got an opportunity to engage in reflective practice during
training. One of the teachers defined reflection as a ‘potent means’ to improve one self.

“To my mind reflection is the seed of quality education and a potent means to improve the teacher in you - first reflecting before teaching the topic concerned and then reflecting after teaching that topic. Doing like this on regular basis makes a teacher deliver the goods effectively”.

This suggests that teachers know that engaging in reflection is fruitful and by reflecting on their teaching, they can become better teachers.

All teacher trainees (N=3) stated that they learnt to reflect through assignments in pre-service teacher education. They said they were asked to maintain journals, diaries, portfolios and were made to participate in peer teaching, micro teaching etc. However they shared a concern that the sheer pressure of assignments and deadlines did not allow them to “actually reflect”.

When asked about the assessments and various activities they participated in and how those helped them in ‘reflecting’. Teacher trainees stated that they were more like a competition where they got scored off for bad performance, but feedback was never provided. A teacher trainee said “All we got was a score... nobody gave us a chance to look back and reflect and perform again”.

A teacher trainee stated that the pre-service teacher education was “like a crash course to teaching” where they are just given a lot of input, but very less chance to perform and practice. For them reflection was a part of the input given to them.
All teacher trainees stated that there was less time in pre-service teacher education and the curriculum was so tightly packed with many assignments that they hardly had time to look back and reflect on what they learnt or did.

Teacher educators and teachers (N=6) also stated that the duration of pre-service teacher education needs to be increased to facilitate better learning outcomes though reflection. One of the teachers response suggests that, right now, there is no ‘space’ for reflection, and it can be created if more time is provided.

“The present duration of Pre-service teacher education course at all Teacher training institutions...except those run by NCERT... is only one year. And even in this one year the actual teaching duration is hardly about six months. Then there are 52 periods of teaching practice to be carried out by the trainees. The ‘space for reflection’ can be created only if the duration of these courses is increased from existing one year to two years which is also the view of National Council of Teacher Education (NCTE). But this will further increase the lag in availability of trained teachers as stipulated by Right to Education Act”.

**Opportunities for Reflection**

All teachers (N=3) confirmed that they were either asked to maintain a journal or a diary in pre service teacher education. Most of them stated they used journals during pre-service teacher education. Teacher trainees were not asked this question as they had already answered this question in the questionnaire administered to them.
While teacher educators (N=3) stated that there were opportunities provided to practice reflection in pre-service teacher education, teacher trainees and teachers (N=6) considered them to be more of an assessment than an opportunity to reflect.

One of the teacher trainees mentioned there were opportunities to reflect in pre-service teacher education. She said “There were opportunities... we were asked to create a portfolio, but we weren’t given much time, we filled it up in one day... all we did is a list of activities we engaged in, attached pictures and wrote a note and submitted. Now, when I look at it, it was an opportunity to reflect... but I was more worried about the deadlines and marks, I just completed a task”.

Another teacher trainee stated that they were given an opportunity to participate in ‘swatch bharath’ activity at a nearby locality, and after completion, they were asked to reflect:

“We were sent to slums and were asked to participate in ‘swatch bharath’, where we had to clean the area... when we went back to college, we were asked to make a collage with pictures and make a presentation. We were asked to reflect on the difficulties encountered. We all had similar issues; we just shared them with the class”.

This suggests that there are opportunities to reflect during pre-service teacher education from the very beginning till the end of the course, and they were provided to the teacher trainees in the form of assessments.
When teachers were asked about engaging in reflective practice, they very categorically mentioned that they don’t as the real classroom situation was a lot different from the B.Ed classroom. One of the teachers stated that unlike B.Ed classes, where the space for reflection was created through activities and assignments.

“The 'space for reflection' is right at the moment of teaching but we are often so busy with the next step in the lesson, that we can't give enough thought to 'why'. We only have time to realise that something didn't work the way we intended”.

Teachers consider reflection as a time consuming process. All teachers stated that they believed that reflection was essentially some kind of writing, for which, they said they don’t have time most of the times.

**Tools used for Reflection**

When probed further about activities and assignments and tools used for reflection, teachers and teacher trainees mentioned, lesson plans, portfolios and diaries.

While responding to question on using narrative forms of reflection, like journal writing, autobiographical writing etc., one of the teachers stated that she found that reflecting by writing was not real reflection all the time. According to her, journal writing was boring and she gave up writing as soon as she graduated.
However, teacher educators believed that ‘verbalizing’ reflection was important. He said it doesn’t essentially have to be writing, but it is important to be vocal. The transcript below is an excerpt of the response to the question on tools for reflection.

“There is also value in verbalizing reflection orally and or in writing because it helps us sort through ideas and look back at previously expressed thoughts”.

Another teacher educator stated that he would support “journaling” and he thought it was an extremely helpful tool from the beginning of his career.

“It seems to me that any teacher who takes any time to organize their lessons differently, or find new materials, or uses what they have in a different way, are actually reflecting on their practice. Perhaps it's more to do with the labelling than the actual process.

It could be that most teachers think of ‘reflection’ as a particular process or a formal process of some kind. I believe all teachers do think about what they are doing and whether a particular activity or material has worked well or not, and how they can be adjusted to better suit another lesson or another class. Perhaps a definition of 'reflection' would be good to explore?

I think reflective practice could be built into pre-service teaching, or even teaching itself, through journaling of some kind, whether it is in hard copy, or in fact online, perhaps in one's own blog, or a class or department blog, or more privately even in emails to oneself or a colleague or mentor.”
While teachers and teacher trainees were not in favour of journaling, teacher educators supported journaling or writing of some kind and had an opinion that it is quintessential for reflection.

**Approaches to Reflection**

Most of the teachers and teacher trainees (N=5) believed that they learnt from experiences of others. The stories they shared helped them in reflecting on their own classroom practices.

Teacher trainees stated that they were given opportunities to reflect after the practicum component. One of the teacher trainees’ said “For practice teaching, we were sent to different schools. We were trained to teach as per the CCE pattern, but when I went to the school, there were more changes incorporated may be... the teachers there did not like the way I taught, they told me that I need to up skill myself and know more about the new pattern and then come back and teach. In fact, I wasn’t even allowed to teach one day, that was depressing... I went back to college and shared this with my teachers... I got no answer. But I know the problem was not with me... I wasn’t prepared may be, it took me time to understand that. My friends helped me, they had a similar story”.

One of the teacher educators stated that, journals can be shared and it is important to share reflective stories with peers.

“Keeping a journal is a great practice. But a few student teachers and experienced teacher I have interacted with say that it is boring to write a journal
or maintain a diary. Student teachers should understand that it is for their own benefit. Most of the student teachers write journals to get good grades. They put their creative writing to work, submit the journals at the end of the course and never look at them again. I also know people who love writing personal journals, but they are closed, they never share their stories with anyone”.

Another teacher stated that people like listening to stories and they can learn by listening to stories of others and help others by sharing their own stories. Mentioned below is her response on the question on sharing reflective stories.

“People love listening to stories; we naturally pay attention. Maybe you can share your own personal story of a time when you struggled with teaching, or a student, and through reflecting on the experience, something changed for you. And then you became a better teacher... but you have to prove to your listener that this perception of yourself was recognized by students, otherwise it will just seem arrogant”.

One of the teachers stated that in a school where she taught she persuaded people to engage in reflection. She stated that teachers, most often, do not engage in reflection after pre-service teacher education and the reasons given are lack of time and fossilization of habit. “During all the time I was teaching in regular schools, it was a task to get other teachers to reflect on their teaching practices, admit there was something that could be done better, and take steps to make the effort to change....the oft-given reasons were, lack of time, fossilization of habits.
After a point in time, I just gave up, concentrating on my own lessons and learners”.

Another teacher stated that they do engage in reflection, but find it to be a very tiring activity as reflection needs a lot of time and patience which they usually do not have, given the tight schedule they work in.

Teacher educators stated that usually teacher trainees and novice teachers fail to identify the opportunity to improve themselves.

“The evidence of advancement in a personal, scientific, industrial, etc situation is everywhere. Advancement only comes about by recognising a need or an opportunity for 'improvement' of an outcome. Recognising an opportunity for improvement must also openly acknowledge that each individual has done their best at that time and now can build on their experience to achieve even better.”

None of the teacher trainees were comfortable with reflection. They stated that they know the importance of it, but do not know how to engage in “real reflection”.

**Digital Literacy**

While teacher educators stated that they participated in webinars and online conferences, teacher trainees and novice teachers have not used technology for professional development. Teacher trainees have only used internet and email. None of them (teacher educators, teachers and teacher trainees) have explored blogs yet.
4.4.1 Overall discussion on data gathered through interview protocols

A careful observation of the above descriptions of the interviews with teacher educators, teachers and teacher trainees helped to arrive at the following inferences:

- All participants stated that reflection is very important and it has great benefits if practiced. However, teachers stated that they do not continue reflecting after pre-service teacher education due to time constraint and fossilization of habit. Most of the teachers stated that they learned to reflect in the actual classroom and in the staffroom. Teacher educators and teachers alike stated that knowledge gained by reflection is far more than the knowledge gained by reading volumes of research and scholarly work.

- It was observed that teachers and teacher trainees felt that during pre-service teacher education, the emphasis was more on making teacher trainees do assignments on reflection rather than helping them in ‘reflecting’.

- Teacher trainees and novice teachers mentioned that opportunities are provided to reflect in pre-service teacher education in the form of activities and assessment. Teachers stated that there was no encouragement to engage in activities or assessment after they graduated, they slowly stopped practicing reflection.

- While teacher trainees stated that they write journals to get good grades but not to develop reflective practice, teachers stated that they practice
reflection, but usually do not document it or share it with peers, sometimes for the fear of getting criticized.

- Teacher educators felt that teacher trainees do not practice reflection as they fail to take ownership of their own careers. They had an opinion that teacher trainees fail to identify opportunities to improve their own teaching by engaging in reflective practice.

- Teacher educators felt that reflection can be built in, through thoughtful writing of some kind and sharing it with a colleague or mentor. They stated that reflection is not a private journal or diary, it must be shared.

- It was noted that teacher trainees liked listening to stories, and believed that sharing stories can trigger reflection.

- All stakeholders had access to internet.

4.5 Summary of the findings

The results of the study from the data collected through questionnaire, focus groups discussions and interviews indicate that teacher trainees have a broad understanding of reflection and they are aware of the benefits a reflection can bring about.

Teacher trainees and novice teacher stated that engaging in reflection was important in order to improve their performance by becoming aware of their weaknesses and strengths.
It was observed that teacher trainees had undertaken some form of formally structured opportunity for reflection. Such opportunities for reflection were largely in the form of written evaluations or assignments.

Teacher trainees stated that they used narrative forms like portfolios, lesson plans, diaries, logs and journals in pre-service teacher education. Teacher trainees reported many opportunities for reflection, and the nature of the reflective tasks they had to accomplish.

They stated that while there were many opportunities for reflection in pre-service teacher education, a lot of it had to be written; more often they were written assessments.

Another concern that teacher trainees shared was regarding the amount of work they are asked to do in pre-service teacher education, in terms of tasks, activities, assignments and reports. They wanted a reduction in the amount of work in the form of various tasks and assignments that they had to do to progress through the course. However, teacher educators insisted on increasing the duration of the course instead. It is important to note that teacher trainees perceived reflection to be a onetime activity and did not develop a habit of reflection.

It is worth mentioning that despite of the opportunities provided, teacher trainees stated that they were not very good at reflection, only 10% of teacher trainees stated that they are good at reflecting on their teaching practices.

Another reason teachers and teacher trainees stated was their dislike towards writing. While teacher trainees and teachers stated that journal writing was less
engaging and strenuous, teacher educators were in favour of such an approach. They stated that it is important to ‘verbalize’ reflections.

It is important to note that teacher trainees and novice teachers mentioned that interaction with colleagues and friends helped them in reflecting on their teaching practice.

It is noteworthy that the supporters of written narrative forms like diaries and journals stated that sharing stories verbally can also foster reflection. Most of the participants stated that reflecting using narrative forms of reflection helped them in learning to prepare better lesson plans, using different teaching aids and methods in the classroom, applying learning effectively and preparing and performing better.

**4.6 Overview of the Chapter**

In this chapter, the qualitative and quantitative data gathered through 3 research tools of study– Questionnaire, focus group discussions and informal interviews have been presented, described and analyzed. The sample included three groups: teacher trainees of English methods, English teachers and teacher educators. It was revealed that teacher trainees were provided opportunities to reflect in pre-service teacher education though assignments and activities. Narrative forms like journals, diaries, logs, lesson plan etc., were also used as reflective tools. While teacher educators were in favour of using journals; teacher trainees and teachers stated that writing journals was less engaging and strenuous. It was observed that only 10% of teacher trainees stated that they were good at reflecting despite of the
opportunities provided. Teacher stated that they stopped reflecting using journals and diaries due to lack of time and fossilization of habit. All participants stated using narratives for reflection can foster better reflective practice. The next chapter presents the summary of findings from data gathered, a critically interpretation of the data collected is presented and the implications are discussed.