CHAPTER IV

ANALYSIS AND INTERPRETATION

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4.4.1 Teaching & Testing

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This chapter gives an account of the data collected and presents their analysis and interpretation. The data collected fall under three main divisions.

a. Questionnaire

b. Teaching sessions

c. Testing

The data collected through the teacher’s questionnaire to analyse the needs of the learners as well as the present practices regarding the teaching and testing of writing in schools are presented first. Tables 1 to 5 present the data collected through the questionnaire and the interpretations which follow each table include information obtained through interviews which were meant for validating the information obtained through the questionnaire.

An analysis of the classroom procedures and the written work produced by the learners is undertaken next, to work out the differences between the conventional and experimental techniques. The informal evaluation of the classroom interaction and the learning process is presented in the form of the researcher’s observation.

The statistical analysis of the data collected through
tests is also presented as an evidence of the effectiveness of the new techniques and materials. The data were collected from four schools which represent the rural urban population of Gujarat. In each school two comparable groups were identified after analysing the scores obtained by the learners in the levelling test (Appendix 8a) to all the groups a pre-test was administered before the try-out to measure their initial achievement level (Appendix 8b). Then the new techniques and materials were tried out on the experimental group while the controlled group was taught through the conventional techniques. The details of the try-out are given in chapter three. After the try-out, a post-test was administered to both the controlled as well as the experimental groups (Appendix 8c).

Tables 6 to 12 present the data obtained through the pre-test and post-test. The section on testing gives an account of the statistical procedures adopted, the statistical concepts used and their computations and the interpretation of the data presented in tabular and graphical forms.

4.1 Questionnaire

A teacher’s questionnaire was prepared in Gujarati, to collect data about the following points:
1. How important is writing skill to the learners, according to the teachers.

2. What types of writing activity would be useful to the learners.

3. The types of composition topics usually assigned in class.

4. Teaching of writing as it is undertaken in regular classroom situation.

5. Testing writing - what features of writing should be kept in mind while checking written work, and what features the teachers actually take into consideration while checking composition work.

The first, second and fifth section of the questionnaire required the teachers to rate the given points on a five point scale - not at all important, not very important, indifferent, important, very important. The third section required the teachers to give some sample topics that they make the learners write about in class, and also indicate the number of compositions usually dealt with during the course of the year. There was also a question about whether the teacher selects the topics and if not who selects the topics. The fourth section of the questionnaire questioned the teachers about classroom practices, where they were asked to rate the given points on a five point scale - never, rarely, some times, often, very often.
About a hundred teachers, randomly selected from various districts of Gujarat responded to the questionnaire. Table 1 to 5 give details of the data collected.

(a) How important is writing skill?

The first section of the questionnaire asked for the teachers' opinion about the needs of the learners with respect to written English.

**TABLE 1**

Teacher's Questionnaire:

Importance of Writing skill

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Not very important</th>
<th>Indifferent</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
</table>

1. The importance of writing skill for secondary school pupils, according to you.

- - - 22% 78%

2. The importance of writing skill for further education

- - - 2% 28% 70%

3. The importance of writing skill later in life

- - - 2% 56% 42%

Table 1 gives details of the rating of the teachers about the importance of writing skill for learners during and after school years. As the table shows, teachers consider it more important during schooling
than in later years. Thus 78% rate writing skill as 'very important' for secondary school pupils, while only 42% consider it 'very important' later in life. But 56% of the teachers consider writing skill as 'important' later in life and only 2% of the teachers rate 'indifferent'. This shows on the whole, teachers feel the need for teaching writing because they consider it as important for the learners.

b). What topics do you prefer?

This part of the questionnaire was meant for identifying the topics suited to the needs of the learners as per the teachers' opinion.
TABLE 2

Teacher’s Questionnaire:

Types of Written Assignments

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not at all Important</th>
<th>Not Very Important</th>
<th>Impor tant</th>
<th>Very Impor tant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Descriptive Paragraphs</td>
<td>-</td>
<td>02% 10% 10%</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>2. Narrative paragraphs</td>
<td>-</td>
<td>16% 08% 56%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>3. Story writing</td>
<td>-</td>
<td>05% 05% 68%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>4. Picture-composition</td>
<td>1%</td>
<td>10% 05% 60%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>5. Personal letters</td>
<td>-</td>
<td>- 04% 66%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>6. Official letters</td>
<td>14%</td>
<td>34% 08% 44%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>7. Describing a process</td>
<td>-</td>
<td>16% 22% 60%</td>
<td>02%</td>
<td></td>
</tr>
<tr>
<td>8. Note-taking</td>
<td>-</td>
<td>- 10% 46%</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>9. Developing points &amp; writing a paragraph</td>
<td>-</td>
<td>02% 66% 32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Composition on a given topic</td>
<td>-</td>
<td>-</td>
<td>66% 34%</td>
<td></td>
</tr>
<tr>
<td>11. Simple instruction</td>
<td>02%</td>
<td>04% 04% 70%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>12. Leave notes</td>
<td>-</td>
<td>-</td>
<td>60% 40%</td>
<td></td>
</tr>
<tr>
<td>13. Any other - comprehension question based on a reading passage</td>
<td>-</td>
<td>-</td>
<td>- 20%</td>
<td></td>
</tr>
</tbody>
</table>
Table 2 gives details of the types of written assignments that teachers considered as important for the learners in secondary schools. According to the data collected, writing composition on a given topic and note-taking are considered very important. All the teachers have rated them as important and none have marked them as not important. The next high rating is secured by developing points and writing a paragraph. Writing simple instructions are rated as 'important' or 'very important' by 90% of the teachers, thereby securing the third highest rating.

Descriptive and narrative paragraphs are also considered as important by 86 and 76% of the teachers respectively. Writing official letters is considered least important as 14% of the teachers rate it as 'Not at all important' while 34% consider it as 'not very important' and 8% are 'indifferent'. Only 44% of the teachers think it is 'important' and none of the teachers consider it 'very important'. When the teachers had the choice to suggest any other type of writing assignment they thought was important to the learners, 20% of the teachers mentioned the need to include the task of 'answering comprehension questions based on a reading passage'.
When asked about the number of compositions they make the learners write during a year, all the teachers indicated a number ranging from 12 to 17. 98% of the teachers do not select the topics themselves. The topics are selected by the district school board, which decides the topics for the schools in each district. Only about 2% of the teachers could select the topics of their choice. Table 3 gives details of the sample topics mentioned by the teachers. Teachers were asked to mention only five sample topics, out of the 12 to 17 which their pupils write about.

Table 3 shows a list of topics chosen to be mentioned by the teachers. When the information was cross checked by interviews, some of the topics like 'The postman', 'A visit to a zoo', 'My village - and letter writing,' were commonly assigned to the learners by all the teachers. But some of the topics like, Summer season, Megh thandav (cyclonic rain) and rising prices were assigned by teachers of kheda district only. In the interview teachers stated that they could undertake some more assignments if they wanted. When asked what type of topics they choose, they said that they chose topics similar to the ones suggested by the school board.
### Table 3

Teacher's Questionnaire:
Composition topics assigned in schools

<table>
<thead>
<tr>
<th>TOPICS</th>
<th>NO. Teachers%</th>
<th>TOPICS</th>
<th>NO. Teachers%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The postman</td>
<td>99</td>
<td>20. A visit to a fair</td>
<td>04</td>
</tr>
<tr>
<td>2. Letter writing</td>
<td>90</td>
<td>21. The washerman</td>
<td>04</td>
</tr>
<tr>
<td>3. Leave note</td>
<td>80</td>
<td>22. My mother</td>
<td>04</td>
</tr>
<tr>
<td>4. A visit to a zoo</td>
<td>80</td>
<td>23. My favourite game</td>
<td>04</td>
</tr>
<tr>
<td>5. A visit to a garden</td>
<td>60</td>
<td>24. My country</td>
<td>04</td>
</tr>
<tr>
<td>6. A visit to a dairy</td>
<td>40</td>
<td>25. Your new house</td>
<td>04</td>
</tr>
<tr>
<td>8. Comprehension Questions</td>
<td>30</td>
<td>27. Meg Thandav</td>
<td>04</td>
</tr>
<tr>
<td>9. A visit to a circus</td>
<td>20</td>
<td>28. 15th August</td>
<td>04</td>
</tr>
<tr>
<td>10. The farmer</td>
<td>20</td>
<td>29. Picnic</td>
<td>04</td>
</tr>
<tr>
<td>11. My village</td>
<td>20</td>
<td>30. Letter of invitation</td>
<td>02</td>
</tr>
<tr>
<td>12. The dog (our faithful friend)</td>
<td>20</td>
<td>31. If I were a teacher</td>
<td>02</td>
</tr>
<tr>
<td>13. A visit to a village</td>
<td>10</td>
<td>32. My favourite leader</td>
<td>02</td>
</tr>
<tr>
<td>14. A visit to a Railway station</td>
<td>10</td>
<td>33. The dream I saw</td>
<td>02</td>
</tr>
<tr>
<td>15. Translation</td>
<td>10</td>
<td>34. The subject I like</td>
<td>02</td>
</tr>
<tr>
<td>16. My grandfather</td>
<td>10</td>
<td>35. My daily life</td>
<td>02</td>
</tr>
<tr>
<td>17. My school</td>
<td>10</td>
<td>36. What I do in my vacation</td>
<td>02</td>
</tr>
<tr>
<td>18. Things I like most</td>
<td>06</td>
<td>37. The cow</td>
<td>02</td>
</tr>
</tbody>
</table>
(d) How do you teach?

This section of the questionnaire sought information about the classroom procedures adopted by teachers to teach composition.

### TABLE 4

**Teacher's Questionnaire:**

<table>
<thead>
<tr>
<th>Teaching Writing</th>
<th>Never</th>
<th>Rarely</th>
<th>Some</th>
<th>Often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>times</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Do you get a double period on the time table for writing work?  
   - 26% 06% 36% 10% 22%

2. Do you discuss the topic with your pupils?  
   - - - 30% 70%

3. Do you write a model paragraph on the blackboard?  
   - - 04% 26% 70%

4. Do you write an outline on the blackboard?  
   - 16% 04% 30% 30% 20%

5. Do you make your pupils write a rough draft first and then revise it?  
   - 14% 14% 32% 30% 10%

6. Do you make your pupils work in groups or pairs?  
   - 30% 20% 40% 10% -
7. Do you get special classes for writing in your time table? 30% 12% 08% 10% 32%

8. Do you teach writing with other skills like speaking and reading? 08% 04% 32% 32% 24%

9. Do you discuss the mistakes with your pupils after checking their compositions? 01% 02% 03% 20% 74%

Table four gives details of the classroom procedures adopted by the teachers to teach writing. All the teachers discuss the topic with their pupils and write a model paragraph on the blackboard. The responses to questions 3 and 4 show some discrepancy. While all the teachers have indicated that they write a model paragraph on the blackboard, in answering question 4, about 80% indicate that they write an outline on the blackboard (30% 'sometimes', 30% 'often' and 20% 'very often') interviews and observation of classroom practices revealed that the whole paragraph is either written on the blackboard or dictated by the teacher for the whole class to copy.

(e) What do you look for?

This last section of the questionnaire tried to find out what features of writing were important from the teachers' point of view.
TABLE 5
Teacher’s Questionnaire:
Testing Writing

<table>
<thead>
<tr>
<th>Features of Writing</th>
<th>Not at all</th>
<th>Very important</th>
<th>Important</th>
<th>Not very important</th>
<th>Indifferent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Correct use of punctuation</td>
<td>16%</td>
<td>84%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Correct spelling</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Correct use of words</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Proper sentence construction</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Good handwriting</td>
<td>02%</td>
<td>02%</td>
<td>48%</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>6. Grammatical accuracy</td>
<td>08%</td>
<td>92%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Style of writing</td>
<td>06%</td>
<td>60%</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Overall impression</td>
<td>04%</td>
<td>76%</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Natural use of language</td>
<td>04%</td>
<td>56%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Language appropriate to the message</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>11. Any other</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do you keep all these factors in mind while checking compositions? Yes 98% No 02%

If not, what factors do you keep in mind? Overall impression 02%

Table five shows that all the features except "language appropriate to message" are considered "important" or
'very important' by above 90% of the teachers. Only 2% have said that they assign marks keeping in mind the 'overall impression' of the written work. To cross check this information, when an analysis of learners' classwork notebooks were undertaken, in all the notebooks, no errors were marked and just one single score was assigned out of a total of ten marks (Appendix 4a, b, c).

4.2 Teaching Sessions

The materials used for the conventional and experimental techniques of teaching writing were based on the grammar and vocabulary of the coursebook lesson in units 4 and 5 (Appendix 5). For the experimental groups the same language 'content' was presented and practised using the new techniques and they were asked to work on tasks which involved the use of these structures and vocabulary in speech and writing. The controlled groups were taught the coursebook lesson and then were asked to write compositions which were normally assigned to them in their regular school work. The conventional way of teaching is explained in the first chapter. Here an analysis of the classroom procedures used in the experimental class and an analysis of their written work will be taken up.
4.2.1 Analysis of Classroom Procedures

(a) Progress Step-by-step

The experimental group worked on a number of tasks which are explained in detail in the third chapter (3.2.4). Four definite stages of development could be identified in the overall plan of work. In the first stage the main emphasis was on developing the learners’ competence in the language by involving them in a number of activities which were within their capacity, and which were interesting to the learners. In the second stage, learners’ confidence in their own ability to express their ideas, opinions and feelings had to be strengthened. This was necessary because they were not used to writing free compositions. Hence a framework had to be given with some choice of expression, in the beginning, to ensure success by setting limited goals. Very slowly and gradually they had to be encouraged to attempt more and more difficult tasks.

During the third stage, they were asked to write letters and brief notes to a particular reader and get his or her reply, thereby making them aware of the need to keep the reader in mind while writing something. The last stage of development was to enable them to read their own written work from the point of view of a
reader and edit and revise it to make it better. For this they were made to work in groups and pairs to correct each other's work.

(b) Who is in control?

Looking at the overall pain from a different point of view, it could be observed that learners progressed from completing a given framework, to expressing their own thoughts and feelings and from writing for a particular reader to a general, unknown reader. Another aspect of progress was from a completely teacher controlled activity to individual work with very little guidance from the teacher or group members. For example, the initial tasks had a lot of teacher input in terms of materials used and all that the learners had to do was to rearrange the given sentences in a proper order to make it read as a unified paragraph. Then they worked on notetaking activities based on reading passages and dialogues listened to, where they had to produce at least parts of sentences on their own. Still compared to the input their contribution was very little. After this, they read a letter and wrote a reply for the same, where both comprehension and expression were given equal importance. Finally they wrote descriptive paragraphs where there was no guideline given by the teacher. Even checking of the written work, editing and
revision were undertaken by the learners themselves and hence the activity became completely learner-centered.

(c) Learning to Question

Another important point which was kept in mind while preparing the overall plan, was to find out what method of working the learners were used to, what would interest them, and how they can be familiarised with the new way of working. The problem of familiarising them with patterns of interactions in group and pair work activities had to be tackled first, since they were not used to asking questions, collecting information, participating in a discussion or using the language for functions like agreeing and disagreeing with their partners. In a normal classroom situation, the teacher asks questions and the bright learners supply the answers which are repeated by the weak learners. Learners were not used to even asking questions and hence both the form and the purpose of asking questions had to be learnt.

(d) Group-work made easy

To overcome the problem of getting them used to an unfamiliar way of working, and to do this without making the activity too difficult so that they enjoy the work and are encouraged by their success, a simple
plan was worked out. It was thought advisable to engage them in a familiar activity in groups. By doing this, easy success was ensured. Even though they were not used to working in groups, they were familiar with what they were asked to do and hence the problem was minimised. For example, they were familiar with answering comprehension questions and hence they were asked to do the same activity working in groups. The only difference was instead of the teacher asking the questions learners had to ask questions among themselves and find out the answers.

(e) Get the point

The reading passage also provided the exposure to the written form which was necessary to make them understand the resources of the written medium. This at a later stage helped them in choosing the most appropriate answers selecting the best from the choices available. It thereby introduced the concept of appropriacy. Later they also learnt to take down notes from the reading passage. Comprehension of reading passages helped them in a way to understand the letters given by the teacher or those received from their friends so that they could write suitable replies.

(f) Read and then listen
Once the learners had learnt to take down notes from reading passages, they were made to listen to dialogues based on the theme of the textbook lesson read by them (Appendix 7). Though it might be said that in normal course of teaching listening should precede reading, here they were first made to take notes from a reading passage and then from a dialogue listened to. In this way the learner was led gradually from a familiar activity to an unfamiliar one. They were familiar with reading a passage and writing something, but they were not used to taking down notes from a dialogue read out. So keeping in mind the familiarity of the learners with a particular activity, note-taking was first done with a reading passage and then with a listening passage.

(g) Come to the blackboard

To familiarise the learners with procedures like asking questions, collecting information and recording them to be organised and presented, a lot of writing was done along with the learners on the blackboard. In the conventional way of teaching, the teacher gave a set of questions which were in a particular order. The answers were orally practised and written down in the same order to match the questions given by the teacher. Here according to the new way of teaching, they had to
offer their own ideas to be recorded, organised and presented for others to read, edit and revise. This procedure had to be demonstrated by writing on the blackboard with their help. Merely giving them instructions in English or in their mother-tongue was not adequate to make them understand what they were expected to do.

4.2.2 Analysis of Written Work

As will be shown later in this chapter the quality of the written work produced by the learners in the experimental group improved as they worked on more and more tasks. But in the initial stages both the quality and the quantity of the written work was very poor. Comparatively, the learners of the controlled group wrote long passages which were exact replicas of what were given in their coursebook (Appendix 9).

(a) The 'what' and 'howmuch' of writing

In the coursebook lesson 'Men at Work' (Appendix 5), the daily activities of people of various professions like the postman and the washerman are described. The usual composition that learners are made to write in a regular classroom situation is a composition on the postman. A sample of this composition which is an exact copy of what is given in
the coursebook is discussed in chapter 1 (Appendix 4b). As they were used to this kind of writing task, learners were not ready to write anything different in the beginning, because they could not understand that a composition on a topic like, 'The postman,' could also include other points which are not given in the textbook. After much persuasion, some of them changed the name of the person given in the coursebook and repeated all the other points as they were. Some others, with hesitation wrote three or four sentences about their own uncles or brothers and talked about their professions. Even though their write-ups have a number of mistakes, expression of their own ideas was encouraged. Much of the class time was spent in making them work in groups to ask each other questions and write about their friends, rather than write a composition based on a textbook lesson. This was necessary to get them to avoid reproduction of memorised passages.

(b) Meaning in Focus

Right from the first task, the focus was on making the learners realise that writing is a meaningful activity. In task 1, the learners were to organise a set of sentences in a proper sequence. These sentences were in
fact information collected by the teacher from a learner in class. Instead of giving just any sentence for organisation, the teacher questioned a learner in class about his daily activities and recorded this information on the blackboard in a jumbled order. To make this activity more meaningful, the same procedure was repeated a number of times, and the information obtained from different learners was recorded. Then the learners worked in pairs to collect information about their pair partners and wrote short paragraphs of about five or six sentences. The pair partners carefully watched to see that the information supplied by them was recorded properly by their friends. Some of the pairs started arguing over the mistakes in the write-up.

For example, one pair began to argue because the pronoun 'she' was used while writing about a boy. The learner who supplied the information to be recorded by his pair partner, got angry because he was referred to as a girl. Though they wrote only five sentences and the basic framework was on the blackboard for reference all the time, whatever the learners wrote was not done mechanically. Similarly, in letter-writing and paragraph writing also learners tried to convey their message as explicitly as possible using simple language.
In task 6 learners were asked to write simple letters playing the roles of different people. In the letters they wrote each learner played the parts of two people, so that they can write a letter with a specific purpose and also draft its reply. For example, playing the roles of a father and son, a learner has written two letters (task 6).

Excerpts from

<table>
<thead>
<tr>
<th>Son's letter</th>
<th>Father's reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>I reached here safe</td>
<td>I am happy to know that you reached there safe.</td>
</tr>
<tr>
<td>I like my school here</td>
<td>I am also happy to know that you like your school</td>
</tr>
<tr>
<td>I have to buy some books. Please send me Rs.100</td>
<td>I will send the money order you Rs.100</td>
</tr>
</tbody>
</table>

Learners also played a guessing game, where they wrote letters to their classmates, describing one of their friends whose name is to be guessed by the learner who receives the letter. Here again the description was simple and precise. The replies received were also brief and to the point.
Dear Pranav,

Do you know my best friend? He has black hair and black eyes. He is tall and thin. He is good at studies. He also plays cricket.

Yours,
Sanjay

Dear Sanjay,

Thanks for your letter. I think your friend is Amit. Am I correct?

With love,
Pranav.

In all these write-ups importance was given to choosing the expressions appropriate to the situation.

(d) Appropriacy & Accuracy

In all the tasks appropriacy was given more importance than accuracy. Once the learners had discussed a number of write-ups from the point of view of the message conveyed and the intended reader, they paid more attention to 'how they express' their ideas and feelings. In letter writing much of the discussion was about sentences like 'convey my love to your father' which the learners felt was not appropriate. They
thought it should be reworded as 'Convey my regards to your father'. Alternatively they suggested the following:

- How is your father?
- Hope your father is doing well.

Even when some sentences were grammatically correct, learners did not accept them because they thought that they were not appropriate. For example, while doing the first task, when a sentence like 'Jyotica is my friend' was written on the blackboard, learners strongly objected to this and said that it would be appropriate to reword it as 'Jyotica is my sister' because according to their custom it was not appropriate for a boy to have a girl friend.

(e) Link and knit together.

An important point to be noted in the written work produced by the learners of the experimental group is the unity of paragraphs which is brought about by the use of linking and sequencing words.

For example Learner A says -

My town is big and beautiful. It has a primary school and high-school. And it has a college too.

(Appendix 9 b).
Learner D says -

There is a garden in my town. It is a very big and clean garden. It is very beautiful too. There are many huge buildings in my town. There are many schools in my town. These schools are very big. Patel Vidya Mandir is very famous school in my town. I am studying in this school.

(Appendix 9 e).

(f) Feel and communicate

The write ups of the learners of the experimental group provide evidence to the fact that they have gained confidence to express their own ideas and feelings. Though the learners worked in groups to discuss a topic, note-down the points that could be included in their composition, they developed these points individually. They were free to add their own points or leave out some of the points which they did not consider necessary. Each learner had his or her own reasons for liking or not liking something. For example, writing about their home town, learners tried to give reasons as to why they like their native place. Though the sentences were not always error free, they effectively conveyed the learner's feelings.

I like my city very much because I love nature and
its had many naturely things like tank and tree and garden and river (3.2.4 Task 7).

I love to my town as I love to my mother (Appendix 9b).

I like this place very much, really, No other city is so fine as Keshod for me. My town is a twinkl star of heaven. (Appendix 9c).

Even while merely enumerating the different places worth seeing in their town, some learners had tried to say something more about each place, relating it to their personal experience of the place (Appendix 9e).

4.2.3 Conventional Vs Experimental Techniques

(a) Same procedure with a difference.

In the conventional way of teaching, practice was given in the grammar to be used in a particular composition, the lesson in the course-book was read, questions were asked based on the lesson and finally the composition work was taken up. The teacher asked questions, the bright learners tried to give the answers or the teacher supplied the answers himself. The outline was written on the blackboard and learners wrote the composition.

The experimental technique also mainly depended on
developing the competence of the learner by giving him practice in the structure and vocabulary to be used. Exposure to the written medium was also provided by making the learners read a passage given in the textbook and work out comprehension questions. Then the writing activity was taken up.

But the main difference was in the way the practice was given and the type of comprehension questions asked. Learners in the experimental group practised the new structure by using it in meaningful situations. They used the new structure to ask questions, collect information about their friends, recorded them and then organised them in a proper order, so that the information can be presented to class as a unified paragraph. Even the comprehension questions were not based on the content of the lesson. But the questions made the learners be aware of the way the linking and sequencing devices were used in a written piece of work to convey a message effectively. Further, instead of the teacher asking the questions all the time, learners were divided into groups where they could ask each other questions, think of different answers to the same question, select the most appropriate one and write the answers. In this way they were made to concentrate more on appropriacy rather than on accurate expression alone.
(b) Letters - From copying to communicating

The letters written by the learners in a regular classroom situation were mechanically done with all the learners writing the same letters (Appendix 4a). In the experimental group, learners worked in groups and talked about the points they wanted to include in their letter, in reply to the letter given in their coursebook lesson, 'Meena Writes to Meeta'. And the letters they wrote depended on the points they had chosen. Some of them wanted to answer the questions asked in the letter by Meena, in the coursebook lesson. Some of them wanted to include Meeta's plans of visiting Meena's village. A detailed description of this task is given in the previous chapter (Task 6).

Then the learners in the experimental group wrote brief notes and short letters to their own friends in class, posted the notes to them and got a reply and discussed the points that were ambiguous. These activities made the task more meaningful to them. They also took up different roles and when the situation was explained to them, they could write a letter appropriate to the needs of the situation.

In the regular classroom situation the letter in the coursebook is not used to discuss points like the opening and closing address, different expressions that
are commonly used in letters and the linking and sequencing devices that have to be used to communicate effectively. An analysis of the learners' classwork note-books undertaken provide evidence to the fact that the learners write letters which match word-to-word and even the address is not changed in any of the letters (Appendix 4a - copies of two letters written by two learners which are the same as that written by all the learners in a class).

(c) Paragraphs - reproduction and originality

The descriptive paragraphs like 'My hometown' written by the learners of the experimental group, indicate that learners have gained the confidence to express their own ideas, opinions and feelings even if they commit a few mistakes in the process. Their written work gives evidence of their ability to communicate their feeling. The grammatical mistakes or spelling errors do not hinder communication.

In a regular classroom situation, the composition topics are based on the coursebook lessons. Learners usually write whatever is given in the coursebook with slight modifications. This way of writing do not make the learners realise the communicative aspect of writing. If the learners are given a chance to express their own ideas on a topic which they like, they would try to use
their knowledge of the language. The learners' write ups included in task 7 (3.2.4), provide evidence to the fact that learners are capable of using the language to communicate through writing. Beginning to write about his hometown one learner writes about the zoo he had visited just a week ago. Though the composition is titled 'My Town' the major part of the composition is about the zoo and the various animals kept there either under lock and key or out in the open. This piece of written work is quite different from what this learner has written in his composition note book as part of his regular class work, which is a composition titled 'A Visit to a zoo' (Appendix 4 c). Comparing these two compositions could be useful to identify the differences, the advantages and the disadvantages of the conventional and experimental techniques.
### Experimental vs. Conventional Writing

<table>
<thead>
<tr>
<th>(Written by a learner who began to talk about his home town and drifted to his favourite topic)</th>
<th>(Written by a learner who had to write a composition on 'A Visit to a zoo' as part of course requirements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Sunday we went to the city zoo. My cousin from the village also come with us.</td>
<td>Last Sunday I visit the zoo with my parents. I and his friends visit the zoo.</td>
</tr>
<tr>
<td>We saw there various wild animal and strange birds.</td>
<td>We visit the lion's cage first. We were, women and children near the lion's cage. The lioness was in the den. The tiger cage was next to the lion's</td>
</tr>
<tr>
<td>There were lions, leopards, tigers, panthers, wolves, monkeys, giraffes, zebras and many other animals. Some wild animals were shut up in cage. Harmless animal like deer and zebras...</td>
<td>There were lions, leopards, tigers, panthers, wolves, monkeys, giraffes, zebras and many other animals. Some wild animals were shut up in cage. Harmless animal like deer and zebras...</td>
</tr>
</tbody>
</table>

(3.2.4) (Appendix 4c)

(d) Checking routine and learning to check

In the conventional way of writing composition, importance is not given to writing cohesive paragraphs.
with proper linking and sequencing words. While modifying the coursebook sentences learners commit a number of errors because the activity is done mechanically. The teacher also does not draw learner's attention to various aspects of writing. As a matter of routine work the teacher allot's a single score out of ten to each composition. Hence learners write the same type of composition week after week without developing the knowledge of improving their own written work by means of editing and revision.

In the experimental group learners practised editing and revision in group. They checked each other's work and suggested ways of revising their friends' work. To train them in the processes involved in revising a written piece of work, sample compositions of the learners were put up on the blackboard and the teacher along with the learners read them from a reader's point of view and pointed out the inappropriate or ambiguous sentences which were then revised and rewritten. In this way learners were made aware of the necessity to choose appropriate words and phrases which convey their meaning effectively.

Learners also wrote descriptions of processes like sharpening a pencil. This kind of writing gave indication of their ability to think clearly and express their ideas systematically (Appendix 9h).
These were again discussed in groups for purposes of editing and revision.

To produce original pieces of writing learners need to be given a lot of support in the beginning stages when they are learning to write. A paragraph reproduced from memory may appear as a good piece of writing but in reality it does not give an indication of the learners' competence in written communication.

(e) Appearances and Reality

In a conventional classroom situation all the compositions written by the learners appear well-written paragraphs, since there are very few mistakes. Since all of them express the same ideas it is easy for the teacher to compare their achievement level. Using the new techniques when we expect the learners to talk about themselves, their friends or relatives, or about things they like to talk about or about places they like, this uniformity is lacking. The written work almost always has more mistakes than a paragraph reproduced from memory (Appendix 9f - two paragraphs written by two learners of the experimental group). One has just reproduced from memory what he had read in the coursebook, while the other has tried to write something about a person he knew in life. Though the first one looks more like a finished product, only
the second one attempts to really use the language to express his own ideas.

The teacher in the regular classroom may get discouraged by the errors in the write-ups produced by the learners in the initial stages, when they try to put into words their thoughts and feelings. Again checking these compositions becomes a major work for the teacher who is already over burdened. But if the teacher understands the purpose of making the learners use the language in writing, they would be able to find out ways of making the correction task easier by getting learners to work in group and help each other edit and revise their written work.

4.3 Testing

The results of the pre-test and post test scores were analysed to get statistical evidence to reject or accept the null hypotheses - "The conventional and experimental techniques and materials do not differ significantly from the point of view of learners' performance in the tests designed to test their language proficiency", and - "the achievement level of the learners in the experimental group which is to be exposed to the new techniques and materials will be no higher than the achievement level of the controlled
The alternative hypothesis was accepted when there was evidence to reject the null-hypotheses.

The alternative hypothesis was worded as follows:
"The new techniques and materials are more beneficial than the conventional techniques and materials".

4.3.1 Statistical Procedures

The statistical procedures used were as follows:
$\text{mean, standard deviation and 't' values are calculated for all the groups.}$
$\text{Mean standard deviation and 'z' values are calculated for the total number of learners in all the controlled groups (120 in all) and for the total number of learners in all the experimental groups (120 in all).}$
$\text{The null-hypotheses are rejected if the calculated value of 't' (29.5\%) is greater than 2.04.}$
$\text{The new materials and techniques are considered highly significant if the calculated value of 't' is greater than the table value for t (29.1\%) which is 2.76.}$
$\text{The null-hypotheses are rejected if the calculated value of 'z' is greater than the tabulated value for 'z' which is 1.64 at 5\% level and 2.34 at 1\% level.}$
$\text{The null-hypotheses are accepted if the calculated}$
value is less than the tabulated value.

4.3.2 Statistical Concepts and their Computations

(a) Mean

This value is represented by \( \bar{x} \). It indicates the arithmetical average. To calculate this, we use the formula \( \bar{x} = \frac{\Sigma x}{n} \) where \( \Sigma x \) represents the sum of scores, and \( n \) represents the size of the sample (e.g. number of pupils in a group or the number of scores used for computation).

(b) Standard Deviation

This value is represented by \( 'SD' \) or \( \sigma \) (sigma-small). It indicates the nature of dispersion of scores in a sample the way in which the scores are spread in a sample. The value measures the degree to which the group of scores deviate from the mean, and thus gives a fuller description of test scores, than the mere range does.

To calculate this more than one method can be adopted. For purposes of this report the formula used is:

\[
SD = \sqrt{\frac{\Sigma x^2 - (\Sigma x)^2}{n-1}}
\]

For using this formula two values need to be calculated
separately. They are $\Sigma X$ and $\left(\Sigma X\right)^2$. These values are obtained as follows. For $\Sigma X^2$ each score is squared and the squares are added. (e.g. on a sample of three with following scores the $\Sigma X$ and the $\left(\Sigma X\right)^2$ will be --

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Score</th>
<th>Square</th>
<th>$\Sigma X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>25</td>
<td>77</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

$\Sigma X = 15 \quad \Sigma X^2 = 77$

$(\Sigma X)^2 = 15 \times 15 = 225$

The denominator chosen for calculations here is (n-1). However, SD can also be calculated with 'n' as the denominator. Such values do not differ sharply.

To summarise the Calculations in steps.

i. List up the scores $X$

ii. Sum up the scores to obtain $\Sigma X$

iii. Square each score

iv. Sum up the squared scores $\Sigma X^2$

v. Substitute the values in the formula.

(c) Tests of Significance

Values for these tests are represented by either 't' or 'z' depending on the size of the sample. These values help in rejecting the null hypothesis based on a set of degrees of freedom as criterion. Such values are
standardized and can be obtained from computed tables which can be used as ready reckoners. However, it is necessary to calculate 't' or 's' values for each test and compare them with the table values to determine their significance value.

In order to calculate 't' value two formulas are used, depending on the need. When there is a need to compare the mean values of two tests (pre and post) within a group the formula used is:

\[ t = \frac{\overline{d}}{S/\sqrt{n}} \]

Where  
- \( d \) = mean of the differences between the scores  
- \( s \) = standard deviation of \( \sum d^2 \)  
- \( n \) = size of the sample

When there is a need to compare the mean value of the same test in two groups the formula to be used is:

\[ t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \]

't' values help us in rejecting the null hypothesis only when they are significant at 0.05 level or at 0.01 level. If the values are higher than the table value at 0.01 level these are interpreted as being highly
significant.
't' tests are applicable to small samples where the size does not exceed 30. If the size is larger than this, one needs to resort to 'z' tests using a different formula. 'z' score is also known as sigma score and is computed using the formula:

\[ Z = \frac{X_1 - X_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \]

This is also a value of significance and is applicable to larger samples (more than 30). These values are standardized like 't'. However, they do not differ with degrees of freedom. The computed values at:

<table>
<thead>
<tr>
<th>( \alpha )</th>
<th>0.05</th>
<th>1.64</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>2.33</td>
<td></td>
</tr>
</tbody>
</table>

(d) Test Statistic

Small sample Tests

i. Learner's 't' or dependent observations

(Paired comparison)

\[ t = \frac{d}{s/\sqrt{n}} \]

ii. Learners 't' test for independent observations

\[ t = \frac{X_1 - X_2}{\sqrt{\frac{s^2}{n_1} + \frac{s^2}{n_2}}} \]
Large Sample Test 'z' test

\[
z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n} + \frac{S_2^2}{n}}}
\]

(e) Test Procedure
Calculate the numerical value of the appropriate test statistic defined above from the sample and compare it with the appropriate tabulated values for 5% and 1% level of significance. If calculated value exceeds the tabulated value reject the null hypothesis as the test is significant (5%) or highly significant (1%) otherwise accept the null hypothesis as the test is insignificant.

(f) The Level of Significance
The rejection or acceptance of a null hypothesis is based upon some level of significance as a criterion. In psychological and educational circles, the 5 percent (0.05) level of significance is often used as a standard for rejection. Rejecting a null hypothesis at the 0.05 level indicates that a difference in means as large as that found between experimental and control group would not likely to have resulted from sampling error in more
than 5 out of 100 repetitions of the experiment. This suggests a 95 percent probability that the difference was due to the experimental treatment rather than to sampling error.

A more rigorous test of significance is the 1 percent (0.01) level. Rejecting a null hypothesis at the 0.01 level would suggest as large a difference between the experimental and control mean achievement would not likely to have resulted from sampling error in more than 1 in 100 replications of the experiment (Best J W 1985: 271).

(g) Co-efficient of Variation or Relative Standard Deviation:

The standard Deviation is an absolute measure of the dispersion of the various values about the mean. This measure is always expressed in terms of the units of the problem which may be rupees, inches etc. The absolute measure of dispersion cannot be used for purposes of comparing the variability of two or more series, because

(i) the standard deviation of the two series may be in two different units; and

(ii) the means of the two distributions may be quite different.

"Thus, whenever it is desired to compare the dispersions of two or more series which are not
expressed in the same units, or whose means are not the same (approximately at least) we will have to compute coefficient of variation for all such distributions in the following manner:

\[ V = \frac{SD}{M} \times 100 \]

Where \( V \) stands for Coefficient of Variation

SD Standard Deviation

M Mean

Since \( V \) is expressed as a percentage \( \frac{SD}{M} \) is multiplied by 100.

Since \( V \) is a pure number it is suited for purposes of comparison." Gupta CB (1957 : 224)

4.3.3 Analysis of Test Data

In this section the pre-test and post-test data collected are analysed. The pre-test was administered before the tryout and the post-test was administered after the try-out. The data obtained from S D Desai High School, Bakrol are presented first, where the experiment was tried out by investigator. The try-out was repeated in three other schools, the data of which are presented together. Finally, the data of the total sample of controlled group are compared with the total experimental group, so as to provide evidence to reject
the null hypotheses.

(a) Controlled vs Experimental - school 1

TABLE 6

Comparison of Mean, SD, Variance & T Controlled & Experimental School (Bakrol)

<table>
<thead>
<tr>
<th></th>
<th>Controlled Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Pre-test</td>
<td>21.46</td>
<td>9.04</td>
</tr>
<tr>
<td></td>
<td>(*)</td>
<td>.77</td>
</tr>
<tr>
<td>Post-test</td>
<td>22.84</td>
<td>6.27</td>
</tr>
</tbody>
</table>

*Insignificant & Highly Significant

Table 6 compares the performance of the controlled group in the pre and post tests with that of the experimental group. The mean value of the experimental group shows greater improvement in the experimental group than in the controlled group. Since mean values are not directly comparable, the t value of the controlled group is .77 which is not significant while the 't' value of the experimental group is 4.92 which is significant at .01 level. Hence the new materials and techniques are proved to be more effective than the conventional materials and techniques.
(b) Pre-test Vs Post-test - school 1

**TABLE 7**

Comparing pre-test performance with post-test performance school 1 (Bakrol)

<table>
<thead>
<tr>
<th>Controlled pre &amp; Experimental pre test</th>
<th>Controlled post &amp; Experimental post test</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>+</td>
</tr>
<tr>
<td>Z</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td>5.59</td>
</tr>
<tr>
<td>*</td>
<td></td>
</tr>
<tr>
<td>5% level of significance</td>
<td>1% level of significance</td>
</tr>
</tbody>
</table>

Table 7 compares the performance in the pre-test by the controlled and experimental group, with the performance in the post test by the controlled and experimental group. The $z$ value for pre-test performance is significant at 5% level while that of the post test is significant at 1% level. This again proves the effectiveness of the new techniques and materials.
Table 8 shows the improvement in both the controlled and experimental groups by subtracting the scores obtained by the learners in the pre-test from that of the post-test. The SD values for this paired comparison is also calculated. The Z value obtained by comparing the improvement in the controlled group with that of the experimental group is highly significant, thereby proving that the experimental group has benefitted by the new techniques and materials and have shown significant improvement.

<table>
<thead>
<tr>
<th></th>
<th>Controlled</th>
<th></th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference</td>
<td>(post-test) minus (pre-test)</td>
<td>Difference</td>
<td>(post-test) minus (pre-test)</td>
</tr>
<tr>
<td>Mean</td>
<td>1.42</td>
<td></td>
<td>11.32</td>
</tr>
<tr>
<td>SD</td>
<td>10.09</td>
<td></td>
<td>12.62</td>
</tr>
<tr>
<td>Z</td>
<td></td>
<td>3.36</td>
<td>Highly Significant</td>
</tr>
</tbody>
</table>
(d) Controlled group - Schools 2, 3 & 4.

TABLE 9

Mean, SD, Variance & T values - Controlled groups
School 2, 3 & 4 (Anand, Keshod & Pilvai)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Variance</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pre</td>
<td>post</td>
<td>pre</td>
<td>post</td>
</tr>
<tr>
<td>1.</td>
<td>31.97</td>
<td>45.92</td>
<td>12.34</td>
<td>17.51</td>
</tr>
<tr>
<td>2.</td>
<td>32.77</td>
<td>57.67</td>
<td>14.24</td>
<td>13.77</td>
</tr>
<tr>
<td>3.</td>
<td>40.40</td>
<td>35.92</td>
<td>15.64</td>
<td>15.67</td>
</tr>
</tbody>
</table>

1. Anand 31.97 45.92 12.34 17.51 39 38 * 5.28
2. Keshod 32.77 57.67 14.24 13.77 43 24 * 12.53
3. Pilvai 40.40 35.92 15.64 15.67 39 44 + 2.32

* 1% level of significance + 5% level of significance

Table 9 shows the mean, SD, variance and T values of the controlled group of the three schools where the experiment was repeated. Except Pilvai, the two other schools have scored higher in the post-test. Since this is only arithmetical average, the SD and variance are also calculated to find out the dispersion of scores. The higher SD value in the post test for Anand shows a wider dispersion of scores and hence though the mean value is higher in the post test, the performance of the learners cannot be said to be better in the post test than in the pretest. Keshod shows good improvement with higher mean value as well as narrow SD value and
lower coefficient of variation. Pilvai has scored less in post test than in pre test which can be seen in the lesser mean value obtained. It is further strengthened by the fact that the variance for the post test is higher than that of the pre test. However the T values of Anand and Keshod schools are significant at .01 level while that of Pilvai is significant at .05 level.

(e) Experimental groups - schools 2, 3 & 4

TABLE 10

Mean, SD, Variance & T values - Experimental groups
Schools 2, 3 & 4 (Anand, Keshod & Pilvai)

<table>
<thead>
<tr>
<th>Experimental groups</th>
<th>Mean pre</th>
<th>SD pre</th>
<th>Mean post</th>
<th>SD post</th>
<th>Variance pre post</th>
<th>T pretest &amp; posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anand</td>
<td>37.74</td>
<td>46.93</td>
<td>10.19</td>
<td>13.43</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.35</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Keshod</td>
<td>35.75</td>
<td>58.58</td>
<td>14.24</td>
<td>13.74</td>
<td>39</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10.01</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Pilvai</td>
<td>25.41</td>
<td>31.50</td>
<td>03.42</td>
<td>13.49</td>
<td>33</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>02.38</td>
<td>&amp;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Highly significant & significant at .05 level

Table 10 compares the performance of the experimental groups in the pretest and post test performance. In all the three schools the mean values are higher in the post test than in the pre test. The t values for Anand and
Keshod are highly significant while that of Pilvai is significant at .05 level. Comparing this performance with the controlled groups it can be seen that the experimental groups have secured higher mean values in the post test than the controlled groups. The SD values are higher for the controlled groups than the experimental groups. The mean value represents the average achievement while the SD value represents the dispersion of scores in the group. The higher SD values in the controlled groups indicate a heterogeneous performance while the narrow values in the experimental groups indicate a homogeneous performance. Moreover, these narrow values of SD in the experimental groups are accompanied by higher mean values. This combination of higher mean values and narrow SD values indicates the marked improvement of the learners in the experimental group. To check the result further, the coefficient of variation is calculated which is obtained by dividing the SD by Mean. A lower SD with a higher mean gives a lower V value which indicates better performance. The coefficient of variation is less for the experimental group than the controlled group in all the three schools. Further, the t values are significant at 1% level in two schools and at 5% level in one school. All these establish the fact that the new techniques
and materials have been beneficial to the learners.

To further validate the analysis, the total sample of 120 learners from Bakrol, Anand, Keshod and Pilvai schools of the controlled group was compared with the 120 learners of the experimental group. The data obtained is presented in tables 11 and 12.

(f) Total Controlled Vs Total Experimental - schools 1, 2, 3, & 4

TABLE 11
Total sample - Controlled & Experimental Schools 1, 2, 3, & 4

<table>
<thead>
<tr>
<th></th>
<th>Controlled group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-test</td>
<td>post-test</td>
<td>pre-test</td>
</tr>
<tr>
<td>Mean</td>
<td>31.73</td>
<td>31.65</td>
</tr>
<tr>
<td>SD</td>
<td>14.67</td>
<td>13.42</td>
</tr>
<tr>
<td>V</td>
<td>46</td>
<td>42</td>
</tr>
<tr>
<td>Z</td>
<td>4.04</td>
<td></td>
</tr>
</tbody>
</table>

Table 11 gives the Mean, SD values for both the controlled and experimental groups. It also shows the coefficient of variation and the z values for both the groups. The mean values of the post-test are more than that of the pre-test in both the groups. But the mean of experimental group is higher than that of the controlled group. Further the SD for the experimental
group is narrower than that of the controlled group. The coefficient of variation is also considerably lower in the experimental group. All these factors lead to the conclusion that the experimental group has performed better than the controlled group. The Z values of both the groups are highly significant.

Since the Z values are highly significant for the controlled and experimental groups, it was considered useful to compare the improvement of both the groups and calculate the Z value between the groups. For this the method of paired comparison was used, wherein the pre-test scores of each learner is subtracted from his post-test scores and the mean and SD of the 'difference' \(((\text{post-test}) - (\text{pre-test}))\) is calculated. These Mean and SD values are used for calculating the Z value. The details are given in table 12.
TABLE 12

Value of Mean differences of controlled & Experimental groups schools 1,2,3 & 4

<table>
<thead>
<tr>
<th></th>
<th>Controlled</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference=(post-test)</td>
<td>minus (pre -test)</td>
<td>Difference=(post-test) minus (pre -test)</td>
</tr>
<tr>
<td>1. Mean</td>
<td>8.36</td>
<td>12.36</td>
</tr>
<tr>
<td>2. SD</td>
<td>16.096</td>
<td>13.872</td>
</tr>
</tbody>
</table>

Z 1.80 5% level of significance

Table 12 compares the improvement in the controlled group with the improvement in the experimental group. The mean difference is higher in the experimental group and the SD value is narrower than in the controlled group. This indicates that the performance of the learners in the experimental group which was exposed to the new techniques and materials is better than the performance of the learners in the controlled group who were taught through the conventional techniques and materials. The Z value obtained is also significant at .05 level thereby rejecting the null hypotheses. The effectiveness of the new techniques and materials are proved to be better than the conventional techniques.
and materials.
The data presented in this section in table 6-12 are plotted on graph for ease of comparison. Figures 3 to 8 show the comparative analysis using bar graphs, frequency polygons and normative curve.

4.3.4 Graphical Presentation

The following section present the data in the form of graphs.
Table 6 provides the data used to plot this graph. The first and second bars indicate the mean scores obtained by the learners of the controlled group in the pre-test and post-test respectively. The third and fourth bars stand for the pre-test and post-test mean values obtained by the learners of the experimental group. The controlled group has done only slightly better in the post test than in the pre-test, while the experimental group has scored much higher in the post-test than in the pre-test. This improvement is compared in Figure 4.
The improvement in the controlled and experimental groups is calculated by subtracting the pre-test mean values from the post test mean values. Tables 8 and 12 provide the data used to plot these graphs. The improvement in the experimental groups is significantly higher than that of the controlled groups.
Appendix 10 a & b provide the data used to plot this graph. In the controlled group about 20 learners have scored between 20.5 and 26.5 and none has gone beyond 38.5 (mid-point). In the experimental group 11 of the learners have scored 32.5 (mid-point), and the highest score obtained is 80.5 (mid-point). These results indicate that the learners of the experimental group have performed far better than the learners of the controlled group.
Appendix 10 a & b provide the data used to plot this graph. The distribution in the experimental group is peaked (leptokurtic) and is negatively skewed thereby indicating that more learners obtained high scores. The distribution in the controlled group is rather flat (platykurtic) and is positively skewed thereby indicating that more learners obtained low scores. The achievement level of the learners of the experimental group is far better than that of the controlled group.
Tables 9 & 10 provide the data used to plot this graph. In Anand and Keshod the experimental groups have done slightly better than the controlled groups. In Pilvai the controlled group is better than the experimental group before the try-out which is indicated by the higher mean values in the pre-test. The controlled group has scored less in the post-test than in the pre-test, while the experimental group has done better in the post-test than in the pre-test.
The coefficient of variance being an absolute number is comparable. When the variance is less it indicates a homogeneous performance. When the mean value is high and the variance is low, better performance is indicated. In the experimental groups the variance is lower than that of the controlled groups. Figure 7 shows that the mean values of the experimental groups are higher than that obtained by the controlled groups. Hence the achievement level of the learners is better in the experimental groups than in the controlled groups.
Appendix 10 c, d, e, f, g, & h provide the data used to plot this graph. In the controlled group more learners are in the 8.5 to 20.5 (mid-point) group while in the experimental group more learners have scored above 32.5 (mid-point). The learners of the experimental group have performed better than the learners of the controlled group.
Table 11 provide the data used to plot this graph. The first and second bars indicate the pre-test and post-test performance of the controlled group while the third and fourth bars indicate the pre-test and post-test performance of the experimental group. As the figure shows the pre-test and post-test performance of both the controlled and experimental groups are almost the same while the post-test performance is better in the experimental group.
4.4 Interpretation

The evidences collected through the experiment may now be interpreted in terms of the effectiveness of the new teaching materials and testing techniques. The hypotheses formed in the beginning of the study may also be reviewed in the light of the evidences collected by the investigator.

4.4.1 Teaching and Testing

A lot of work can be done during teaching sessions where we can give them choice of topics, choice of expression and choice of ideas. During testing only a limited choice of topics can be given, as choice of topics would make it difficult for evaluating their work objectively. Besides a composition on a postman (Appendix 9f) which is a reproduction of coursebook material and a composition on a teacher which is given on the same page are comparable at two different levels, in teaching and testing. From the teaching point of view the second one is better, because it expresses the writer's personal ideas while from the testing point of view the first one is better, with grammatically correct sentences.

Some more samples are provided in the following pages to stress the point. These examples provide evidence to
the fact that a lot more work can be done while
teaching writing than at the time of testing writing.
As Thorndike (1969) has rightly pointed out, in
teaching writing we look for individuality and personal
expression and stress on the 'uniqueness' of individual
learner's composition while in testing we have to make
them work on tasks which help us to compare one
individual with another and hence we can offer only
limited choices to the learner.

To overcome this difficulty whatever tasks the learners
had worked on was tested objectively in this
experiment. Learners were given choices of expression
wherever possible. For example, to express their own
thoughts and feelings they had to choose the correct
words, appropriate sentence constructions and
appropriate modes of expression.

Their ability to choose the correct words was tested by
means of multiple choice items, their grammatical
competence was tested by means of cloze procedure,
their ability to narrate a story was tested by means of
a cloze item where they had the choice to select words
appropriate to the context and their ability to
communicate through letter-writing was tested by giving
them a letter and asking them to write a reply to the
same.
Here are two samples. The first one includes the points given in the coursebook. Only the name has been changed from Shamjibhai to Ashok. The second one is produced by a weak learner. Though there are mistakes and only four sentences are written, this learner was able to write better paragraphs in the latter part of the experiment than the first one.

Ashok is a shopkeeper. Ashok's shop is a grocery store. Ashok sells variety of things in his store. Ashok opens his shop early in the morning and closes it late in the evening.

Copall is a my uncle. It is a good doctor. It is a one nurse. It is a good nurse.
Tests like dictation and close are very useful to test learners' proficiency in written expression. They are easy to prepare, easy to administer and can be objectively scored without spending much time. As Oliver (1979) points out, they meet the pragmatic naturalness criteria and hence are able to give a true indication of the level of language competence that a learner possesses.

As per the test results obtained in the study, it was observed that learners added a number of errors of intrusion while writing down a passage dictated. This when compared with the write ups produced by them in class, revealed that these errors were part of their individual language system. For example, some learners wrote, "This is a Mr Joshi" and from the evidence obtained in class it could be seen that in their system of grammar they had an article before a proper noun.

Some of the other mistakes commonly found are:

* This is a Joshi manager.
* They have separate room's. There are three peon's in his office.
* There are two mango's tree's.
* Kanubhai is farmar. He has small farm.
* There are two typist and three clerk.
* Kanubhai ploughs his field in a morning.
* He has small farm. There are two mango tree in a
These findings suggest that dictation could be used as a diagnostic test and error analysis based on these could be helpful to the teacher to prepare remedial materials. For the learners it would be an easy means of comparing their written work with the original passage and correct their own errors. Similarly cloze also gives an indication of errors of appropriacy. Teaching language competence through writing could gain better focus if the tests used enable us to test competence.

4.4.2 Hypotheses Evaluation

The hypotheses formed in the beginning are reconsidered in the light of the evidence obtained through the present study, so as to either accept or reject them.

Hypothesis 1: The teaching of written communication in schools in Gujarat does not engage the learners in meaningful writing tasks. Composition work is mostly done mechanically and learners are not required to think and write something meaningfully. The analysis of the data collected through the teacher's questionnaire and interview (1.3.1 & 4.1) and the analysis of learner's classwork note-books (1.3.2 & App 4 a,b,c) and test papers (1,3.2 & App 6 a,b) provide evidence to
accept the first hypothesis.

Hypothesis 2: 'It is possible to evolve such techniques which activate actual use of English wherein learners are required to keep the situation and the intended reader in mind when they write something.'

The techniques tried in this study (3.2) and the tasks carried out by the learners (3.2.4) have been found effective to activate the learners thinking processes, and make them use the language appropriate to the situation, the intended reader and the message to be conveyed. The analysis of classroom procedures (4.2.1) and the analysis of learners' written work (4.2.2) provide evidence to accept the second hypothesis.

Hypothesis 3: 'It is possible to produce materials which involve natural use of language and which present appropriate models of writing.'

The materials produced for the experimental group (3.1.3 b) and the simple dialogues, letters, and paragraphs worked out with the help of the learners, using classroom situations (3.2.4 a to g) involve the use of natural language thereby providing appropriate models of writing. Based on this evidence the third hypothesis is accepted.

Hypothesis 4: 'It is possible to evolve such techniques which can effectively measure learners' ability to choose the language which is appropriate to the
situation, as well as, accurate.'

Tests like dictation and cloze meet the pragmatic naturalness criteria (2.3.6) and hence are effective measures of testing learners' ability to use the language appropriately. The description of test items (3.3.5) provide evidence to support the fact that choosing the appropriate words and phrases has been the focus in the testing techniques used (3.3). With this evidence and the analysis of test data obtained from dictation and close (4.4) hypothesis four is accepted.

Null Hypothesis 1: The conventional and experimental techniques do not differ significantly from the point of view of learners' performance in the post-test.

The statistical evaluation of the data obtained from the controlled and the experimental group in Bakori-school 1 and the total sample - schools 1,2,3,4 - provide evidence to reject the null hypothesis. The 't' value obtained for Bakrol is 4.92 which is significant at .01 level. Further the 't' value for the controlled group is .77 which is insignificant. The z value obtained for the total sample is 1.80 which is significant at .05 level. The significant difference in the experimental group provides evidence to reject the null hypothesis.
Null Hypothesis 2: The achievement level of the learners in the experimental group which is exposed to the new techniques and materials will be no better than the achievement level of the controlled group which is to be taught through the conventional techniques.

The mean difference between the post-test in the controlled and experimental groups when compared provide evidence to test whether the experimental group is better than the controlled group or not.

The difference between the mean values of the post-test and pre-test of the controlled group (School 1) is 1.42 as against 11.32 for the experimental group. The test of significance (Z test) is calculated and it is 3.36 which is significant at .01 level. In the total sample also the difference between the mean values for the controlled and experimental groups are 8.86 and 12.36 respectively. The Z value is 1.80 which is significant at .05 level.

With this evidence the null hypotheses are rejected and the research hypotheses are accepted thereby indicating that the new techniques and materials are more beneficial than the conventional techniques and materials.