Chapter - IV

Data Analysis

4.0 Introduction

In the preceding chapter, a detailed description of the data collection including the research tools adopted for the study was discussed. The research began with a preliminary questionnaire study during which there were interactions with the students as well as the teachers. These interactions with the teacher as well as the students were necessary to enable the study to be carried out in a smooth, friendly and comfortable manner. Therefore, through these interactions base line formation was gathered and the research tools were designed keeping in mind the research question of the study.

In this chapter, the data was analysed both in qualitative and quantitative methods. The results of the data collected using the following research tools were analyzed qualitatively. The overall improvement between writing reports R1 (PT) and R10 (PTT) and across the reports R1,R5,R9,R10 were analysed quantitatively to show the variation among the phases of the writing. The research tools as mentioned in chapter three, Section 3.4 are as follows:

1) Classroom Observation

2) Students' Questionnaire 1 (Appendix - A)

3) Teachers Questionnaire (Appendix - B)
4) Reading Texts (Appendix -C)

5) Pictures & graphs (Appendix- D)

6) Structured Interviews (Appendix - E)

7) Students' Scripts (Reports) (Appendix- F,G,H,I,K,L,M)

4.1 Analysis of the Data Collection:

i) Interaction with the teachers

A preliminary interaction with the Class IX English teacher and Class XI English teacher was held at the initial stages of the study. These interactions provided the much needed background information of the methodology used in the writing classroom. Besides, it also gave information about the students. As mentioned in Chapter 3, section 3.5.1.1 Stage - 1 both the English teachers (hereon they would be termed as T1 English teacher 1 and T2 English teacher 2) were asked the following questions during an informal discussion and below are excerpts of their answers:

a) What kind of writing tasks do you have in class?

T1 said that most of the time they have essay writing, paragraph and comprehension question writing tasks. T2 said that mostly the writings that they have in class include formal writing like report writing, essays, letter writing and argumentative writings.
b) Do students have the ability to use the language effectively in their writings?

T1 said that some of the students have the ability and they write without much difficulty

but, of course, there are many weak students too.

T2 said that at Class XI level nearly half of the students have the ability but they may not write effectively.

c) What kind of procedure do you follow to teach report writing?

T1 said that she usually dictates the answers and sometimes writes on the black board so as to avoid rushing with the course.

T2 said that as the syllabus is very vast, she normally dictates the answers. For example she said, 'I would raise awareness of the relevant topic and then would draw a web of points related to the topic so as to avoid repetition. Then students would expand the points into a write up as per the format'.

d) Are the students able to write in their own words?

T1 said that as she had mentioned before, some students are able to use their own words (though not too explicitly) to express themselves whereas others cannot. T2 said that very few students can express themselves and use their own words while writing but there are many students who are very poor in writing and with English language as a whole.
e) Are the students provided any material besides their texts for the class?

T1 said that no materials are provided to the students besides the texts.

T2 said that as the syllabus is very vast there is no time to provide the students any extra materials and so they have to follow the texts.

f) Are the students provided with any authentic material like visual aids, newspaper cuttings and so on?

T1 said there is no scope to use such material.

T2 said that there were hardly any such situation where the material was used.

g) Are the students introduced to any reading texts before their writing tasks? For e.g. texts on environment, kinds of pollution etc, before asking them to write a report on, "How to protect our environment".

T1 said, as stated before, there is no room for introducing any texts or any other inputs because of the vast syllabus to finish.

T2 said that as time does not permit sometimes she asks the students to read newspapers or magazines not before writing but whenever they have time. She also echoed the importance of reading and its relationship with writing.

It was from the above informal discussions that we got first hand information about the classroom and the method that they are currently following. This was done before the
classroom observations. It was through the discussions that we came to know why the teachers just dictated notes and also the writing tasks in the class. The discussions also helped us in framing the questionnaire and further more in choosing the reading texts for the study. Therefore, utmost care was taken to ensure that the level of the texts and the writing tasks were at par, though with a different approach from what they were doing in the class. As report-writing task includes other writing tasks like paragraph writing, essaywriting and letter writing, it was chosen. Moreover it was also part of the XI syllabus. Thus, the interaction with the teachers, provided inputs about the classroom and gave us a picture of what happens in the writing classroom before proceeding with the main study.

From the interaction we came to know that teachers, even if they desire to use other texts or any extra materials in the classrooms, could not do so, owing to the vast syllabus. Such is the plight of our schools. Thus, a change in the education system to make the syllabus more flexible for teachers to use materials outside the syllabus would be beneficial. As teachers know best what students need, which skill is he/she lacking in; giving more space for the teacher to take control of her class would be beneficial for the students.

ii) Analysis of the Teachers’ Questionnaires:

The researcher felt that it was very difficult to get the questionnaire filled by the teachers. Here is a summary of the teacher’s questionnaire.

The teacher said she does not have much time to read other books besides the textbook as she has household chores to do once she is at home. During the holidays she likes to
read novels and other related books. From the questionnaire, like in the informal interaction, it was found that the teacher dictates notes in the classroom to save time. In spite of limited time the teacher does manage to use other materials. Sometimes, she uses a dictionary, maps and charts related to the topic that they are doing in the classroom. The teacher also believed that introducing tasks and activity, which are not included in the textbooks, would be beneficial to the students because that will involve more participation among the students. She stated that she faced numerous difficulties especially when it came to writing, like not being able to pay individual attention to all the students in their writings due to the workload as she teaches other classes as well.

Writing has been the main issue for most students and to write accurately seems to be even more of a daunting task. Thus, the responsibility of the teacher is more to make the students attain a level of proficiency in their writing. It was also felt that though the teachers were interested to use additional material, most of the time they could not do it because of the vast syllabus, time constraint and other non-academic work.

4.2 Analysis of Classroom Observation:

In chapter three classroom observations was stated as one of the research tools to get the base line formation of the study. Thus, a total of three classes were observed after the interaction with the teachers in the same school. These interactions were intended to get first hand knowledge of the procedure that was followed in the classroom. A total of three classes were observed since we wanted to know exactly how the teacher deals with report writing in the classroom.
These classroom observations were specific to XI class alone. They were also aimed at getting familiarized with the students and to make them feel more comfortable and relaxed before the main study began. To keep the students’ affective filters to low it was necessary that we get familiarized with the students so that the study could be carried out smoothly in a friendly and healthy atmosphere.

In one of the classes the teacher was working on the comprehension questions. Teacher was trying to involve the students, make them answer and participate. But at the end the teacher gave hints to the answers of the comprehension questions and asked them to finish them off as homework. It is important to mention that these observations were not on a continuous daily basis. The observations were done as per the teacher’s availability and as to whenever it was feasible for the teacher.

Even though she told that she was following communicative approaches in class while interaction but in the actual practice she was following ‘traditional mode’. The teachers justified the method by saying that due to the vast syllabus that they follow, this was the only way to complete the course. In fact the English teachers used the expression 'spoon -feeding/fed' to describe her class with respect to writing activities. On the whole it was found that the structural approach is in vogue in the process of teaching English as second language.

The classes are teacher dominated, because the teacher always explains and gives more practice in what is taught. The only way of learning is rote learning and no creative activity is organized in the class. So we can understand that these learners do not get any opportunity for the natural use of target language. Their knowledge of L2 is only
theoretical and hardly practical. Hence we can conclude that the teaching learning environment is not very conducive for the learners to develop proficiency in English, which is the basic objective of teaching English as second language. As a result, except those who are intelligent and cognitively sharp, the majority of the learners have very low proficiency level in English. As Widdowson (1972) has said, the students “who have received several years of formal English teaching, frequently remain deficient in the ability to actually use the language, and to understand its use in normal communication, whether in the spoken or the written mode”.

As brainstorming and utilizing the students' creativity were lacking in the class, in this study our aim was to utilize both of them to make the students reflect on their experiences and use their own words while writing which leads to learner autonomy. Therefore, through these observations it was decided that the best way to make the students use their creativity, make them participate in the class, was to bring in tasks which they could relate to their day to day life and provide them with the inputs which cater to the different intelligences like linguistic, spatial-visual, interpersonal. Owing to their science background and the above observation led to the idea of using various issues related to “environment” as a broader topic for the report writing.

4.3 Analysis of Students’ Questionnaire

The first questionnaire given to the students at the beginning of the study was primarily done in order to have an idea about their background. As mentioned in chapter three, the questionnaire contains the background information of the students. Therefore, the
interpretation of the questionnaire would give us the basic information needed to continue the main study and have an aerial view of the students.

**a) Background information of the student:**

Responses from the questionnaire gave clear information that all the students had a common mother tongue, which is Telugu. As mentioned in Chapter 3 they are aged between 16-19 years. As they studied in Telugu medium up to VIII and later shifted to English medium, all of them can read and write in English, besides their mother tongue.

**4.4 Analysis of Interaction with the students:**

As mentioned in Chapter 3 before the written task 1 there was an interactive session with the students, which was also a kind of brainstorming session. Given below is the analysis of the 3 questions, which each student had to answer before writing.

1. Each student was asked whether they would like to write on ‘Population Explosion’- As all of them gave a positive response, it led to the next question which we had already prepared.

2. What do you mean by Population Explosion?

To this question the students had varied answers. It is one of the major problems India is facing. It is a serious problem. People are suffering and dying because of food problem. There is a struggle for existence. Some spoke about Darwin’s theory of evolution- Survival of the fittest and it went on. The responses showed that the students were interested.
3. What are the ways minimizing the problem?

Some students said that, there should be a family planning awareness raising program to educate the masses. Some said it should be made compulsory to all. Government should provide some benefits for having small family. The others said it is beyond the control of the people now.

This interactive session was needed to set the mood and create a lively atmosphere before the main writing task with regard to Population Explosion. If this problem had not been part of their lives it would have not been possible to use it as the reading input and would not have had any significance.

4.5 Analysis of the Structured Interviews:

The structured interview which was conducted after the report writing (R10) aimed to get information from the students about their views on the inputs that were provided in the form of multiple intelligences. It was meant to know the aspects namely, effectiveness of the inputs, whether they felt their language had actually improved, and whether they felt that the method adopted in the study had motivated them to improve their writing capability and thereby moved them to becoming autonomous writers. Hence, the first research question, on whether MI inputs can be used in tasks to motivate L2 writing in learners, can be answered through qualitative analysis.

All the answers have been obtained through direct and indirect feedback, oral interactions and interviews with learners, direct observation by the researcher and
from the task output. The overall qualitative data gained from the research instruments and discussed in this section of this chapter, provides information in three primary areas:

- degree of individual learner motivation
- intelligence motivation vis-a-vis the activating of writing processes and styles
- nature of group interaction

Five students were picked for a structured interview towards the end of the study. These five students were chosen on the basis of their scores on writing tasks. This structured interviewing of the students was necessary to get the students' views on the role of reading texts, pictures and graphs followed by a discussion among the groups, in their writings. All the five students interviewed were of the opinion that they should be introduced to different kinds of texts, visual inputs and group discussions before they start writing so that they can have more ideas and reproduce those ideas on their own.

They also agreed that the training given to them in explicit use of MI inputs after the pretest was of great a help in writing the subsequent reports. The complete structured interviews of two students were given in (Appendix - E).

As mentioned, students' views were recorded through interviews to ascertain whether students considered the MI inputs they received were motivating enough and effective for the development of their English writing skills. The questions were subjective and focused on students' opinions about the effectiveness of the new approach of providing MI inputs, the improvement in the writing skill and whether
they felt that these inputs had encouraged autonomy in the writing. Students opined that the kind of inputs that they were provided with were completely new to them. The inputs like reading text, pictures and graphs were very helpful to understand the issue in detail. The reading texts helped them get lots of ideas and generated interest in them to write well. The reading text as an input enables the role of reading strategies in integrated L2 writing tasks among the learners (Plakan, 2010). The visual inputs provided were very useful to understand the intensity of the problem and help them to interpret while writing. They also felt that the pictures were very appealing and they were able to organize their thoughts in a coherent manner with the help of the pictures. The group discussions had actually helped them to exchange lots of information and enabled them to learn a lot from their peers. It had also helped them grow in confidence by correcting their mistakes and ideas. On the whole they enjoyed the whole process of writing as a fun and interactive activity.

Learner-feedback and researcher observation indicate that the features of group work like simultaneous interaction, collaborative learning, team building, seem to have been promoted in varying degrees in group work by the MI input (Interpersonal intelligence) in the form of discussion. Such skills were demonstrated noticeably in their other classroom activities by the learners as well. Normal classroom tasks are usually examination-oriented, hence individual-based and competitive in nature. The MI inputs gave students a way to achieve targets through cooperation and collaborative learning, thus initiating a different learning environment altogether. MI inputs stimulate a high degree of motivation among learners. The detailed analysis of qualitative data in this chapter thus
positively verifies the hypothesis assumed by the first research question, that MI inputs in writing tasks will positively motivate learners to write by stimulating their multiple intelligences.

The second research question was answered in the following sections through quantitative data analysis, verifying that MI tasks enhanced the quality of writing performance by encouraging the learner to write at length, with greater coherence and cohesion, using a wider range of vocabulary and with lower error-frequency, thus improving overall task achievement.

A detailed analysis of the data and its comparison with the classes that I had observed earlier clearly revealed that the use of strategy brought a huge difference in students' behavior, interaction, interest, and writing level. Clearly, students found the inputs along with the discussion in groups were more useful and interesting than the other methods that they were exposed to. However, it can be argued here that the success of any strategy/method is based on criterion such as: its impact on the students, did it actually help the students to become better learners, did it generate any interest among the students etc. When the teachers taught the students in the so-called "traditional method" the classes looked very uninteresting and boring.

4.6 Analysis of the material used

The materials as mentioned in the previous chapter were authentic in nature. These consist of reading texts, pictures and graphs. They were provided as inputs on various issues that were discussed in the classroom. These materials were
carefully selected from the internet and newspapers and tailored according to the conceptual and linguistic levels of the students, as observed from the interaction with students. The reading materials included three texts on issues related to environment. They were provided to the students in the form of verbal linguistic intelligence inputs. These texts provide a detailed description of the issues in a lucid manner. They are: 'pollution', 'population', 'deforestation'. The pictures and graphs that were presented to cover each and every detail in a picturesque way so as to grab the attention of the learners and verbalise their feelings after looking at them. Pictures include the natural disasters like earthquakes, tsunami and so on. Pictures were provided in the form visual-spatial intelligence input to make the abstract idea become more concrete to the learner.

4.7 Analysis of Writing Tasks – R1 and R10

Report writing Task (R1) was the first task undertaken at the initial stage of the study which is considered as pretest. When the students were given the first task there was no input given besides discussions on few questions. This was done to analyze the significance of difference between Report writing Task (R1) PT and Report writing Task-(R2)PTT . In order to prove our research question it was important that the students were given Writing Task-1 at the beginning before they were given any explicit training on using inputs like a reading text (linguistic intelligence), picture & graphs (spatial-visual intelligence) and discussion in groups ( Interpersonal Intelligence). It is to find out if these inputs have catered to different intelligences of the students and had any linguistic improvement in the writing task R10 (posttest). To prove this, first of all, the students’ reports R1 and R10 were assessed for the overall performance
in terms of ideas, content, spelling, grammar, organization and context. To have a
more precise view of the writing tasks R1 and R10, given below is the complete
summary of the markings of the seventeen students who took part in the writing tasks.

<table>
<thead>
<tr>
<th>Names</th>
<th>Pre Test (Points to Assess) (Total 10 marks)</th>
<th>Total</th>
<th>Post Test (Points to Assess) (Total 10 marks)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Idea S (2)</td>
<td>Content -2</td>
<td>Org -2</td>
<td>Grammm (3)</td>
</tr>
<tr>
<td>S 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S 2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S 3</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S 6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>S 7</td>
<td>1</td>
<td>0.5</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>S 9</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S 10</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>S 13</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S 15</td>
<td>1.5</td>
<td>1</td>
<td>1.5</td>
<td>1</td>
</tr>
<tr>
<td>S 16</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>S 19</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>S 20</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td>S 22</td>
<td>2</td>
<td>1</td>
<td>0.5</td>
<td>2</td>
</tr>
<tr>
<td>S 24</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>S 26</td>
<td>1</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>S 27</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td>1</td>
</tr>
<tr>
<td>S 29</td>
<td>1.5</td>
<td>1</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Table 4.1 Overall performances from pretest to posttest

173
As shown in the table given above, the students' writing was assessed in the following areas:

i) Ideas: whether the students have ideas. Can they write without the teacher's sample answers? Can they generate their own ideas and put it in writing?

ii) Content: Do the students' writing make sense? Is the writing meaningful and does it contain what they are asked to do?

iii) Organization: In what ways have they used cohesive devices and how have they contributed in the coherence of their writing? Are they able to convey what they want to say in a proper manner?

iv) Grammar: What kind of grammar mistakes did they make in their base line data? What kind of mistakes have they made in the second writing task?

v) Spelling: Like grammar, spelling is just to cross check that the students do not make obvious mistakes in their spelling. All the Class XI students are expected to know the basic spelling of words.

In spite of the fact that there were 30 students in the initial stage, the writings of only 17 students are analyzed in detail in the above table because of two reasons:

a) Some students had not written all the tasks conducted by the researcher.

b) Some students were absent because of extracurricular activities and health problems.

Looking at the table above one can see the students' writing had improved significantly by taking the scores of Task-R1 and Task-R10 separately. The scores
between them have shown significant difference. Of course there were students who did not attend regularly for whom input seems to have no significance at all and the scores of their writing between Task-R1 and Task-R10 therefore, remained the same. It was found that students whose writings had improved were the ones who had attended all sessions, participating actively and asking questions in the classroom while working with the inputs. Besides, these students again, were the ones who brought in their personal experiences, which were reflected in writings. The students were not given any word limit as specified before for the report writing as the intention was to make them feel free and write whatever comes to their mind.

The students, who showed improvement after the explicit training in using inputs had, improved in terms of their ideas, content and organization. Not all students improved in the same area but in different areas. It was found that these students were better in using their background knowledge as well as their personal experiences. On the hand we can infer that the students' inability to reproduce on their own seems to imply that they were not provided with any inputs but the teacher dictating the notes or writing on the blackboard in the classroom which stooped the students to take to mechanical ways of learning.

4.7.1 Data Analysis of Reports

The data has not only been analyzed for overall performance of the writing as done above but also on the lines of how students have improved along two different dimensions, namely linguistic accuracy and communicative efficacy. The analysis is both quantitative and qualitative.
### 4.7.1.1 Linguistic Improvement

The first dimension, along which the improvement in students' writing observed, was at the level of their linguistic competence. This section will discuss how improvement in students' writing at the formal level from pretest to posttest and across essays has been observed.

As discussed in Chapter 3 the study employed both qualitative and quantitative analysis (see section 3.8). The quantitative analysis included a t-test. The t-test outcome measures were:

**The improvement of marks from pretest and posttest**

Students' writing improved significantly over the period of the study in terms of linguistic accuracy. A t-test of the improvement in the mean number of marks from pretest (PT) to posttest (PTT) was statistically significant at the 0.05 level. The mean difference of PT and PTT were 4.058 and 7.147 respectively. (See Appendix N for the t-test).

The reports from 17 students (pretest) were also marked and analyzed for all instances of errors. The errors in the grammatical category are Articles, Prepositions, Number, Verb-Tense, Sentence Structure, The second category of errors were errors in Lexical Choice which included Wrong Lexical choice, Repetitions/redundancy. The Mechanical Errors included was Punctuation. All the errors were counted and categorized separately no matter whether they were errors of insertion, deletion or wrong word.
The improvement along the linguistic dimensions has been analyzed quantitatively under the following categories which are mentioned in chapter 3 grammatical, lexical and mechanical.

4.7.1.2.1 Grammatical Improvement from Pre to Posttest

The errors under this broad category are articles, prepositions, number, and verb/tense and sentence structure. The first four categories of errors are termed as 'treatable' errors.

*Table 4.2 List of Errors, Pretest to Posttest, Grammar*

```
<table>
<thead>
<tr>
<th>S.N</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Pre-Post</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S1 S1 S3 S3 S6 S6 S13 S13 S16 S16 S22 S22 S27 S27 S29 S29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5  1  3  0  30  6  36</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2  0  4  1  15  2  17</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0  3  1  4  14</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3  2  6  2  40  10  50</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1  0  2  0  13  1  14</td>
<td></td>
</tr>
</tbody>
</table>
```

*S- Student, Er- Errors*

In the grammatical category total numbers of errors in the reports were counted both at the pretest and the post test level. It was observed that of the most students made errors in the verb/tense category both in the pretest and post test. (S6 had an error
count of 10 in the pretest which was reduced to 3 errors in the post test) (S13 had an error count of 8 in the articles category in the pretest which was reduced to 2 in the post test).

The second and third highest number of errors was in the category of articles and prepositions respectively.

4.7.1.2.2 Lexical Errors and mechanical errors in Pre and Posttest

The errors of lexical choice (wrong word, collocation) insert (a word missing) and repetition falls under the lexical errors category. These errors are idiosyncratic and require learners to use acquired knowledge of the language to correct these errors. Therefore they are more difficult for students to learn. The mechanical error category included punctuation.

Table 4.3 List of Errors, Pretest to Posttest, Lexis & Mechanical

<table>
<thead>
<tr>
<th>S.No</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Pre-test Total</th>
<th>Post-test Total</th>
<th>Total errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S1</td>
<td>S1</td>
<td>S3</td>
<td>S3</td>
<td>S6</td>
<td>S6</td>
<td>S13</td>
<td>S13</td>
<td>S16</td>
<td>S16</td>
<td>S22</td>
<td>S22</td>
<td>S27</td>
<td>S27</td>
<td>S29</td>
<td>S29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Lexical choice</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Insert</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Repetition/Redundancy</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Punctuation</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

The errors in lexical choice were counted. Though it was observed that there was a decrease in number of the lexical choice of errors, from pretest 6 to 4 in the posttest the reduction did not seem to be substantial. The insert category, repetition category came down significantly by 1,1 in post test compared to 5,8 in the post test.
respectively. The errors in the mechanical category came down by half of the pretest errors 14 in the post test.

Therefore, if one were to compare the errors made by the students across all the linguistic categories, grammatical, lexical and mechanical one will find that there has been a good decrease.

Table 4.5 Total Errors From pretest to posttest i.e R1 to R10

<table>
<thead>
<tr>
<th></th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Post test</th>
<th>Pre test</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S1</td>
<td>S1</td>
<td>S3</td>
<td>S3</td>
<td>S6</td>
<td>S6</td>
<td>S13</td>
<td>S13</td>
<td>S16</td>
<td>S16</td>
<td>S22</td>
<td>S22</td>
<td>S27</td>
<td>S27</td>
<td>S29</td>
<td>S29</td>
<td></td>
</tr>
<tr>
<td>Total Errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>4</td>
<td>16</td>
<td>2</td>
<td>24</td>
<td>8</td>
<td>18</td>
<td>4</td>
<td>12</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>16</td>
<td>4</td>
<td>20</td>
<td>4</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The impact of the multiple intelligences approach had significantly made an impact on the students' linguistic improvement. The total error count in the pretest (PT) was 132 which reduced to 28 in the posttest (PTT). It was observed that most students made errors in the verb/tense category both in the pretest and posttest. When examined from an overall perspective of total number of errors one finds S29 had a count of 20 errors in the pretest which came down to 4 errors in the post test. S1 had a count of 20 errors in the pretest which reduced to 4 in the posttest. S22's errors had totally disappeared in the posttest, whereas he had 18 errors in the pretest. Thus one can conclude that all the students had a reduction in the number of errors from pretest (PT) to posttest (PTT).
Table 4.6 Development variations in performance across reports R1, R5, R9, R10

<table>
<thead>
<tr>
<th>S.No</th>
<th>Pretest Marks (R1)</th>
<th>Marks (R5)</th>
<th>Marks (R9)</th>
<th>Post test Marks (R10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>4.5</td>
<td>6</td>
<td>7.5</td>
<td>9</td>
</tr>
<tr>
<td>S2</td>
<td>5</td>
<td>5.5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>S3</td>
<td>4</td>
<td>5</td>
<td>6.5</td>
<td>8.5</td>
</tr>
<tr>
<td>S6</td>
<td>3.5</td>
<td>4.5</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>S7</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5.5</td>
</tr>
<tr>
<td>S9</td>
<td>4</td>
<td>5</td>
<td>5.5</td>
<td>6.5</td>
</tr>
<tr>
<td>S10</td>
<td>2.5</td>
<td>3</td>
<td>3.5</td>
<td>5</td>
</tr>
<tr>
<td>S13</td>
<td>4.5</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>S15</td>
<td>5</td>
<td>5.5</td>
<td>6.5</td>
<td>8</td>
</tr>
<tr>
<td>S16</td>
<td>4.5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>S19</td>
<td>3</td>
<td>4</td>
<td>4.5</td>
<td>5.5</td>
</tr>
<tr>
<td>S20</td>
<td>2.5</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>S22</td>
<td>6</td>
<td>7</td>
<td>7.5</td>
<td>9</td>
</tr>
<tr>
<td>S24</td>
<td>5.5</td>
<td>6</td>
<td>6.5</td>
<td>7</td>
</tr>
<tr>
<td>S26</td>
<td>3.5</td>
<td>5</td>
<td>5.5</td>
<td>7.5</td>
</tr>
<tr>
<td>S27</td>
<td>3.5</td>
<td>4.5</td>
<td>6</td>
<td>7.5</td>
</tr>
<tr>
<td>S29</td>
<td>4.5</td>
<td>6</td>
<td>7</td>
<td>8.5</td>
</tr>
</tbody>
</table>

It is apparent from the above table that there was a gradual development in the students' writing from pretest (PT) and Posttest (PTT) and across various reports.
When examined one finds that S1 in the pretest (R1) scored 4.5 marks, which increased to 9 in the post test with a gradual increase in R5 & R9. The same is the case with S20 who scored 2.5 in the pretest which increased to 5 in the posttest. Thus one can conclude that all the students had an improvement in marks from pretest to posttest. This proves that the inputs provided had a positive impact in the betterment of linguistic accuracy among the students. Variations in performance across the reports R1, R5, R9, R10 can be explained in terms of earlier SLA research findings. Socio-cultural research (Coughlan and Duff, 1994; Lantolf and Appel, 1994) has convincingly demonstrated that individual performance of the same task on different occasions can yield vastly different performance outputs as a result of complex interaction of individual, situational and task factors. For example the personal circumstances and daily experiences of individual learners can often have an effect on their motivations and attention span and therefore mean that the quality of their application may be less than is characteristic of other occasions.

This suggests that several factors came into play during students writing performance including the topic of the report writing and the students' affective factors. On the whole we can ascertain that the second research question was answered through quantitative data analysis, verifying that MI inputs had enhanced the quality of writing performance by encouraging the learner to write at length, with greater coherence and cohesion, using a wider range of vocabulary and with lower error-frequency, thus improving overall task achievement.
4.8 Analysis of Communicative Efficacy

The second dimension, along which the improvement among students has been tracked, is their level of communicative efficacy. Writing efficacy depends on how well the writer can present information in a clear and concise manner. Language inputs and linguistic accuracy and writing skills are separate inputs to communicative efficacy. Therefore communicative efficacy of students' essays is the combined result of students' linguistic efficiency and their writing skills. Increase in accuracy thereby helps presentation of content in essays in a clear manner. As discussed, the combination of MI inputs, with little grammatical corrections, and problem-solving techniques had a significant beneficial effect on the development of writing skills of the students. It has been noticed that the ideas, organization of their writing is improved and there was decrease in certain kind of errors which resulted in the improved accuracy. The constant effective use of MI inputs in their writing not only improved the accuracy but also the overall communicative effectiveness.

As mentioned in chapter 3 (see section 3.5.2) communicative efficacy was analyzed across the categories of:

1. Discourse markers
   - Meta Discourse Markers
   - Partial Meta Discourse Markers
   - Inter sentential markers

2. Range of structures

3. Range of vocabulary
4. Organizational structure

A content scoring criterion was developed to focus attention on four criteria of discourse markers, structure, vocabulary and organization. These were aspects of writing that were expected from the students’ performance with the extensive use of texts, pictures and discussions generated in the classroom teaching. Content in terms of the above criteria, were then analyzed to see how the systematic use of these inputs might affect communicative effectiveness of student writing.

4.8.1 Discourse Markers

Discourse markers are the linguistic expressions used to signal the relation of an utterance to its immediate context, with the primary function of bringing to the listener's attention a particular kind of linkage of the upcoming utterance with the immediate discourse context (Redeker, 1990).

Metadiscourse plays an important role in some genres, such as persuasive writing, but it may be less important in other genres, such as personal letters. Metadiscourse markers used in these report writing tasks help readers organize, interpret, and evaluate information. Some examples are logical connectives (therefore, but), sequencers (firstly, secondly, finally), certainty markers (certainly, no doubt), and hedges (can, may). Such devices were identified and categorized in terms of the text level to which they related.

Various kinds of discourse markers signal the internal structures of the report writing and provide logical connections among the parts. Such devices can be
categorized in terms of the text level to which they relate. Overall metadiscourse markers relate to the essay level such as "the overall disadvantages are ".

Partial metadiscourse markers connect paragraphs or multi-sentential chunks of discourse within paragraphs such as "there are several advantages" inter-sentential markers connect only two sentences such as "but", or "however". Inter-sentential markers are relatively short whereas the partial and overall metadiscourse markers vary in length from one word to full clauses.

Discourse Marker (to summarize)

Ex: To conclude........ (S3,R10,PTT)

Meta discourse Markers: (sequencers)

Ex: finally ...........(S16,R9)

Overall Meta Discourse Markers:

Ex: The main reasons for the rise...........(S22, R10,PTT)

Ex: There are many facts for the ...........(S3,R10,PTT)

Partial Discourse Markers:

Ex: As a result.......(S29, R9)

Ex: In order to reduce....(S16, R29)

Inter sentential markers: (combines two sentences)

Ex: however........(S24,R9)

Ex: but................(S2, R9)
4.8.2 Range of structures

The following are some of the examples of the range of structures used in the student report writing:

Introductory Statement:

(S22, R10, PTT) The limited resources of the planet earth will be unable to support the huge population if it continues to grow at the present rate.

(S3, R10, PTT) The rising number of people against the limited amount of land and its resources should be taken into concern, if not the population would go on increasing.

(S16, R9) One can’t say that a particular country or person is responsible for deforestation, but a collective problem.

Supporting Reasons:

(S22, R10, PTT) The main reason for population rise is man

(S29, R9) The head of Brazil environment institute reports – it’s a problem of awareness.

More examples to show the students’ use of simple to complex and compound sentences after intervention.
It is not the poor people living in poor countries, who do not do family planning to reduce reproduction, but it is the population of rich countries that have a greater effect on the earth as a whole.

In 1988, 60 million acres of andonia in brazilian amazon was burnt for grazing and cropping leading to loss of billions of dollars of timber.

If these activities go on increasing each individual has to suffer the pain and has to see the angry of the nature in the form of floods, earthquake, Tsunami.

4.8.3 Range of vocabulary

Verbal ability is considered to be one of the seven requisite skills for success in any field. With the gradual reading of texts and report writing tasks students were able to understand the subtleties and the meanings of words. They were able to understand the function a particular word has in a sentence, and to discern the role it performs in a given sentence.

They were able to distinguish between the use of formal words and informal. They were able to use not only more formal words in their writing but also attempted idiomatic usage. Words with secondary meanings and derivatives were used. Their etymological approach to vocabulary building improved. The examples given below do not have actual references to individual scripts for several students showed this kind of improvement in vocabulary. As such, the examples have been given without citations to actual texts. Some of the vocabulary items mentioned below could be seen in student samples.
4.8.4 Organizational Structure

Organization in report writing is seen in terms of how a report is structured in its introduction, which explains the objective, the body which briefs about the details of issue in a clear, simple logical progression of ideas. The conclusion/recommendation sums up the main points along with some practical solutions. Organization is also noted in terms of good paragraphing as well as clear progression/presentation of ideas within paragraphs. This is shown by the use of a good topical sentence and transition from one idea to another. In almost all the report writing tasks the overall structure was found to consist of a position at the introduction and the end with supporting reasons in the body. However the ways of developing the ideas to substantiate the objective in the body differed across reports. It is observed that some of the students' writing has been creative enough that they had reflected their own personal experiences they had encountered.

The students' writing was analyzed for with respect to the overall organization of the posttest tasks. They seemed to be clearly structured, divided into introduction, body
and conclusion/recommendation paragraphs than the pretest. Some of the samples of report writing are produced here to show the development of the organizational structure. One can also witness the range of structures students were able to write after the intervention.

**Example 1 (S22, R10,PTT)** (See Appendix 'H' for sample report)

The report writing on “Population Explosion” starts with a clear objective of the report.

*One of the world’s important problems at the moment is increasing number of people.*

*The limited resources of the planet earth will be unable to..................

The second paragraph provides the information of a study conducted to prove that it is a problem.

*In a survey conducted in 1888,a billion and half people inhabit on earth, but today INDIA is second populous country in the world with a population of 1.2 billion after china. The main reason for increase in population is due to spread of knowledge and “death control”*

The third, fourth, & fifth paragraph enlists the consequences one has to face if the problem is not checked. It supports with some facts and findings.

*If everyone on this planet had an equal share of land it would be 50,000sq mts. But, once the land covered by snow, ice desert, mountains or too great a height above sea level, it would amount to a bleak position of 40 sq mts.*
It is not the poor people living in poor countries, who do not do family planning to reduce reproduction. However a baby born in Hong Kong is more stress on the world's resources than a baby in India.

The conclusion of the report ends with recommendations to practically check the menace of the problem.

In brief, it is the duty of everybody to safeguard the future of mankind, not only through population control, but by being aware of man's actions on nature.

Example 2 (S29, R9) (See Appendix 'M' for sample report)

The report writing task on deforestation starts with a fact.....

A recent report from UN says worlds tropical forests are cutting down at a rapid speed.

The second and third paragraph presents the information on a study conducted to support the views in the first paragraph.

In 1988, 60 million acres of andonia in Brazilian Amazon was burnt for...... In 1988 and 1989 there were at least 15000 forest fires which meant that Brazil released more carbon into the atmosphere than Japan.

Fourth paragraph further provides the findings of a study and emphasize the disasters of deforestation.

During the Vietnam War Americans sprayed 72 million litres of herbicides and deforest ants in the country............

The disadvantages of loss of tropical forests are poor soil, washout of nutrients during rain storm. In dry season, grass catches fire............
The ending part of the report warns the consequences of the deforestation and offers suggestions.

As a result deforestation is causing global warming...... wake up to this harsh reality. Every citizen has to take an initiative....... to protect our environment.

This study has made an enquiry to ascertain whether there is an effect of providing explicit training on the use of MI inputs on student writing and their behaviour. In order to find out students also felt the same about the growth in terms of motivation and writing researcher had conducted structured interviews with some of the students.
(See Appendix ‘E’)

4.9 Discussion on Findings

The following conclusions can be drawn from the present study:

MI inputs in writing tasks will positively motivate learners to write with greater confidence by stimulating their multiple intelligences. MI inputs in the writing tasks have catered to differentiated intelligence profiles in learners which have motivated the learner enormously. This is especially relevant to L2 writing tasks where interest and motivation in learners plays an important role in initiating learning. Inputs which are learner-friendly, taking individual intelligence profiles into consideration motivate interest as well as task engagement in individual learners. Howard Gardner and his colleagues at Harvard University who undertook Project Zero to promote the applications of MI in various educational institutions in the U.S.A. and outside it, report an overwhelming success-story in applying MI inputs to language learning in general, from pre-primary right up to
high school levels of education (Gardner, 1993c: Armstrong, 2003; Kornhaber, 2004)

The study also found that the training of explicit use of MI inputs had a substantial effect on accuracy in writing. The study also found that the overall accuracy of the participants varied significantly across the writing tasks. This was not surprising as earlier research has shown that L2 learners in the process of learning new linguistic forms may perform them with accuracy on one occasion but fail to do so on other similar occasions (Ellis 1994, Pienemann 1989).

The results revealed that considerable gains were made by most of the students between R1 and R10. Though all the students did make net gains between the reports but the ratings were not significant for most of the students. Thus, there did not seem to be gains in accuracy from report one (R1) to report two (R2) and three (R3). But there was significant improvement from pretest (R1) to across reports to posttest (R10).

The study found MI inputs had a significant effect on the accuracy in writing. The increase in accuracy has incidentally improved the communicative, efficacy of the essays. This is a result of the increased use of complex sentences, linkers, wide lexical range and structures used in the posttest.

4.10 Conclusion

In this chapter, the findings of the study have been discussed. It was found that MI Inputs induced lot of motivation for learning which in turn yielded improvement in
student writing along several dimensions. The improvement was mainly observed along linguistic and communicative dimensions. The improvement along the linguistic dimension was shown in terms of grammatical, lexical and mechanical accuracy. Gains in accuracy were almost always made from report to report. There were significant gains in accuracy from pretest to posttest. Learners should always be encouraged with appropriate inputs and provide a conducive atmosphere to take control of their learning and become autonomous. It was also found that students felt they were developing a natural instinct for learning more with MI inputs intervention.

Therefore the findings clearly suggest that integrating "multiple intelligences teaching approach" (MITA) brings more benefits to student writing development, involves learners actively in the learning process thereby making them assume responsibility and encouraging students' capacity to learn for themselves. These findings point to the need of multiple intelligences inputs to foster autonomy in student learning - specifically with respect to improvement in writing.