CHAPTER 4

The Experiment

4.0 Introduction

4.1 The Design of the Project

4.2 Implications for task design

4.3 The pilot study

4.4 The experiment

4.5 An overview

4.6 Feedback from the students and observers

4.7 Problems faced

4.8 Tests
4.0 Introduction

This chapter reports the details of the experiment conducted to tryout the course, the new teaching techniques and the materials which were prepared keeping in mind the implications drawn from the needs analysis as well as the review of related literature. It begins with the design of the project and gives information about the sample selected for the pilot study and the tryout, the procedures adopted and the materials used. This is followed by the rationale for the course and an overview of the integrative tasks which involves the four skills — listening, speaking, reading and writing. The chapter ends with a report on the format of tests and test administration.

4.1 The Design of the Project

The course has been designed for the use of undergraduate students of a science college. The aim of the course is to impart to the students the skills that they need in their academic, and later in their professional pursuits.

The science students, need a course which deals with materials rooted in themes on science, which can give them a familiar air and enhance their abilities and skills required to perform various linguistic tasks in this particular field.

The present course materials comprising anthologies of prose selections, and the old methodology, based mainly on the classroom lecture are not conducive to the development of study skills and communicative competence in these students. There is, therefore, a need to develop an appropriate course in English for students of science and to adopt an innovative approach to English language teaching and learning. This is the rationale behind this course. The ELT package developed by the investigator comprises of various tasks. Therefore, in the following section (4.1.1) an attempt is made to present a review of task-based language learning and a brief description of communicative task components.

4.1.1 Task-based Language Learning

In this section the investigator would like to present a brief review and some of the important principles of task-based language learning.

Most approaches to language teaching are ‘form-based’. Such approaches analyse the language into an inventory of forms which can be presented to the learner and practiced as a series of discrete items, thinking that there is a direct relationship
between ‘input’ and ‘intake’, that what is presented can be mastered directly. But recent research shows quite clearly that there is no such direct relationship between ‘input’ and ‘intake’.

In contrast to form-based approaches, task-based learning (TBL) involves the specification not of a sequence of language items, but of a sequence of communicative tasks to be carried out in the target language. Central to the notion of a communicative task is the exchange of meanings. Nunan (1993) defines a communicative task as ‘a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form’. J. Willis (1996) defines a task as an activity “where the target language is used by the learners for a communicative purpose (goal) in order to achieve an ‘outcome’.” Here the notion of meaning is subsumed in ‘outcome’. Language in a communicative task is such as bringing about an outcome through the exchange of meanings.

One feature of TBL is that learners carrying out a task are free to use any language they can to achieve the outcome: language forms are not prescribed in advance. Learners are not aiming to reproduce a series of language forms in conformity with target norms. Their aim in language use is to create a meaning system which they can operate rapidly and efficiently in real time. In order to achieve this goal they will use and develop language forms to which they have been recently exposed, but they will also adopt strategies which sometimes lead them to ignore grammatical niceties and to create for themselves forms which are not sanctioned by the target norms. The purpose of a communicative task, therefore, is to encourage learners to develop towards the creation of a meaning system. Hence, in task-based approaches, language development is prompted by language use, with the study of language form playing a secondary role. More recent research however, suggests that while communicative language use is the driving force for language acquisition, we also need to focus at some point on language form if acquisition is to be maximally efficient. Skehan (1996), e.g., argues that unless we encourage a focus on form, learners will develop more effective strategies for achieving communicative goals without an accompanying development of their language system. As a result they may have a low level of language development. Skehan (1992) suggests that learning is prompted by the need to communicate, but argues that learning will be more efficient if:
i) There is a need to focus on accuracy within a task-based methodology.

ii) There is a critical focus on language form within the task-based cycle.

TBL has grown out of the notion of Communicative Language Teaching (CLT). Hymes' (1971 [1972], 1979) notion of communicative competence encouraged a more critical look at language and sharpened awareness of the need to make language relevant to students' needs and to provide opportunities for language use in the classroom. There were two strands to CLT. The first was to do with syllabus specification (Wilkins 1976). Instead of specifying a syllabus in terms of grammar and lexis, the 'communicative syllabus' specified an inventory of notions and functions identifying the semantic and pragmatic needs of the learners and proposing ways of meeting these needs as efficiently as possible.

The second strand in CLT was methodological. There was an emphasis on language use in the classroom, and this was seen as a rehearsal for language use in the real world. But in general the communicative approach adopted in the classroom was a 'weak form' (Littlewood 1981) of the approach. There was still a powerful tendency to see the study of language forms as prior to language use. Tasks were used to assist 'free' production at the end of a controlled form-based teaching cycle.

The best documented application of task-based approach is probably Prabhu's procedural syllabus (Prabhu 1987). Prabhu headed a project in schools in South India in which learners were simply presented with a series of problems and information/opinion gap activities which were solved under teacher guidance through the medium of English. Prabhu argued that a focus on language form actually inhibited language learning. Language development was seen as the outcome of natural processes.

An approach similar in some ways to Prabhu's is put forward by Breen (1987) and Candlin (1987) in their advocacy of a process syllabus. The process syllabus differs from the procedural syllabus in two ways:

1) The role of the teacher is not to decide how learning will be organized and sequenced, but to consult learners and help them realize their own learning plan.
Prabhu’s procedural approach avoids all focus on language. Students operating with the process syllabus may choose for themselves to focus explicitly on language form.

Long and Crookes (1972) have criticised the procedural and process syllabuses on three grounds. Such syllabuses offer no procedures for basing task selection on an analysis of learners’ needs: they offer no criteria for task sequencing and make no allowance for a systematic focus on form, although the process syllabus may focus on form in response to learner initiative. Long and Crookes argue that classroom or pedagogic tasks should be systematically linked to communicative tasks that the learners will be likely to perform outside the classroom. Communicative needs should be identified and expressed in terms of meaning and outcomes. These meanings and outcomes should then be incorporated in pedagogic tasks.

However, there is a common argument among all, that, forms will not be processed to become a part of the learners’ grammar unless learners are allowed to engage with meaningful use of these forms while the explicit focus is held in short term memory.

TBL like CLT rests on broad principles rather than precise recommendations or prescription. The first is that units of syllabus organization should be tasks which define what outcomes can be achieved through language, rather than linguistic items as such. The second principle is that learning will be effective only if it is related closely to language use and involves relating form and meaning.

Prabhu (1987) identified three broad task types: information gap, reasoning gap and problem solving. Stern (1992) offers a similarly useful typology. Learners can be asked to:

'Give and follow instructions, gather and exchange information, solve problems, give informal talks in the classroom, take part in role play and drama activities.'

The need for a focus on form within a task-based methodology may be met in part by manipulating the circumstances of communication in the classroom. Tasks carried out orally in groups or pairs demand a relatively low level of accuracy. Tasks which involve a presentation to the class as a whole, or the preparation of written output, demand a higher level of accuracy. A three-part task cycle is central to this methodology. At the task stage, learners working in twos or threes are encouraged to
use whatever language they can recall to fulfill the task outcome, the teacher stands back, but encourages all attempts at communication. Following the task there is a planning stage, where the teacher helps learners plan a public presentation of their task findings in preparation for the report to the class. It is at the planning stage that a focus on form is natural and teacher simply acts as chair, commenting on the content and summing up at the end. After the task cycle, a ‘Language focus’ phase allows time for deeper and more systematic study of the language arising out of the task recording; this can also incorporate examples from tasks and texts used in previous lessons. A critical focus on language form may be achieved through consciousness raising techniques which encourage learners to reflect on language and to observe recurrent and typical patternings. Consciousness raising activities help the learner to notice a specific feature of language in context as a first step towards its acquisition (Schmidt 1990) such activities, then encourage the learner to make hypotheses and further generalizations about the language which contribute to present or future learning. TBL represents an attempt to harness natural processes of language learning and to provide language focus activities based on conscious raising which will support these processes. The crucial challenges for TBL therefore, are to do with the design and sequencing of tasks, and the determination of how best to encourage learners to focus on language form in a way which prompts language development while, at the same time, recognizing that there is no direct relationship between language instruction and language learning.

4.1.2 Language as Communication

1. Communication is an exchange between people, of knowledge, of information, of ideas, of opinion, of feelings.
2. Genuine communication involves information – gap.
3. It has an element of unexpectedness and unpredictability.
4. People do not just communicate facts to each other. They always convey what they feel about those facts

- relief
- tension
- anger
- necessary

5. Communication stems from necessity.
6. Communicative knowledge involves:
   Textual knowledge – sounds, form, structure, cohesion
   Ideational knowledge – conveying meaning, ideas.
   Interpersonal knowledge – regulate behaviour.

7. Linguistic categories
   Usage
   Correctness
   Signification
   Sentence
   Proposition
   Cohesion
   Linguistic skills
   (e.g. hearing – speaking)

   Communicative categories
   use
   appropriacy
   value
   utterance
   illocutionary act
   coherence
   communicative abilities
   (e.g. listening – talking )

4.1.3 Communicative Competence

The goal of teachers who use communicative approach is to have their students become communicatively competent. Communicative competence involves being able to use the language appropriate to a given social context. To do this, students need knowledge of the linguistic forms, meanings and functions. They need to know that many different forms can be used to perform a function and also that a single form can often serve a variety of functions. They must be able to choose from among these the most appropriate form, with reference to the social context and the roles of the interlocutors. They must also be able to manage the process of negotiating meaning with their interlocutors.

Canale and Swain (1980) give the following model of communicative competence.
The sociolinguistic aspect of the model deals with the question of teaching language that is actually used in contemporary situations and so is concerned with styles, registers, etc. A part of the sociolinguistic competence involves Cohesion – Connecting the sentences linguistically in an acceptable way, and coherence – linking thoughts logically.

The third area, strategic competence, is a comparatively new area of study in linguistics. Compensation strategies are the main thing here. These are the communication strategies which a learner uses to get out of a situation where his/her linguistic knowledge and linguistic skills do not suffice for his/her intended purpose (Hymes, 1971).

### 4.2 Implications for Task Design

As Nunan (1989) points out there is a basic distinction between ‘top-down’ and ‘bottom-up’ approaches to language comprehension and production. ‘Bottom-up’ approaches focus on the various components of the language and then fit these together in comprehending or producing language. ‘Top-down’ approaches utilise knowledge of the larger picture, as it were, to assist in comprehending or using smaller elements.

In designing communicative language tasks, we need to consider the extent to which it is necessary to focus on linguistic form (Nunan, 1989). Some language specialists believe that it is not necessary to provide practice activities which focus on individual linguistic components as a preliminary condition to engagement in communicative tasks. They argue that involvement in communicative tasks is all that is necessary to develop competence in a second language. Others believe that a linguistic focus, in the form of grammatical consciousness-raising activities, should be incorporated into task design.

The analysis of the language skills shows that there can be interactional and transactional tasks, short and long speaking turns to develop speaking and oral communication (Brown and Yule, 1983), conversational and academic listening to develop listening skill and a range of purposes for reading and writing in a second language. These macro skills could be incorporated directly or indirectly into task design.
4.2.1 Communicative Tasks : Definition and Description

The term ‘Communicative task’ has been defined as ‘a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form’. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right. But it is difficult to draw a hard and fast distinction between ‘communicative’ and ‘non-communicative’ tasks. There are several reasons for this, not the least of which is the fact that meaning and form are closely interrelated. We use different grammatical forms to signal differences of meaning. In fact, good oral grammar exercises can and should be both meaningful and communicative (Nunan, 1989).

4.2.2 Task Rationale

Classroom tasks are generally justified or rationalized in either ‘real-world’ or ‘pedagogic’ terms.

Tasks with a real-world rationale require learners to approximate, in class, the sorts of behaviours required of them in the world beyond the classroom. An example of a real-world task might be:

The learner will listen to an announcement regarding a train at the Railway station and decide about the arrival time of a train.

Tasks with a pedagogic rationale require learners to do things which it is extremely unlikely they would be called upon to do outside the classroom. A pedagogic task might be:

The learner will listen to an oral text and answer questions afterwards on whether given statements are true or false.

The real-world tasks refer to some form of needs analysis while the pedagogic tasks refer to some theory or model of second language acquisition. But this distinction is not hard and fast, rather it is a continuum (Nunan, 1989).

4.2.3 Components of the Communicative Tasks

The definition of a language learning task requires specification of four components: the goals, the input (linguistic or otherwise), the activities derived from
this input, and finally the roles implied for the teacher and learners. The following is a diagrammatic representation of the task and its constellation of elements.

**Elements of a Communicative Task**

<table>
<thead>
<tr>
<th>Goals</th>
<th>Teacher role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Activities</td>
</tr>
<tr>
<td>TASKS</td>
<td>Learner role</td>
</tr>
<tr>
<td></td>
<td>Setting</td>
</tr>
</tbody>
</table>

(Adapted from David Nunan, 1989)

### 4.2.4 Goal

Goals are the vague general intentions behind any given learning task. They provide a point of contact between the task and the broader curriculum. Goals may relate to a range of general outcomes (communicative, affective or cognitive) or may directly describe teacher or learner behaviour. Goals may not be always explicitly stated, although they can usually be inferred from examination of a task. And there is rarely a simple one-to-one relationship between goals and tasks. In some cases a complex task involving a range of activities might be simultaneously moving learners towards several goals.

### 4.2.4 Input

Input refers to the data that form the point of departure for the task. In fact, input for communicative tasks can be derived from a wide range of sources. For example:

- * letters
- * newspaper extracts
- * picture stories
- * Telecom account
- * business cards
- * memo note
- * photographs
- * family three
- * drawings
- * postcards
- * passport photos

- * recipe
- * extract from a play
- * weather forecast
- * diary
- * bus timetable
- * notice board items
- * star signs
- * hotel entertainment
- * shopping lists
- * year book
- * note to a friend
This list, which is by no means exhaustive, illustrates the range of data sources which exist all around us. Most, with a little imagination, can form the basis for communicative tasks of one sort or another.

A similar range of stimulating source materials provides useful input for tasks which focus on writing. Morris and Stewart-Dore suggest that while it is probably neither necessary nor desirable for teachers to provide students with the opportunity of learning all the different styles and registers of writing, it is possible to extend the writing options traditionally offered to students by making the following forms available as examples:

- Articles for newspapers, magazines and journals.
- Reports to different kinds of groups.
- Radio and television scripts and documentaries.
- Puppet plays.
- News stories and reports.
- Short stories, poem and plays.
- Bulletins and newsletters.
- Editorials.
- Instructions and handbooks.
- Minutes of meetings.
- Progress reports.
- Recipes.

The inclusion of such materials as input raises again the question of authenticity: What mixture of authentic and specially written material is valid? What do we mean by authenticity? A rule-of-thumb definition for authentic here is any material which has not been specifically produced for the purposes of language teaching.

4.2.5 Role of the Teacher

The role of the teacher here is that of a co-communicator. He/She is the facilitator and a manager of classroom activities. During these activities the teacher has to act assuming different roles of negotiator, adviser, guide, companion, monitor,
evaluator and so on. One of his/her major responsibilities is to exploit every opportunity to create the communicative climate in the class.

4.2.6 Role of the Learner

The learner here can’t afford to remain passive like they used to do in the past. They are the most active/communicative. They are actively engaged in negotiating meaning even when their knowledge of the target language is incomplete. They are seen as more responsible managers of their own learning since the teacher’s role is less dominant.

4.2.7 Activities

All the activities are learner-centered. Every activity is done with a communicative intent. Mostly the activities are language games, information gap, problem-solving, role-play types. According to Morrow (in Johnson and Morrow 1981) a truly communicative activity has three features – information gap, choice and feedback. An information gap exists when one person in an exchange knows something that the other person does not. In communication, the speaker has a choice of what he/she will say and how he/she will say it. If the exercise is tightly controlled so that students can only say something in one way, the speaker has no choice and the exchange, therefore is not communicative. True communication has to be purposeful. A speaker can thus evaluate whether or not his/her purpose has been achieved based upon the feedback he/she receives from the listener. Without such feedback, the exchange is not really communicative.

4.2.8 Setting

Group method technique is the most useful in carrying out certain tasks. However, small number of students interacting are favoured in order to maximize the time allotted to each student for learning to negotiate meaning.

4.3 The Pilot Study

The pilot study was undertaken at V. P. and R. P. T. P. Science college, Vallabh Vidyanagar. The pilot study covered a total of forty students who have passed their 12th std. science stream with English. Two group were made, (1) the Experimental Group and (2) the control group. The study began in the month of June 2000 and ended in the month of January 2001. During the pilot study, the investigator
developed insights, in the light of which the materials were revived and the methodology and the techniques were modified. Some teachers of English from various institutions were invited as observers. Their valuable suggestions were also considered. Learners were also involved as time and again feedbacks were taken from them. Accordingly, changes were done to make the learners more comfortable and the course, more useful and interesting.

4.4 The Experiment

The experiment was undertaken at Anand Mercantile college of science and Technology, Anand. The experiment started in the month of July 2000 and ended in the month of February 2001. Since this college was recently established the teaching work started little late, that was in the month of July. Hence the pilot-study was followed by the experiment. Since there was not much gap between the pilot-study and the experiment, there was a constant revision, modification in the materials and the classroom procedures, in the light of the observations done by other teachers and written and oral feedbacks derived from the learners. The investigator could see the problems faced by the learners, during the pilot-study and likewise made changes to make the learners of the final experiment more comfortable. The investigator tried to overcome the difficulties faced during the pilot-study and tried to make the course more effective and fruitful.

4.4.1 The Sample

The sample was selected so as to represent the students studying science at undergraduate level. The experiment covered a total of forty students who have completed their 12th standard in science stream with English. Twenty students were selected for the experimental group and twenty students were selected for the control group. The students were anywhere from 17 to 19 years old. Six of them were female students and fourteen were male students. Almost all of them belonged to middle class family with total annual family income of 75,000 to 1,50,000. Except for a few, majority of students belonged to semi-urban areas like V.V.Nagar, Bakrol and Karamsad. All of them were so far exposed to three languages, English, Hindi and Gujarati. In case of English, the exposure varies from five years to twelve years. Four of them studied through English medium while for sixteen of them, the medium of instruction at school was Gujarati. Their score in English at 12th standard ranged from
48 to 70 out of 100 marks. All of them spoke Gujarati at home which is their mother tongue.

4.4.2 Equalization

To equalize the experimental group and the control group, the following criteria were used.

1. Score in the subject of English at 12th standard.
2. Overall performance at the 12th standard.
3. Family background.
4. Previous exposure to English language.

The investigator identified the two groups by utilising the following procedures:

1. Mark-sheets of 12th standard were obtained and learners’ overall performance was matched with one another to see if the two groups were comparable in their linguistic abilities.
2. Students’ scores in the subject of English at the 12th standard were matched to make sure that the level of proficiency in English was basically identical between the two groups.
3. The learners were asked to fill up a questionnaire giving details about their family background, mother tongue, languages known, medium of instruction at school etc. (see appendix-iv)
4. Of the two groups, the group which was exposed to the package of ELT materials is called the experimental group and the group that received instruction the traditional way is called the control group in this study. Both the groups were taught the same syllabus by the same teacher to control the teacher variable.

4.4.3 The Syllabus

The investigator followed the syllabus designed by the Sardar Patel University for the first year B.Sc. students with a few additions. The language items prescribed in the syllabus were taken as guidelines. Keeping in mind these guidelines, the investigator developed materials which were to be used in the classroom in place of the text prescribed by the university. The investigator, then, redesigned the syllabus where the language items were ordered according to the functions served by them. Grading was done after taking into consideration the difficulty level of grammatical
and vocabulary items. Since the course is prepared for the students of science, the language structures and grammatical items frequently used in science texts were highlighted. A list of registers to various sciences was prepared keeping in mind the text books of all science subjects at the F. Y. B.SC. level.

**The syllabus contained the following items:**

1. Word order in different kinds of sentences
2. Nouns
3. Articles
4. Pronouns
6. Tenses
7. Adjectives, Degrees
8. Adverbs
10. Verbs, verb-tense, imperatives
11. Be, Have, Do, as full verb.
12. Question words
13. Modals
14. The passive and the causative
15. Conditionals
16. The infinitives and the causative
17. Direct and Indirect speech
18. Names of various apparatuses used in scientific experiments
19. A list of words related to science, is also included. (scientific vocabulary)
20. Words describing properties of certain objects (form, shape, size, colour etc),
21. Certain abbreviations used in science and note taking.

**4.4.4 Objectives of the Course**

1. Developing a scientific temperament
2. Developing ability to follow talks and lectures given in English.
3. Developing ability to read with full comprehension books written in English.
4. Developing ability to express ideas through an organised piece of writing.
5. Developing the skill of cohesion.
6. Developing critical thinking.
7. Developing value based thinking. Making them responsible, good, human beings.
8. Developing communicative competence which can further be divided into three sub-categories: (1) Linguistic Competence, (ii) Socio-linguistic Competence, (iii) Strategic Competence
9. Over-all development.

4.4.5 Materials

The investigator used the package of ELT materials developed by the investigator for the students. The package comprised of language activities based on abstracts from scientific texts and experiments, tables, graphs, charts, cartoon-stories, quizzes, strips and sketches, pictures, cyclostyled materials, magazines and newspapers-clippings, audio materials etc. The use of language was kept flexible keeping the students' level in mind.

4.4.6 Classroom Procedures

The investigator used more of pair and group work activities. Emphasis was given to the techniques such as language games, role-play, simulation, quizzes, debate and discussion, information gap activities, problem-solving tasks etc. The investigator used such procedures that would involve the students in using language to express their own ideas, opinions and feelings and sometimes to reproduce what others have said using passive voice, giving instructions etc. Attempts were made to make the course need based and learner-centered.

4.4.7 Formation of Pairs / Groups

In order to work on each task, the students were divided into pairs or groups. In each group there were not more than four students. The groups were formed by the investigator. Students of mixed abilities were made to work together and help each other. Later on the students were allowed to change the groups. Each group had an identifying label. (Names of the famous scientists were used for this) and a set of position in the classroom so that when the students were asked to do group work they could begin the work without wasting any time.
4.4.8 Group Leader

Each group had its own leader. She/he was appointed by the investigator in the beginning. Later the students chose their own leaders. On their own, they encouraged the weak students to be the group leaders and boosted his/her moral. The function of the group leader was to co-ordinate the activities of the group members without dominating them and serve as a link with the teacher.

4.4.9 The Teachers’ Role

The role of a teacher here was that of a facilitator. She was like a counsellor who helped the students to learn. The teacher was like a catalyst in whose presence the learning takes place. ‘Helping to learn’ was her motto.

The investigator approached the students in a friendly way. The investigator never lectured about anything. All the time it was a dialogue. The investigator came down to the level of students, became one of them, discussed, talked with them, played language games with them and admitted that she is also a learner. At times the investigator herself acted as a group-leader of the class.

In pair and group work activities, the investigator introduced the activity and made sure that the students understood what to do. As the students worked in pairs or groups, the investigator moved from group to group offering help, if necessary. Finally the investigator listened to the reports produced by the students and helped them to reach to the final conclusion.

4.4.10 Facilitating Participation

Group and pair work method encouraged the students to share their ideas and to help each other while working on tasks. Since the teacher did not play an authoritative role, the students could work with ease and they were less inhibited and more involved in the different activities assigned to them. The investigator created a plenty of room for the students to use the language in a natural way.

4.4.11 Sharing Responsibilities

Students were trained to take up some responsibilities. On the very first day, when the introductory session began they were asked to prepare a brief history of each of them. Which they did willingly and in quite an organized way. They maintained a
file containing brief history of each student which stated details like Name, address, telephone no., likes dislikes, hobbies, physical fitness etc.

Students were given the following samples as examples:

Tina
Age: 15  Home: Baroda
Very fond of sports
Speaks English & Hindi
Hobbies: Sports, Music

Mohnish
Age: 20  Home: V.V. Nagar
Retired University Prof.
Has had Polio in wheel chair
Hobbies: Painting, Dining (in special car)

Ahmed
Age: 27  Home: Jaipur
Works as chef in Restaurant
Hobbies: Cooking, Singing

Ariba
Age: 25  Home: Bangalore
Has M.A. in English
Musical, Artistic
Allergic to animals
Hobbies: Singing, Acting

Initially there was some confusion and the investigator had to help them. But gradually they started taking independent decisions and shared the responsibility of the teacher. Events like debate, group discussion, quiz, drama, Sentence- Antakshari etc. were organised throughout the year. All these activities require self-organisation. This was developed as the course progressed. At later stage students even started marking their presence on their own as it was a necessary part and practice of the institution. Once, because of some function at the institute, the investigator had to
arrange the session in the morning hours i.e. from 8.00 a.m. to 10.00 a.m. Due to some problem, the investigator could not reach the class in time so the students went to a nearby S.T.D. booth and at 8.10 a.m. rang up the investigator and reminded about the class. When the investigator reached the class, they had already started the session on their own.

4.4.12 Error Correction

During pair and group activities, the students were encouraged to evaluate their own and their peer, partner’s progress. They also had an opportunity to compare their evaluation with that of the teacher and others. The following chart was provided for the same:

<table>
<thead>
<tr>
<th>Self-assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Student 1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

S.S. = self by self  
S.P. = self by peers  
S.S./M. = self by supervisor  
Peers = others

The students also learnt the skill of editing as they read each other’s writing and prepared a final draft. At times they corrected each other's error and offered suggestions to make them better.

4.5 An Overview

The students of science differ from the students of other disciplines as they have a different way of looking at things. Science students have to deal with concrete things rather than abstract. So the materials were designed keeping this fact in mind. They are good at describing, talking about things which they visualize and which are part of their first hand experience. So, for them, the task has to be a contextualised task. That’s why they need materials related to science.
The pattern of interaction was multi-dimensional—from the teacher to pupils, from pupils to the teacher, from pupils to pupils.

\[
\begin{array}{c}
T \\
\downarrow \quad \downarrow \\
P \quad \quad \quad P
\end{array}
\]

In the beginning, when the investigator told them about the package of ELT materials to learn English and that the package was developed according to the syllabus which they have to study, they were all very excited. It was a welcome change for them. Working in pairs and group was altogether a new thing for them. Since they were habituated with lecture method they wondered at the concept of self-learning. Initially there were problems as it was a new set-up for them. But they were willing to take this change and soon started following the instructions given by the investigator. Later on they even gave their suggestions for improvement.

Initially some simple tasks were given to them, wherein they had to supply sentences using three main auxiliaries be, have and do. Till now, they were in the habit of doing mechanical drills. Now the investigator asked them to supply sentences of their own. The raw materials for this was supplied to them in the following form:

- has you both bag the there
- an we is Meena Ravi are
- am will was were station class
- be George Tina students you bike
- he shall be manager clerk girl
- have canteen in boy sister friends
- I and neighbours brother garden all a they
- at here singer cricketer scientist

This was done by pasting these words on a paper in different colours, like 'is, am, are, has, have, was, were, shall be, will be'—were written on a green coloured paper and pasted. Words like 'canteen, student, singer, station, teacher' etc. were written on yellow coloured paper. Nouns and Pronouns were written on white paper and pasted. Prepositions were written on pink coloured paper.
It was a novel experience for them. Later they gave sentences of their own without the help of such raw materials. Some of them were quite imaginative. This was followed by the sentence Antakshari.

**Sentence Antakshari**

The investigator divided the students into four groups: Diwane, Mastane, Parvane and Anjane. Each group had five students. The investigator then supplied one sentence for example: 'There is a box on the table.'

Now the students were asked to pick up any one word from this sentence and create another sentence. For example: 'The table is brown.'

Now the second group pick up one word from this sentence and made the third sentence. For example: 'Brown is my favorite colour'.

The game continued like this. If a group fails to give a sentence within three minutes, they will have to quit.

The students participated in the game whole-heartedly. Even the weakest student came out with sentences as he/she wanted to help his/her group. Initially, they were hesitant while speaking. But in this particular event, they spoke spontaneously and most of the time gave correct sentences. At the end, the two groups Diwane and Parwane remained unbeaten. But for the want of time, the investigator had to end the game. However, the game continued outside the classroom for a few days.

Once they opened their mouth, things were easy. After a week when the students started feeling quite comfortable, some other tasks were introduced. ‘Making plurals’ was one of them. The rules for making plurals were listed out. Some irregular plurals especially those related to science were also given. After studying the rules, they started applying them to various nouns and could do it quite successfully (for the task-see appendix-iv) But unfortunately the investigator found that they lacked curiosity. Even when they did not know the meaning of some nouns they did not bother to ask about it. They mechanically made those nouns plural and felt satisfied. So, to encourage them to refer to the dictionary, the idea of creating a word-bank was introduced. They were asked to create a word-bank. They prepared a big box for this word-bank. Everyday each group
used to put into the box at least five new words with the meaning written at the back side of the chit. Later when the box was opened in presence of a senior teacher invited specially for this ceremony, students took out all the chits and arranged them alphabetically. This ceremony was then followed by a competition where the students had to give the meaning of the words. If a student gave a correct meaning, the chit went into his/her possession. At the end of the competition, one who had obtained the maximum chits was declared Mr. Napoleon, the winner. The whole event was organised by the students which meant, inviting the guest teacher, introducing him to the class, thanks giving etc. The skill needed for referring to dictionary, thesaurus etc. was taught. Certain abbreviations useful for science students were also introduced.

The investigator observed that the students were more comfortable talking about things which they could visualize, such as pictures with differences where they had to find out even the smallest details, they did wonderful job. They proved to be very good observers and were most vocal when they had such pictures in their hands. They have analytical minds, so abstract thinking made them uncomfortable. It was noticed that they liked charts, tables, graphs etc. the most. Even simple information when given in any of the above forms was welcomed by them. The following task is one example.

<table>
<thead>
<tr>
<th>Music</th>
<th>Cricket</th>
<th>Dance</th>
<th>Chess</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonu</td>
<td>Sachin</td>
<td>Mona</td>
<td>Tushar</td>
</tr>
<tr>
<td>Krishna</td>
<td>Piyush</td>
<td>Prakash</td>
<td>Mohan</td>
</tr>
<tr>
<td>Harsh</td>
<td>Saurav</td>
<td>Harsh</td>
<td>Nikam</td>
</tr>
<tr>
<td>Gulzar</td>
<td>Thomas</td>
<td>Madhuri</td>
<td>Bill</td>
</tr>
<tr>
<td>Madhuri</td>
<td>Ajay</td>
<td>Rekha</td>
<td>Binny</td>
</tr>
<tr>
<td>Hritvik</td>
<td>Azhar</td>
<td>Hritvik</td>
<td>Kamal</td>
</tr>
</tbody>
</table>

The students were asked to make sentences using information given in the above table. For example:

Sonu likes music; but she doesn’t like chess.
Madhuri dislikes cricket and chess but likes music and dance.
It was interesting to note that the students liked doing this. But they liked that activity more where they had to scan information and prepare charts, tables and graphs. They even liked a more complex activity: For example:

**How long will I live?**

Would you like to know how long you will live? Answer the following questions in order to find out. Start by looking up your age in the table below. Against this, you will find your basic life expectancy. Then add to or subtract from this figure, according to your life-style. Ask questions to your partner and find out his approximate life-span.

<table>
<thead>
<tr>
<th>Present Age</th>
<th>Life Expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>71.3</td>
</tr>
<tr>
<td>15</td>
<td>71.1</td>
</tr>
<tr>
<td>16</td>
<td>71.0</td>
</tr>
<tr>
<td>17</td>
<td>70.9</td>
</tr>
<tr>
<td>18</td>
<td>70.8</td>
</tr>
<tr>
<td>19</td>
<td>70.7</td>
</tr>
<tr>
<td>20</td>
<td>70.0</td>
</tr>
</tbody>
</table>

**Add:**

½ a year from each of your grandparents who have lived to be 70 to 79.
1 year for each of your grandparents who lived to be 80 or more.
1 year if you are the first born child.
1 ½ years if you live in a rural area.
2 years if you study four hours each day.
3 years if you eat lots of leafy vegetables, fruit and plain food.
4 years if you take regular exercise.

**Subtract:**

1 year if you live in a town or city
1 year if you prefer soft drinks to milk or tea.
2 years if you are overweight.
2 years if you sleep more than ten hours every night, or less than five hours every night.
5 years if you are frequently ill.
All of them were engrossed in this task and some of them even prepared graphs for it.

Science students deal with facts and this was reflected in their writings also. While dealing with 'exclamatories', they came out with the following sentences:

- What an interesting poison!
- What cute puppies!
- What a clean blackboard!
- What light luggage!
- What a long path!
- What a speedy boat!

Science students are with the world of reality. They prefer to talk about objects, about the things which they can experience with their five senses.

Their imagination and creativity is reflected in yet another task. In the following task they were asked to find out a school of their choice and if they were not satisfied with any of the schools that they find in the advertisements they were asked to prepare an advertisement for the school of their own.
In this example students read a page of advertisements about different language schools in England. The difference between this and other examples is that instead of answering questions students have to transfer the information they are looking for onto a chart.

A. Use the information in the advertisement to complete this chart. Put a tick (✓) in the appropriate box where the answer is “yes” and put a question mark if the answer is not clear from the advertisement.
1. Location
   a) in London
   b) in country
   c) near sea
   d) easy to get to London
2. Accommodation
   a) In institution
   b) In hostel
   c) With families
   d) Where students like
3. Shortest course available beginning in July
   a) 3 months   b) 2 months
   c) 4 weeks    d) 3 weeks
4. Hours per week (normal course)
   a) Over 20    b) Over 25
   c) Over 18    d) Over 21

Many of them prepared an advertisement for the new school giving interesting names to them. The task was done in groups. So, after discussing with each other, they came to one final decision. They worked with sincerity and seemed quite confident about what they expect from a school of language. They came out with the following schools:

Teach well English Indian School of English
School of Joy Easy English
Gyanmandir School of English
Here is one sample prepared by one group:

**GYANMANDIR SCHOOL OF ENGLISH**

Situated 2 km away from main city.

Campus, Play grounds, well furnished classrooms, with highly qualified teachers.

Hostel Accommodation available for students from abroad.

Courses of all levels, available starting from Basics to higher level in English.

Duration - 6 months.

Eligibility - Students above the age of 16.

For students who really want to see the world on their own, we are always open.

Certificates given at the completion of course on per student effect.

Some groups even came with two titles as they could not agree on one. Some of the students wanted to give an Indian name while others wanted to westernize it and argued that it is the name which will attract the students in the first instance.

One important feature common among them was that all of them wanted long hours. There was a common feeling among them that the time allotted for the class was not sufficient for learning English. That was because the class used to meet only once a week. Soon it was decided that the class should meet twice a week. It was not possible with their routine time-table so it was decided that the class should meet during morning hours. This meant that on that day they have to work from 8.00 am to 5.15 pm. But they did not seem to mind this.

One more common feature found among them was that they seemed to learn everything in compartments. They were poor at relating things together. For example, while teaching too = also, either = also + not. The investigator gave them simple sentences like -
I am a student, too.
I'm not a student, either.

They learnt it quickly and could produce many other sentences like this. In the next session, when the investigator talked about 'have' and asked them to give sentences with 'too', they could not relate 'too' with 'have' i.e. giving sentences like

I have a pen, too.
I haven't a pen, either.

This is because they are field dependent and learn things serially but find it difficult to inter-relate things. They are good at answering 'what', 'when', 'where', kind of questions but find it difficult to answer 'why', type questions. To overcome this problem, the investigator changed the strategy and without introducing particular grammar item, directly started with the activity and later on asked the students to form rules out of it. This worked very well. That's why CLT works well with an ESP course. This was the case of what Chomsky said 'thinking must be rule governed'. According to him, learning consists not of forming habits but of acquiring rules.

Another thing noticed by the investigator was that all of them use 'too = very much' in a positive sense. While dealing with sentences with 'too' and 'enough' the investigator faced difficulties as their minds were already conditioned to see 'too' in a positive sense. For example:

They will always say,
The bag is too light to carry.
instead of
The bag is light enough to carry.

Then the investigator formed two groups. One group had to give sentences with 'too' and the other group had to give sentences with 'enough'. By mistake, if a student from 'enough' group gave a sentence with 'too' in a positive sense as shown in the above example, he was debarred from his group. Then, unless he gave a correct sentence using either 'too' or 'enough', he was not taken back in any group. He was asked to take his own time while he observed and listened to correct sentences by others. This worked
well. Like folk-art experience, language is also a group experience. It has to be experienced in a group. Man by nature is a social being and that's why he learns faster when in a group. However one interesting thing noted was that once they learnt it, especially those who are quite bright, preferred to work independently.

After a few sessions, the modals were introduced. In order to make them learn the modal auxiliaries, the following guessing game was introduced.

**Guessing Game**

One of the students chose any one object or animal, wrote it on a piece of paper secretly, and handed it over to the teacher. The rest of the class went on asking questions like:

- Can it climb on the tree?
- Can we play with it, etc.

By asking question using can, the class had to find out what was written on the chit i.e. what was chosen by that student.

The students enjoyed doing this. The investigator intervened whenever necessary. The investigator observed that in informal and lighter moments, learning took place faster.

When the modal auxiliary ‘must’ was introduced, debates between a landlord and a tenant, a father and a son, who is a spoiled brat, mother-in-law and a daughter-in-law were organised. The students were given time for preparing their dialogues. Later on three skits were played by three groups. One of them was like this:
"Sae bhi Babhi Bahu chhi -"

Mother-in-law: Why don't you listen to me? You must listen to me and you must obey me.

Daughter-in-law: I must do this and I must do that.

Can you not have please?

Mother-in-law: You madman advise.

Now listen, you must get up early and you must finish cooking by ten o'clock. Otherwise -

Daughter-in-law: Otherwise what?

Father-in-law: Shanthi, you mustn't scold priya all the time.

Mother-in-law: You mustn't remind me about it every time.

Father-in-law: Shanthi, have you forgotten your days at 'Bahu' of this house?

Mother-in-law: You mustn't remind me about it. How can I forget those bad days?

Father-in-law: Then you mustn't scold pujari all time day with the 'Om Shanthi Shanthi Shanthi'
While dealing with other modals like 'should', 'have to', 'ought to' and 'needn't' the following activity was given, where they were to converse using must, can, have to, should, needn’t, ought to and the expression Let’s/what about.

Moral Dilemma

Students were given a situation and alternative suggestions for acting in such a situation were given.

Stage-1: Students were told that they are invigilating an important exam. They see a student cheating with notes he has illegally brought into the exam hall. They have four possible courses of action:

- Ignore the whole thing.
- Warn the student that if he repeats his mistake he will be reported.
- Tear up his chit, take away his answer-book and ask the student to leave the exam hall.
- Report the case to the authorities and in that case it is quite possible that he will be expelled from the college.

Stage-2: Students are put into small groups to reach a consensus on the issue.

Stage-3: Pairs of groups are combined and have to reach a consensus on which alternative should be selected.

Stage-4: The procedure can be repeated with groups joining each other. The teacher can take a feedback to help the students reach a decision.

The students were then given some other similar situations like:

1. Your boyfriend / girlfriend said he or she could not come out with you this evening because of work, but you have just seen him or her coming out of a cinema hand in hand with another girl / boy. What will you do?

2. You are a scientist. You have found out a drug which is a perfect cure for drug-addicts. Some maphias threaten you that if you introduce this cure for drug-addicts, they will kill you and your family. What will you do?

There was much debate about these issues. Even the dullest student came forward with a suggestion. The investigator got an opportunity to study the mind of
this young generation, which helped the investigator in further developing teaching learning strategies.

Now, that the students were quite at ease and comfortable, two of them even presented their personal problems and asked for others' opinion. This was a step in the direction of rationality. They understood that any problem could be solved if one tried to look at it with objectivity. This mirror image helped in their overall personality development.

On the similar line, some problem-solving activities associated with their subjects were also given. The following was one of them where they have to be active processors of information. This helped them in acquisition of the target language, a step prior to the exhibition of skills. This kind of activities forced them to think and accelerated the learning. This further strengthened the cognitive view that ‘Learning and using a rule require learners to think’.

Problem –Solving Activities

Read this passage:

The factors affecting the rate of heat transfer through the skin also determine the rate of diffusion of gases through the walls of the cells, tissues and organs of plants and animals. For example, oxygen and carbon dioxide are absorbed through the walls of various organs. The greater the surface area of these organs in relation to their volume, the more the surface will be exposed to the gas and hence the faster the rate of diffusion.

The following examples illustrate the effects of the surface area/volume ratio on heat transfer and diffusion. Explain them by answering the following questions.

(a) Cold-blooded animals depend on the warmth of the sun to make their muscles work. The wings of butterflies and the tails of reptiles serve to absorb warmth. Why is this?

(b) The smallest humming-bird weighs less than 2 grams. Why are humming-birds only found in hot country?
(c) In hot weather, hippopotamuses and water buffalos spend a lot of time in the water. Why do they have to do this?

(d) Why do animals sleep curled up in cold weather but stretched out in warm weather?

(e) Why are aquatic warm-blooded animals in northern and southern seas very large? (Whales, seals, dolphins)

(f) Why do babies suffer more from the cold than adults?

(g) Why are leaves broad and flat?

(h) Why are human lungs shaped like this?

(i) Why don’t micro-organisms need special organs for the absorption of oxygen?

(From Nucleus: Biology, D. Adamson and M. Bates, Longman, 1976)

By this time, the students fully realised the importance of language in real life situations. So the concept of appropriateness of language was introduced. The investigator talked to them quite at length about the various functions of language. This brought in serious involvement of the students. They understood the power of language and were eager to acquire it.

The common items of grammar like pronouns, articles, prepositions, adjectives, adverbs, degrees, verb-tense, sentence formation were done using various strategies like language games, pictures, visuals, charts, cartoons, quizzes etc. For example, prepositions were done by games like ‘Guide a friend’ and Treasure-hunt. While playing the game of treasure-hunt, the students instead of doing it on the paper, insisted on doing it physically. It was not possible to take the class outside the room as that would have caused disturbance to other classes. It was then decided that the game should be played in the room itself. Three groups were formed. In each group there were two students. The participants of the game were decided by drawing lots as
everybody was eager to participate. The teams were sent out of the class while the teacher and the rest of the students hid the treasure. The teams were called one after another. Ten minutes' time was allotted to each team to find out the treasure. The students gave the team, instructions using various prepositions. They either guided them or even misguided them. This, the students had to do cleverly. While guiding or misleading the team, they supplied some clues. The team had to be intelligent enough to understand those clues. The students had great fun doing this. Afterwards, the following tasks were given to them.

**Guide a friend**

- You are at the crossroads of Bhaikaka Statue. Guide your friend how to go to →

  Town-hall: ___________________________________________

  S.P. University: _______________________________________

  Post Office: ___________________________________________

  State Bank: ___________________________________________
Treasure Hunt

• Describe how will you reach Treasure from (To be done orally)
  Road A: ________________________________________________
  Road B: ________________________________________________
  Road C: ________________________________________________
  Road D: ________________________________________________
  Road E: ________________________________________________

For simple present, cartoons, planning a page in a diary, writing out processes etc. were used. For other tenses like present continuous, simple past, present perfect, present perfect continuous, simple future – miming, stories, picture-stories, visuals etc. were used.

By now, pair work, group-work, general discussion became an everyday affair. Learning together was not a novel experience for them. The investigator now steered the students towards acquiring accuracy in writing. There were mistakes in their writing. The investigator pointed them out gently by taking rounds in the class approaching each one of them personally. One such task is interesting enough to note.

The Hospital Case

The students were divided into five groups. They were given the following cuttings and asked to write a story.
All the five groups wrote five stories. When the stories were shared, the investigator noted that all of them were very good observers. They noted even the minutest details and were particular while using words like pen, letter-pad, stick etc. The story was surprisingly same in all the five groups except for some words here and there. Even the sequence of the events was the same. The investigator then decided to try the same task with students from the Arts faculty. It was found that the students of the Arts faculty were not so good observers. They missed the minor details like pen, letter-pad, lamp etc. and stretched the story to some other end. The point behind indicating this difference is not to criticise the students from Arts faculty but to show how science students differ in temperament. They have a different way of looking at things. The investigator talked about this difference of attitude to the class showing those stories and in the light of this experiment explained how English for science would differ from general English, as most of the time, the science students have to
deal with facts and so they would rather have mastery over factual communication with the help of which they can improve their performance in the field of science.

The main genera of scientific English was emphasized. The investigator tried to strengthen the knowledge of these items in the students by using materials related to science. The items like simple present, imperatives, reported speech, passive voice, functional shifts, phrase prepositions, synthesisers and connectors, conditionals, adverbs frequently used in scientific English, adjectives describing various properties of object like colour, form, size, shape etc. were dealt in detail. The investigator also pointed out the peculiarities of scientific language like brevity, preciseness, exactness etc. The investigator showed the students some samples of such language. Later on when the investigator approached them with mixed samples, they could identify samples with scientific English. The students realised the skills they needed for sailing smooth in this particular field. To strengthen these skills in them, the investigator tried out various tasks with them. Here are some examples:

For imperatives the game ‘I am a hypnotist’ was played.

I am a hypnotist

In this game, some students were selected as subjects and one student played the role of a hypnotist. The hypnotist gave instructions using imperatives: for example:

Stand up    Sit down
Raise your hands  Kneel down etc.

The subjects obeyed the hypnotist.

The students were then asked to work in pairs, where they have to explain to their partners the followings:

i) How to seek admission to college hostel?
ii) How to open an account with the bank?
iii) How to get an id-card issued from the library?
iv) How to get a membership of the sports-club of the college?

As science students, they need to write up processes. To develop their writing skill, they were given following drill types in present / past simple passive.

(A) The liquid is heated. When the temperature reaches 100°C, the heating is stopped. The liquid is heated until the temperature reaches 100°C.
The material was stretched when it was 50 cm long, the stretching was stopped. The material was stretched until it was 50 cm long.

The basic exercise technique of a behaviourist methodology is pattern practice. Students by repeated practice learnt it quickly. This was the case of a habit formation as stated in the theories of Pavlov and Skinner.

For ‘conditionals’ the game ‘what will you do?’ was played.

**What will you do?**

The students were divided into two groups. Group A and Group B. The students from Group A asked questions to the students from Group B, for example:

If you win a lottery of Rs. One crore ... What will you do?

While answering the question the student had to repeat the whole sentence. For example:

If I win a lottery of Rs. one crore, I will buy a private plane.

The imagination of the students ran very wild. They came out with questions like:

If a tiger chases you ... If you become totally weightless ...
If a magician makes you a monkey ... If you meet Newton ...
If you die and become a ghost ... If you become a man-eater ...

It was difficult to decide who would ask the question and who would answer, so, their names were written on chits. Chits for group A and group B were kept separate. The investigator picked up one chit for Group A and one for Group B. They were much excited as they did not know whose names would be there on chits.

Then the following task was given to them for writing out conditionals in present, past and past perfect tense:

**Writing out conditionals**
Conditions:

1) A closed, B and C open.
2) A and B closed, C open.
3) C closed, A and B open.
4) B and C closed, A open.
5) A, B, C closed, bulb will not burn.

Write out sentences for the above conditions:

To give them practice in the reported speech the following task was given. They were made to listen to the following interview on the tape-recorder:

(1) Reported Speech in Extended Practice

A meeting between Mr. Coomer (the British scholarship officer) and an applicant Miss Reena Banerjee:

Mr. C: Come in Miss Banerjee.
R : Thank you.
Mr. C: Please sit down. Can I get you a cup of coffee or a cold drink?
R : Yes, thank you. A cold drink, please.
Mr. C: I'm just going to ask you a few questions. How long have you been studying English?
R : I've had private as well as school lessons for 14 years.
Mr. C: Just as background information, what do you do in your spare time?
R : I've always enjoyed drama, and also debating.
Mr. C: Why do you wish to obtain a scholarship to study in Britain?
R : Well I'm interested in studying medicine, and there are several good colleges in Britain dealing with this.
Mr. C: Very interesting. Finally, do you know that the grant only covers teaching Fees? What about your living expenses?
R : My sister will pay for my personal expenses.
Mr. C: Well, Miss Banerjee, we'll be writing to you next week. Thank you for coming.
R : Thank you so much.
The students were then asked to fill in the following script:

Reena meets her friend, Latha, after the interview. She is very excited and tells Latha exactly what happened. Fill in the spaces using reported speech. (Fill in boxes with reporting verbs.)

Reena : I think it went quite well. The interviewer was very pleasant.

Latha : What did he ask you?

Reena : Well, first of all he me a drink. Of course because my throat was dry! Then he me just a few questions.

He English.

Latha : What did you reply?

Reena : I 14 years — which is more or less true.

Next, he and that

Latha : Did he ask why you had applied?

Reena : I’m just getting to that! Yes, he did. I medicine, because there were quite a few excellent colleges in Britain teaching this.

Latha : Very good answer.

Reena : Yes, he said ! Finally, he me that

and me

I him that my sister

Latha : What happens now?

Reena : He said

Latha : I do hope you get it!
In the Task 'Raghu and his Pets', again the students were asked to listen to the following dialogues between Raghu and Sheela on the tape-recorder:

**Raghu and his Pets**

Raghu: I think one of my snakes has escaped.

Sheela: Isn't it dangerous? You really must stop collecting snakes, Raghu.

Raghu: But I like snakes, they are unusual pets.

Sheela: But I think it's dangerous thing to keep such pets.

Raghu: No, they're not, they are really ... er ... quite friendly.

Sheela: Huh, snakes require a great deal of careful handling and are still a risk.

Raghu: I don't mind. What matters is that I like them.

Sheela: Well, quite frankly, I hate them. They are awfully frightening to look at.

Raghu: Look, I am very careful and I handle them very gently. In fact, I don't have many.

Sheela: Have you ever been bitten?

Raghu: Well, it's true I've been bitten once or twice, but ...

After listening to the above dialogues, the students were asked to complete the following task:

**You are a friend who has overheard this conversation between Raghu and Sheela. Write to your sister reporting it. Give the conversation interesting, unexpected or humorous ending. (The first part has been done for you.)**

Janpath
5 January

Dear Varsha

As I know you're very interested in Raghu and his snakes, I thought I'd tell you about a conversation I've just heard between him and Sheela.

He told her he thought one of his snakes had escaped and, as usual, she told him to stop collecting them because they were dangerous. (Typical of Sheela, don't you think?)

By now, it was a practice with the class that anybody if came across something interesting (a write up, jokes, poetry, proverb – any such thing) he/she
would bring it to the class and share it with others. A student once brought the following interesting news-item.

He narrated the above incident in English. After that the students were asked to report the similar incidents imagining themselves as journalists. In connection with this news item some other students expressed their wish to share their experiences, which they had with their pets.

In order to sharpen the listening comprehension skill of the students, the investigator prepared an audio-cassette with the help of the students. The cassette has total 15 Listening comprehension tasks based on various scientific text and experiments from F.Y. B.Sc. syllabus. The tasks are listed below: (see appendix-iii)

1. Science and scientists
2. Siphons
3. The bicycle
4. The Refrigerator
5. Heat from energy of motion
6. Progress in Chemistry
7. Faster and faster
8. How to get preserved as a fossil
9. Stay healthy
10. Human parasites
11. A meeting between Mr. Coomer and Miss R. Banerji.
12. Raghu and his pets
13. An hour glass
14. Missing a Practical class
15. An experiment in Chemistry.

While doing listening comprehension tasks, one interesting task was tried out. The following task was given to them:

Telling a story: The following story was used by the investigator.

"It was evening and every one in the court-room was tired. Then the last case came up, a stupid looking man was accused of stealing a cheap watch. The witness
did not give a clear account of what had happened. He said he saw the man carrying something. But on further questioning he confessed that he was not sure that this was the man. The judge considered the matter for some time. Then he declared that there was no real charge against the man. So he cannot be accused of any crime. He said the case was dismissed. As the judge rose to go, the man came forward. He looked puzzled, “Excuse me sir, he said, but can I keep the watch now?”

The students were asked to form five groups. They were then asked to select one representative from each group. All the five representatives were sent out of the class. Then, the investigator read out the whole story slowly, giving meanings of words like accused, witness etc. in case they did not know. The investigator then confirmed with the students whether they had understood the story. They were free to ask questions if they did not understand the story properly. When they confirmed this, the first representative was called in. The students were asked to narrate the story to representative no. 1 without the intervention of the investigator. The representative no. 1 was free to ask questions to the students in case he/she had problems with any part of the story. Then, representative no. 2 was called in. This time representative no. 1 had to tell the story to the representative no. 2 without the intervention of the investigator and the students. In the same manner the story reached to representatives no. 3, 4, and 5. The students were quite amused when in the end, the representative no. 5 was asked to narrate the story to the class. It was quite different than the original story. In representative no. 5’s story the wrist-watch of one stupid looking man was stolen. He lodged a complaint with the police. But the police instead of returning the watch, kept the watch with them. The words like ‘tired’, ‘courtroom’, ‘cheap’ were common in all the five versions. However, in the final version, ‘the court room’ was replaced by ‘the police station’.

The task was a great fun for the students. But they realised one thing that listening, done without proper comprehension, can lead to misinterpretations.

The investigator invited some teachers from other subjects, two at a time. The students were asked to interview them in five minutes’ time. The students were informed about this on the previous day. So they came prepared with the questions. The interviews were recorded. Later on, the students were made to listen to these recorded interviews and were then asked to prepare a summary of it. With the help of
these summaries the students at leisure prepared, profiles of the invited teachers and with their passport size photographs displayed those profiles on the bulletin board.

‘Note taking’ is also an important part of their studies. So while listening comprehension tasks; they were asked to take notes, with the help of which, later they were to answer the questions, which followed the listening. The investigator taught them certain semantic markers and abbreviations which are useful in note taking.

While listening comprehension tasks the following sub-skills were concentrated upon:

1. Ability to understand the main theme
2. Word recognition
3. Ability to respond to intonation
4. Ability to understand omission of words.
5. Ability to distinguish between more important and less important information.

Some of the listening comprehension tasks were directly related to their coursebooks. The investigator designed these tasks taking the text from their text books of various science subjects. Some of them were:

(A) An Hour glass

In olden days, there were no clocks and watches to tell us the time. The hourglass was used to tell the time. It was made of glass and had sand in it. The level of sand indicated the time.

The hourglass is really made of two triangles which are equal in size. It looks as if one triangle is balancing upside down on the other triangles. They are joined together and at the place where the triangles meet, there is a very thin opening, enough for sand to pass through. Also, the sides of the triangles are rounded and not straight. But the bottom of each triangle is straight. The top triangle is full of sand. It slowly passes through the opening and collects in the bottom triangle. The level of sand in the bottom triangle indicates the time of the day.

(Doff, Adrian 1988 ‘Teach English’, Cambridge University Press)

Listen to this again. This time, as you listen, draw the thing that is being described. Compare it with that of your partner’s.
(B) Missing a practical class

[I]
Dr. Patel: Hello Meera. What are you doing here in the library?
Meera: Good morning Sir, I am looking for a book.
Dr. Patel: But I suppose you have a class now. Don’t you have your physics practical class now?
Meera: What? My time table says it is at 2.00 pm.
Dr. Patel: Ah, that’s the old time table. The time table has been changed. But don’t worry. If you hurry up you won’t miss much.
Meera: Thank you very much sir. I hope I don’t miss much of it.

[II] (In the Physics Laboratory)
Meera: Hello Mona, I hope I’m not late.
Mona: Oh, Hello Meera. I’m afraid you are late. Sir has already explained the experiment to us.
Meera: Oh no. I’m quite late. But I didn’t realise the timetable had been changed.
Mona: Don’t worry. I shall explain the experiment to you.
Meera: Thank you so much. I would have reached here in time if I hadn’t been to the library.
Mona: It’s OK. I shall read out the details of the experiment for you. Here it is.

[III] Fly wheel
Here are a few instructions regarding determining the moment of inertia of the fly wheel.

Apparatus: Fly wheel, weight box, stop-watch, vernier calliper, pan, flexible thread.
Procedure:
(i) Determine the least count of vernier calliper.
(ii) Measure diameter of the axle of the fly wheel.
(iii) Using platform balance, find out mass of pan.
(iv) Suspend the pan from the peg of the axle.
(v) Rotate the wheel in such a way that ten complete turns of thread are wound on the axle.
(vi) Put some mass in the pan.
(vii) Allow the pan to descend.
(viii) Count number of revolution (n2) which the fly wheel makes after the thread is detached.
Also measure the time ($t_2$) taken for these $n_2$ revolutions.

Repeat the observations for different mass in pan.

Imagine you have performed this experiment. Now write a report on it.

(C) An Experiment in Chemistry

Here is a formal description of an experiment in chemistry.

20 ml of the standard solution of exalic acid is pipetted out into a clean flask. About 25 ml of dilute sulphuric acid is added. The contents of the flasks are heated to about 80°C. This is filtrated when hot against the potassium permanganate solution which has been taken in a bottle. The end point is the appearance of the faint permanent pink colour. The titration is repeated to get concordant values.

Tell your partner how do you perform this experiment. Also write out step by step instructions for it.

(D) Human Parasites

Parasites are known for their complete dependence upon the host for food and shelter. Most of them also cause pathogenic diseases. The pathogenic parasites in man belong to Protozoa, Platyhelminthes, Nematodes and Insects among animals, and fungi, bacteria and virus in plants.

Here are the characteristics of some parasites. Try to identify them.

I. Parasitic Protozoa:

(Entamoeba histolytica)
- It looks like an amoeba but carries only one or two blunt pseudopodia.
- No contractile vacuole.
- Food vacuoles carry semi-digested red blood corpuscles.
- Ectoplasm and endoplasm are distinct.
- Found in feaces of the patient in the form of four-nucleated cyst.
- It causes amoebic dysentery or amoebiasis.
- The parasite inhabits the small intestine.
- It is transmitted in the form of cyst through contaminated food and water.

(Entamoeba Gingivalis)
- It is almost round and lives at the bases of teeth.
- It carries a number of food vacuoles filled with bacteria.
- Protoplasm not distinctly differentiated into ecto and endoplasm.
- Contractile vacuoles and pseudopodia are completely absent.
• No cyst formation.
• It causes pyorrhoea with bleeding gums giving bad breath.
• In later stages there occurs the decay of gums, and bleeding of tonsils inviting bacterial infection.
• Then the parasite undergoes rapid binary fission as it readily feeds upon bacteria.
• Transmission takes place through direct contact as during kissing and use of common utensils.

(Leishmania donovani)
• It is a unicellular parasite half the size of the R.B.C.
• It is an intracellular parasite found in W.B.C.s, liver cell, spleen, bone marrow cells and the wall of intestine.
• It has a long flagellum without undulating membrane.
• It causes kala-azar.
• It is transmitted by sand fly.

(Plasmodium Vivax (Malarial parasite))
• It is a blood parasite.
• It has different stages in its life history.
• It is found in polymorphic forms like crithidia, leptomonas and leishmania stage in its life history in blood or in the lymph vessel.
• The flagellum is free at the anterior end.
• Body is covered with a thick pellicle.
• Protoplasm is undifferentiated, single nucleus at the centre.
• It causes sleeping sickness (trypanosomiasis).
• It is a blood parasite.
• It is transmitted by tsetse fly.

Since these tasks gave them a familiar air students were quite relaxed. The investigator noticed that normally prior to listening they used to get very tensed and tried very hard to concentrate on the text/conversation which they had to listen to. But while listening to these tasks this was not the case. The students were found quite normal.
After the listening comprehension tasks were done, the feedback was taken from the students. All of them stated that they liked the tasks. They also praised the clarity of the voice and complained about the low quality of the cassette that they have to listen to as a part of their English practical class. (The audio cassette they get with the book entitled 'keep up your English' which is used as a course book for English practicals at F. Y. B. Sc.) They also said that they find it easy to follow the English spoken in the investigator's cassette where the speakers speak at a reasonable speed. However, the investigator did not seek any professional help in recording. It was done the way routine recordings are done at the language lab of H. M. Patel Institute of English Training and Research.

The students were also given some reading sessions. In these sessions, they were given about 17 stories, articles, abstracts, and news items. The following sub-skills were concentrated upon:

- **Skimming**: quickly running one's eyes over a text to get the gist of it.
- **Scanning**: quickly going through a text to find a particular piece of information.
- **Extensive reading**: reading a long text, usually for one's own pleasure. This is a fluency activity mostly involving global understanding.
- **Intensive reading**: reading a short text, to extract specific information. This is more an accuracy activity involving reading for detail.

In the beginning, reading was not tested. The investigator preferred silent reading and gave them a few tips to develop the skill of faster reading. Later, on the reading was tested by giving small tasks at the end of the text. The following is one example of such testing:

**Bad Breath**

Bad breath, medically known as halitosis, is an embarrassing problem, not only for the patient, but also for those around him. It gives rise to an inferiority complex and self-consciousness. The common oral causes of bad breath are decayed teeth, inflammation of the gums, inflammation or ulceration of the mouth and tongue, pyorrhea or putrid material in the tonsils, smoking and fever. Irregular and improper brushing and a high sweet diet also cause bad breath. It is necessary to have a regular dental check up to prevent the formation of plaque, a sticky film produced by bacteria, which irritates the gums, making them spongy and liable to bleed.
Prevention
Visit your dentist regularly for scaling (removal of the plaque). Brush your teeth regularly after meals. Rinse mouth with antiseptic lotion or salt water. Eat less sweets and rinse your mouth after you eat sweets. In case of tartar formation, dental flossing helps to remove food particles and prevent building up of plaque. In case of spongy gums which bleed, foods rich in vitamin C such as citrus fruits, amla, tomatoes, sweet lime and tamarind must be taken.

Treatment
For very strong bad breath caused by spongy gums of decayed teeth, and characterized by increased salivation and a thick, flabby tongue which retains a deep imprint of the teeth, five pills of Merc Sol should be taken twice a day for a few weeks. If an injury of the gums or teeth gives rise to bad breath and the mouth feels dry, Arnica three times daily for a few days is helpful. If bad breath results from pyorrhea, where the teeth are sensitive and the gums are retracted and bleed daily, two doses of a medicine prepared from vegetable charcoal every day for a few weeks is beneficial. In case of putrid breath with soft, spongy and easily bleeding gums, a few doses of nitric acid is useful. It may be necessary to repeat it weekly for a few months. Twenty drops of Saliva Officinalis is taken in a glass of water and gargled two or three times a day is an excellent mouthwash.

('Health' – excerpts from an article by Dr. Mukesh Batra)

On the basis of your reading of the passage, answer the following questions as briefly as possible. Write your answer in the spaces provided.

a) Bad breath is an embarrassing condition which makes the patient feel

b) What irritates the gums and makes them spongy and liable to bleed?

c) According to the passage, there are two things you must not do in order to avoid bad breath. You must not:

or

(d) Citrus fruits are good for treating spongy, bleeding gums because they:
Fill in the empty boxes in the table below with appropriate words or phrases chosen from the passage.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SYMPTOMS</th>
<th>NAME OF MEDICINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyorrhoea</td>
<td>Retracted, bleeding gums</td>
<td>a)</td>
</tr>
<tr>
<td>Injury</td>
<td>b)</td>
<td>Arnica</td>
</tr>
<tr>
<td>of gums</td>
<td>c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased salivation and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>thick, flabby tongue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d)</td>
<td></td>
</tr>
</tbody>
</table>

Students liked the passage and the discussion about the care for teeth generated a good amount of interaction. Students cited examples of people with adorable teeth, which included their favourite film-stars also and discussed various toothpastes available in the market. The discussion was then diverted towards the T.V. advertisement of these toothpastes and the false claims of the producers. One of the students advocated the use of ‘Datoon’.

Students responded well to all the reading comprehension tasks. However, the most favourites were ‘Whopping Walter Hudson’, ‘Gadgets’ and ‘Letters from the planet Aurigae II’. Students came out with all imaginative stories about tomorrow’s world, kinds of gadgets they would like to invent and aliens residing on other planets. One of the students brought in the reference of flying saucer and the people from different world. This added much excitement to the discussion and even the weakest student came forward to share his/her knowledge in the matter.

(A) “WHOPPING WALTER” HUDSON

You probably know the meanings of the words workaholic and alcoholic. What do you think a foodaholic is? Walter Hudson was one. How much do you weigh? Walter Hudson weighed more, much more. This is his obituary. WALTER HUDSON, Who has died at Hempstead, New York 46, was once listed in The Guinness Book of World Records as the heaviest man on earth.

About 183 cm tall and 274 cm around, with cherubic features set off by pigtails braided in the Cherokee style, he long devoted himself to the pleasures of the table. Four years ago, Hudson –then tipping the industrial scales at his top weight of 540 kg – gained worldwide notoriety (as “Whopping Walter”) when he became stuck
in his bedroom door. He was wedged there for some four hours. It took eight firemen to free him.

Walter Hudson was born at Brooklyn in 1945 and, as he recalled, "began gorging at the age of six. At 15 he was so obese his legs collapsed underneath him and he was confined to bed.

Indeed, except for the time when his family moved to Hempstead in 1970 and he was transported by motor-car (his 266 kg broke the seat), he remained inside. "I’m just a foodaholic," he once confessed, "I have no excuse."

Hudson’s eating habits were fuelled by food brought in by members of his family. He would generally start his day with a breakfast of two pounds of bacon, 32 sausages, a dozen eggs, a loaf of bread, jam and coffee.

For lunch, Hudson favoured four enormous bowls of rice, four double cheese-burgers, eight boxes of fried potatoes, six pies, and six large bottles of coca-cola. For dinner he would eat six roasted corns, half a dozen yams, and another six or seven baked potatoes, ending with a whole apple pie. Between these main meals, he would eat a chicken or two, followed by noodles, string beans, six large bottles of soda, not to mention colossal sandwiches, and copious amount of ice-cream.

“All I cared about,” he recalled, “was food, food, FOOD!”
When not eating and sleeping he would watch television, listen to tapes and read the bible - he had a particular penchant for the Psalms and was apt to recite Psalm 121. “I will lift up mine eyes unto the hills ...”

Hudson, though, was advised against sitting up for longer than five minutes because of the risk of the being smothered by flab. The only exercise he engaged in was when he attended to his ablutions; it took him an hour to negotiate the six yards to the bathroom from his bedroom. Then in 1987, he found himself wedged in the door-way “The day I got stuck in that door,” he recalled, “that when the Lord got me the help I needed.” The help to which he referred was offered by Dick Gregory, a comedian who masterminded the Slim Safe Diet Scheme.

“We think what might have happened,” said Gregory about his new client, “is that in 27 years of lying around might, because of the reading of his Bible, have taken on the same characteristics as Buddhist monks – slowed down the biological processes. But we don’t know.”

Gregory placed Hudson on a 1,200 calorie-a-day diet of raw fruit and orange juice. For exercise he was advised to lie in bed waving his arms about like a conductor.

Hudson soon lost four inches off his knees, and within three months had shed 178 kg. It began to look as if he might fulfill such ambitions as visiting his mother’s grave, riding on the New York subway, driving in to the country – and even flying to a clinic in the Bahamas, from which he envisaged emerging as a sylph of 13 stones.

But it was not to be. At the time of his death, of an apparent heart attack, Hudson reportedly weighted 508 kg. Rescue workers had to cut large hole in the wall of his bedroom to remove the body. He was unmarried.

(Interact in English workbook for course ‘A’ 1996. Central Board of Secondary Education, New Delhi)
I. Copy and complete the following table, using information from the boxes below. (Draw a X if there is no information to put in certain boxes.)

<table>
<thead>
<tr>
<th>Year</th>
<th>What happened</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>Family moved to Hempstead New York; broke the motor-car seat</td>
<td>540 kg</td>
</tr>
<tr>
<td>1987</td>
<td>Went on a diet, lost 178 Kg in three months</td>
<td>508 kg</td>
</tr>
<tr>
<td>1991</td>
<td>Became stuck in bedroom door for four hours; eight firemen had to free him</td>
<td>266 kg</td>
</tr>
<tr>
<td>1945</td>
<td>“began gorging”</td>
<td>362 kg</td>
</tr>
<tr>
<td>1951</td>
<td>Very obese; legs collapsed and he was confined to bed</td>
<td></td>
</tr>
</tbody>
</table>

II. Find words in the passage from the paragraphs indicated within brackets and complete the following sentences. Use only one word, in its appropriate form, in each blank.

1. Some people are so - - - to their work that have no time for their family. (para-2)
2. Harshad’s corrupt practices soon gained him - - - in the city. (para-2)
3. When a person is dehydrated, he should be given - - - amounts of fluid. (para-6)
4. He visited various vintage car rallies because he had a - - - for old cars. (para-8)
5. If you over-eat and do not exercise, you will become - - - . (para-9)
6. The driver had to - - - the winding road to the mountain top with caution. (para-9)
7. The new literacy programme - - - a 20% increases in the literacy rate over the next two years. (para-12)

III. a. Arrange the following words associated with eating on a scale ranging from ‘peck’ to ‘gorge’. You may add more words to the list given below:
Peck

<table>
<thead>
<tr>
<th>gorge</th>
</tr>
</thead>
<tbody>
<tr>
<td>eat</td>
</tr>
</tbody>
</table>

word: gobble, nibble, bite, hog, feast, gormandize

b. Form a similar scale for words that describe a person’s build:

<table>
<thead>
<tr>
<th>obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>skinny</td>
</tr>
</tbody>
</table>

IV. Have a class discussion —

1. What do you think life was really like for Walter Hudson? Was he happy? Did he have many friends? Think of the things that you do every day: what things could Walter not do? Also, what about clothes, chairs, a bed, washing himself -

2. Why do you think he did not go on a serious diet when he was much younger, so that he could live a fuller life?

3. What advice would you have given to Walter, on his diet?

4. Where do you think he got the money from, to eat so much of food?

5. Who do you think bought and cooked all the food he ate? Were they also to blame for Walter’s obesity?

V. The following is an entry in Walter’s diary:

| I woke at 10 am. I have put on 7 kg in the last three days. I watched TV all morning. All my clothes are now too small, so I phoned mother. She came at 3 p.m. with a tailor. He looked shocked and frightened when he saw me! He measured me for some new shirts and trousers. For evening dinner I had 10 backed potatoes, 2 Kg rice, six meat pies, 12 bananas, and four large cokes. Then I had problems getting through the bedroom door — I had to breathe in and squeeze my stomach through with my fingers. I went to bed at 8 p.m. and read the Bible. |

Write the next day’s entry in Walter’s diary. Make up information, in order to make your entry interesting.
Students enjoyed reading about Walter Hudson. They also talked about fat people they have seen. One of the students referred to the Muslim king Mohammad Begada who was also very fond of eating.

**B) LETTERS FROM THE PLANET AURIGAE II**

**I.** Have you read novels or short stories about life on other planets? What is this type of writing called?

Read the following extract from a letter received by someone on earth from another planet.

*Planet *Aurigae II*

*Dear Pen Pal,*

When I received your letter from the interstellar correspondence club, my first impulse was to ignore it. However, your description of Earth sounds exciting. I would like to live there for a while, and I have ...

**II.** 1. What does the letter suggest about its writer?

2. What do you think may happen between the writer and Pen Pal?

**III.** Now find out what happens, in this exciting Science Fiction story. The letter to Pen Pal continues ...

... a suggestion in this connection, but I won’t mention it till I have developed it further.

I must introduce myself. I am a scientist on the Planet Aurigae II. We have known for some centuries that there are other inhabited planets in the galaxy. Since I am allowed to experiment in my spare time, I have been amusing myself a communication with those planets. In fact, I have developed systems for intercepting communications between the planets in our galaxy, and was able to draw your own letter from the interstellar correspondence club.

You will have noticed the material on which this letter is written. It is a highly sensitive metal, very thin, very flexible, and I have enclosed several sheets of it for your use. Tungsten dipped in any strong acid makes an excellent mark on it. It is important to me that you write on it, as my fingers are too hot – literally – to hold your paper without damaging it. This is because the temperature on Aurigae II is more
that 250 degrees Celsius. This must seem extremely hot to you, but (unlike you) we are not a hydrocarbon form of life, and we find 250 degrees Celsius very pleasant.

I'll say no more just now. But before I close, I must tell you that I am a prisoner in the Aurigae jail. If you are still interested in writing to me, I shall be happy to continue the correspondence.

* Skander
   * pronounced “Our-ee-guy”

IV.

1. What does “a hydrocarbon form of life” mean?
2. What would a non-hydrocarbon form of life look like?
3. Why cannot Skander hold ordinary paper (from Earth)?
4. Why do you think Skander is in prison?

V.

Dear Pen Pal,

Your Prompt reply to my letter has made me very happy. I welcome your many questions, and I shall try to answer them all. However, I am not yet in a position to answer your question about how I plan to visit Earth, as my experiment has not yet proceeded far enough.

You are right in saying that it would be difficult for a being who lives at a temperature of 250 degrees Celsius to mingle freely with the people of earth. This was never my intention, so please relieve your mind. However, let's drop that subject for the time being.

I appreciate the delicate way in which you approach the subject of my imprisonment. But it is quite unnecessary. I performed forbidden experiments upon my body in a way that was deemed to be dangerous to the public welfare, so charges were laid against me. I have thirty more years to serve. It would be pleasant to leave my body behind and tour the universe—but as I said, we'll discuss that later.

I wouldn't say that we're a superior race. We have certain qualities which apparently your people don't have. We live longer—not because of any discoveries we've made about ourselves, but because our bodies are made of a more enduring element.
I am enclosing a photographic plate, properly cooled and chemicalised for your climate. I wonder if you would set it up and take a picture of yourself. All you have to do is arrange it properly on the basis of the laws of light—that is, light travels in straight lines, so stand in front of it—and when you are ready think "Ready!" The picture will be automatically taken.

Would you do this for me? If you are interested, I will also send you a picture of myself, though I must warn you: my appearance will probably shock you.

Skander

VI

1. From the first two letters, what have we so far learned about Skander?
2. What have we learned about the Planet Aurigae II?
3. Why do you think Skander started this correspondence with Pen Pal?
4. What impression do you have of Skander?

VII

Dear Pen Pal,

You say you showed the photographic plate to one of the doctors at the hospital—I cannot picture what you mean by "doctor" or "hospital" but let that pass—and he took the problem up with government authorities. Problem? I don’t understand. I thought we were having a pleasant correspondence, private and personal. I shall certainly appreciate your sending that picture of yourself.

VIII

Dear Pen Pal,

I assure you that I am not annoyed at your action. It merely puzzled me, and I am sorry the plate has not been returned to you. Knowing what governments are, I can imagine that it will not be returned to you for some time, so I am taking the liberty of enclosing another plate.

I cannot imagine why you should have been warned against continuing this correspondence. What do they expect me to do?—eat you up at long distance?
In any event, I would like your picture as a memento of our friendship, and I will send mine as soon as I have received yours.

Skander

IX

Dear Pen Pal,

Your last letters were so slow in coming that I thought you had decided to break off the correspondence. I was sorry to notice that you failed to enclose the photograph, puzzled by your reference to having a "relapse", and cheered by your statement that you would send it along as soon as you felt "better"—whatever that means. However, the important thing is that you did write. Here I am in prison, doomed to spend the next thirty years tucked away from the mainstream of life. Even the thought is hard on my restless spirit, though I know I have a long life ahead of me after my release.

In spite of your friendly letter, I won't feel that you have completely re-established contact with me until you send the photograph.

Skander

X

1. Why do you think Pen Pal showed Skander's photographic plate to a doctor at the hospital?
2. In all the last four letters, Skander is insistent that Pen Pal sends a photograph of himself. Why do you think Skander is so insistent?
3. Why do you think Pen Pal's government warned him against continuing the correspondence?

XI

Dear Pen Pal,

The photograph arrived. As you suggest, your appearance startled me. You'll notice that I've enclosed a photograph of myself, as I promised I would. Chunky, metallic looking chap, am I not, very different I'll wager than you expected. The various races with whom we have communicated become very wary of us when they discover we are highly radioactive, and that literally we are a radioactive form of life.
As you know, I have occasionally mentioned that I had hopes of escaping not only the deadly imprisonment to which I am subjected, but also from my body – which cannot escape. Perhaps you’ll be interested in hearing how far this idea has developed. The process involves an exchange of personalities with someone else. For this, it is necessary to get an impress of both individuals – of their minds and of their thoughts as well as their bodies. Since this phase is purely mechanical, it is simply a matter of taking complete photographs.

The next step is to make sure the two photographs are exchanged, that is, that each party has somewhere near him a complete photograph of the other. The third and the final stage occurs when I activate the sub-space energy flow between the two photographic plates. (It is already too late, Pen Pal. I have already set the energy in motion!)

Soon there will be an exchange of personalities – I will live in your body and you in mine.

You will take with you a complete memory of your life on Earth, and I will take along memory of my life on Auriage. As soon as I grow tired on Earth, I will exchange bodies in the same way with a member of some other race. Thirty years hence, I will be happy to reclaim my body, and you can then have whatever body I last happened to occupy.

This should be a very happy arrangement for us both. You, with your short life expectancy, will have outlived all your contemporaries and will have had an interesting experience. I admit I expect to have the better of the exchange. By the time you reach this part of the letter it will be ‘me’ reading it, not ‘you’. So long for now, Pen Pal. It’s been nice having all those letters from you. I shall write you from time to time to let you know how things are going with my tour.

Skander

XII

1. What exactly did Skander do?
2. Why did he do this?
3. Might this ever be really possible, at some stage in the future?
4. Would there be advantages and/or disadvantages in doing so?
5. Were there any clues in earlier letters that warned us of what Skander was planning to do?
Dear Pen Pal,

Thanks a lot for forcing the issue. For a long time I hesitated about letting you play such a trick on yourself. You see, the government scientists analysed the nature of that first photographic plate you sent me, and so the final decision was really up to me. I decided that anyone as eager as you should be allowed to succeed.

By this time you will have realised for yourself that a man who has been paralyzed since birth, and is subjected to heart attacks, cannot expect a long life span. I am happy to tell you that your once lonely pen pal is enjoying himself, and I am happy to sign myself with a name to which I expect to become accustomed.

With best wishes

Skander

---

1. Who has written the letter? (Original Pen Pal? Original Skander? “new Pen Pal”?)

2. Which planet does he live on?

3. When Skander and Pen Pal exchanged bodies and personalities, each received certain benefits. Write words or phrases in the scales under their names, to indicate the advantages to each. Decide who profited most from the exchange.

---

Imagine that five years have passed since the last letter. Skander and Pen Pal are both still alive. Write another letter from Skander to Pen Pal, outlining what has happened in the intervening years. What is your present situation? What are your thoughts? What are your plans for the immediate future? (NB. Decide: Are you the “original Skander” or the “new Skander”?)

Students liked reading these letters very much. They came out with a variety of stories from the English movies they have seen regarding the life on another planet.
The class was in true sense, very much excited talking about this novel subject and the investigator noticed that the students were very vocal, talking almost spontaneously. 
(Interact in English workbook 1996. Central Board of Secondary Education, New Delhi) 

(C) GADGETS

With your partner, discuss what this man is trying to do. Give a suitable title to the cartoon. 

Read the following text

One dictionary defines gadget as “any small, especially mechanical, contrivance or device”. A second says: “any interesting but relatively useless or unnecessary object”, while a third describes it as “a small machine or device that does something useful”.

Gadgets have probably been around as long as humans. Early inventors, Leonardo da Vinci among them, were full of ideas that might have become gadgets, but few left the drawing board because the means to manufacture them were lacking. This situation was changed by the Industrial Revolution. In fact, the 18th and 19th centuries saw a proliferation of gadgets. Gadgetry became a multimillion-dollar industry soon after World War II, when war-weary Americans longed to try new things and had the money to pay for them.

One reason why gadgets keep rolling off the assembly lines is that once you let one gadget into your home, another is usually required to take care of it. Thomas
Jefferson in the late 1700’s invented a clock that told the time of day, but then he had to invent a folding step-ladder to reach the clock for winding. Similarly, the invention of the unprotruding cork required the invention of the corkscrew; the tin can, a can opener, the coffee pot, a coffee mill.

Gadgets tend to produce revolutionary “advances” with each new generation. For a time after coffee was first drunk in Europe and the United States in the 17th century, people were satisfied with boiling the coffee grounds in water. Then in 1800 a Frenchman invented the first percolator, and coffee connoisseurs soon refused to make coffee without one. The electric percolator arrived in 1908, the automated electric percolator in 1931, and there are automatic brewing machines. Today, myriad types of coffee makers that drip, foam, hiss and bubble are annually among the bestselling of all gadgets. If it is any consolation, consumers are not the only ones who spend big money on gadgets; manufacturers do too. A little thing like the drip guard on an ice-cube tray cost Frigidaire nearly US $2 million to develop.

Why do people spend so much on gadgets they don’t need or, at least, could do without? Ralph Waldo Emerson believed the reason is the eternal human striving for improvement: “If a man makes a better mousetrap, the world will beat a path to his door.”

Whatever the reason, nothing indicates that the gadget boom will bust. Gadgets of the future are already springing from the minds of inventors: self-stirring saucepans, taps that turn on and off as one’s hands get near them, lifts that automatically raise kitchen appliances to eye level, and watches that will tell the hour on any planet in the solar system.

(Interact in English workbook 1997, Central Board of Secondary Education, New Delhi)

I. Write T (for True), F (False) or NE (no evidence) for each of the following:

2. Gadgets are of no use.
3. Today, people are as ready as ever to buy yet more gadgets.
4. The Industrial Revolution slowed the production of gadgets.
5. One gadget usually needs another gadget to make it work.
6. All gadgets keep changing with the passage of time.
7. World War II led to the making of more gadgets.
8. Gadgets of the future will make life better.
9. Adults like to play with gadgets, instead of toys.
10. A gadget is a small, useful device.

II. Bearing in mind the various dictionary definitions at the start of the reading passage, which of the following would you regard as a gadget? (Be prepared to justify your answer.)

<table>
<thead>
<tr>
<th>stapling machine</th>
<th>nail clippers</th>
</tr>
</thead>
<tbody>
<tr>
<td>windscreen</td>
<td>postage stamp</td>
</tr>
<tr>
<td>nuclear submarine</td>
<td>Boeing 747</td>
</tr>
<tr>
<td>blackboard</td>
<td>plastic ruler</td>
</tr>
<tr>
<td>ceiling fan</td>
<td>sea shell</td>
</tr>
<tr>
<td>staple remover</td>
<td>binoculars</td>
</tr>
<tr>
<td>key chain</td>
<td>(magnetic) compass</td>
</tr>
<tr>
<td>pair of compasses</td>
<td></td>
</tr>
</tbody>
</table>

III. One reason why gadgets continue to be made is that once you have one, you need another one to make it work. Copy and complete the table with gadgets that need another gadget to make it work. Add more from your own knowledge.

<table>
<thead>
<tr>
<th>tin can</th>
<th>can opener</th>
</tr>
</thead>
<tbody>
<tr>
<td>cork</td>
<td>cork screw</td>
</tr>
</tbody>
</table>
| Jefferson’s clock | ... ...

IV. The gadgets in III represent cause and effect relationships. For example.

- The development of the tin can led to the invention of the can opener.
- The cork screw was invented as a result of the development of the unprotruding cork

We can express cause (C) and effect (E) relationship in two ways. 

*When we want to emphasize the cause, we put it first in the sentence, e.g.*

<table>
<thead>
<tr>
<th>results in</th>
<th>causes*</th>
<th>E</th>
<th>results in</th>
<th>causes*</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>leads to</td>
<td>E</td>
<td>Heavy smoking</td>
<td>causes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>leads to</td>
<td></td>
</tr>
</tbody>
</table>

C causes* E the hurricane caused the plane to crash.

As a result, The landslide As a result the block
C In consequence E brought large In consequence, of flats
Consequently, rocks down Consequently, collapsed.
Because of this, the hillside. Because of this.
When we want to emphasize the effect, we put it first in the sentence, e.g.

E is caused* by C.  The famine was caused by a severe drought.
E as a result of C.  The accident happened as a result of bad weather.

(* The word cause is only used when effect is bad or undesirable. For example, we cannot say Hard work caused his success.)

V.  The following are causes and effects, mixed up. SAY as many cause and effect relationships as you can, having first decided whether you want to emphasize the cause or the effect. Then WRITE 10 cause and effect relationships, some emphasizing the cause and some the effect. (You will need to add words to make full sentences.)

<table>
<thead>
<tr>
<th>cause</th>
<th>effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>fire</td>
<td>severe flooding in low-lying areas</td>
</tr>
<tr>
<td>scarcity of land in cities</td>
<td>multiple accident at the road junction</td>
</tr>
<tr>
<td>mass production</td>
<td>broken sleep</td>
</tr>
<tr>
<td>over-eating</td>
<td>200 people homeless</td>
</tr>
<tr>
<td>hurricane</td>
<td>increased speed and accuracy in computation</td>
</tr>
<tr>
<td>poor visibility</td>
<td>mental breakdown</td>
</tr>
<tr>
<td>hole in the pavement</td>
<td>building high-rise blocks of flats</td>
</tr>
<tr>
<td>noisy traffic</td>
<td>cheaper goods</td>
</tr>
<tr>
<td>invention of electronic .calculator</td>
<td>heart problems</td>
</tr>
<tr>
<td>worries about examinations</td>
<td>broken leg</td>
</tr>
</tbody>
</table>

142
VI. Study this picture of a "nonsense" gadget. Find out and discuss how it works.

The following sentences describe how it works, but they are jumbled up. Decide on the correct order.

1. The birds fly forward, attempting to eat the worms.
2. The monkey pulls on the lever, attempting to reach the banana.
3. The birds’ movement pulls the car forward.
4. The driver opens the trapdoor.
5. The driver shuts the trapdoor, and (after a few seconds) starts the sequence all over again.
6. The lever turns the plate of worms upside-down.

Write the sentences in their correct order, to form a paragraph. Join the stages with appropriate cause and effect expressions.

VII. Identify the following gadget. Write a short paragraph (similar to the one you wrote in VI) saying what it is and how it works. You will need to include cause and effect expressions in your writing.
Students were quite imaginative talking about future gadgets which are yet to be invented. This generated a lot of inter-action in the class.

Most of the reading comprehension tasks were related to science, while some of the stories were of general interest. Stories were selected carefully and at the end of each story questions were given which forced the students to think in a particular direction. These value-based stories generated quite an interaction in the class and contributed in moulding characters of the students. A lot of discussion took place during these reading comprehension tasks. This was because, here the students were emotionally involved. They shared the stories on the similar lines and in eagerness to share their thoughts and emotions, they became the most vocal.

After reading ‘Naren’s Prayer’ when they were asked to decide on three things that they would like to ask the God for, they had to do a lot of mental exercise. When the investigator asked them to share their lists, they were surprised to find that almost every body had a desire for wealth, health and fame. Only two of them had different
desires. One boy had expressed his desire to serve his country. A girl had expressed her desire to be like Mother Teresa. When others came to know about this, they wanted to do rethinking. The final list was quite different from the earlier, where all of them had expressed their desire to serve the mankind in different ways. One of the students expressed his desire to share a story with others. He was allowed to do so. The story was like this:

"Once a fakir went to the Emperor Akbar to ask for money. The Emperor was saying his prayers. He prayed, ‘O Lord, give me money; give me wealth.’ The fakir started to leave the palace, but the Emperor motioned to him to wait. After finishing his prayers, Akbar came to the holy man and said, ‘Why were you going away?’ The fakir replied, ‘You yourself were begging for money and wealth; so I thought that if I must beg, I would beg of God and not of a beggar.’

Yet another student expressed his desire to sing a prayer ‘Itani shakti hame dena data …’ The investigator allowed him for that and others also joined him. The investigator was happy to see the change taking place in students.

*To give them a practice in scanning information from a text, the following task was given.*
Excerpts from an online chat with Union Tourism and Culture Minister Ananth Kumar conducted on August 2, 2000

Uttam Saha: How do you plan to use it in the tourism industry?

Ananth Kumar: By creating a national network through e-mail, e-commerce, one-touch kiosks, information kiosks and interactive portals.

Ranjan Sharma: What is the charter of the Culture Ministry?

AK: To preserve, promote and project Indian culture.

Bharat Gogia: Can we have a Palace on Wheels in more cities?

AK: We are planning one in Maharashtra, connecting Ajanta and Ellora. The third will be in Karnataka, a journey to Belur, Halebid, Mysore, Hampi, Bijapur, Badami and Pattadkal.

Visit Bhat: The common refrain of artists is that they are not getting enough patronage from the Government...

AK: The Government is only the facilitator, promoter, not the regulator of culture. Culture should be steered by the people. It is not state-driven activism.

Krishna S: By when will disinvestment in ITDC take place?

AK: If you want a political answer: as soon as possible. But a professional one: not before 18 months.

Krishna S: What are your plans to increase international tourist traffic?

AK: Our foreign tourist arrivals for 1999-2000 was 2.48 million. Compared to the previous year, it’s a 5.2 per cent rise. In foreign-revenue earnings, tourism is No. 3 after textiles and software and accounts for Rs 12.248 crore. We have 25 million NRIs in the world. We are planning packages for them to double foreign tourist arrivals in a year.

Preetiya Janardana: In the realm of globalisation, is Indian culture at stake?

AK: Indian culture is not threatened because its mainstay is Ane bhadra krit-

**“Culture is not state-driven activism”**

But the cultural invasion of the West via the electronic media is vitiating the atmosphere in our bedrooms and living rooms.

---

('India Today' Dec., 1997)

Answer the followings:

[A]

1. Read the chat-show and list out the names of the places mentioned in it.
2. In this chat-show the minister who is being interviewed has a portfolio of (A) culture (B) Railway (C) Agriculture (D) Tourism and culture.
3. The disinvestments in ITDC will take place within (A) 20 months (B) 18 months (C) 10 months (D) 9 months
4. Our foreign tourist arrival for 1999-2000 was (A) 2.48 million (B) 3.00 million (C) 3.48 million (D) 2.00 million
5. In foreign-revenue earnings, the number of tourism is the (A) first (B) second (C) third (D) fourth
6. By which media is the cultural invasion of the West taking place (A) Press (B) Television (C) Newspapers (D) Electronic

146
1. How does the minister propose to use IT in the tourism industry?
2. What is the charter of the culture ministry?
3. What is the common refrain of artists?
4. In what way can we increase international tourist traffic?
5. Do you think in the realm of globalization, Indian culture is at stake? State reasons for your answer.

All reading comprehension tasks were very well received and were successful in generating the desired amount of interaction in the class and contributed in enhancing the classroom atmosphere.

To develop logical reasoning in the students, some tasks like jumbled up letters, jumbled up stories, omitting non-sense words etc. were given. To develop imagination, some invention activities were also done. For example:

**Invention Activities**

- **The investigator asked the students to:**
  1. Invent connections between two objects: e.g. jacket-glass. This can be done in the form of a short story.
  2. Invent uses for an object: e.g. an empty tin can

In order to develop the skill of cohesion, tasks like guided composition, developing stories, developing paragraphs, connecting stories together etc. were given. One among them was 'pick up the thread'.

**Pick up the Thread**

In the beginning the central theme of the story was introduced by the teacher. Then the student 1 will begin the story. After two minutes, the teacher will ring a bell. So student 1 has to stop and student 2 has to now pick up the thread and continue the story. The condition was that every thing, every sub-event has to contribute to the central theme. The structure of the short story would resemble the figure given below:
The students were then asked to write the whole story from their point of view.

Another game in this direction, which was much liked by the students was 'Play the Journalist'.

**Play the Journalist**

One student was asked to Play the Journalist. Others played the people living in a particular area. The journalist comes to know about the incident of a bomb blast in that area. The journalist reaches that place and inquires about the incident. He talks with people gathered at the spot. The information that he receives is in fragments. He has to now prepare a report about the incident which he then will present before the class. The students were eager to play the journalist as he would be the central figure of the whole game, talking at a time with people gathered around him, anxious to share whatever little information they have. To give chance to all of them, five teams of journalists, each consisting four students, were formed and the game was played several times reporting a different incident every time. To bring in reality in the whole scene, some students were asked to play the Police Inspector, Photographers, fingerprint experts, Officials from the Crime branch etc. Some previously recorded sounds like coming of a car, shutting the doors, blowing of a whistle, foot steps, orders given by the Inspector and the doctor etc. were also used. The journalist team was then asked to submit a report of the incident with the help of the group members.

The students enjoyed the dramatization of the scene and even insisted on inviting their friends to witness the scene.

Now some more complex activities were introduced wherein the students were expected to think critically about the given issue and thereafter do tasks like writing reports, drafting letters, simulation, coming to decisions etc. were done. The following activity is one example of such projects undertaken during the year: while using these projects as strategy the following objectives were taken care of:

1. Contextualization
2. Individualization
3. Problem-solving
4. Genuine language use
5. Flexible time frame
Project Shantinagar

“New Life For Shantinagar City Centre!”

Shantinagar is like many other Indian cities of the 1990s – its city centre is suffering from very many problems. Recently, things have become so bad that these problems have been discussed by almost every one. Naturally, different people have different ideas on what to do about them –

C.1 Your teacher will ask you some questions about the map in C.2, in order to help you understand the problem.

C.2 Listen to this conversation about Shantinagar’s problems. Three of the people are residents of Shantinagar, and the fourth is a visitor. As you listen –

(a) Use the key in the lower right hand corner of the map, and mark the sites areas on the map. (use a pencil)

(b) Copy and complete the table. (in pencil)

<table>
<thead>
<tr>
<th>City centre problems</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxi meter work shop on Sikandra Marg</td>
<td>Move it to vacant land on Manakpura Marg.</td>
</tr>
<tr>
<td>– causes traffic jams</td>
<td></td>
</tr>
<tr>
<td>Shopkeepers putting goods on pavement</td>
<td>---</td>
</tr>
<tr>
<td>on Sikandra Marg</td>
<td></td>
</tr>
<tr>
<td>Vehicle in central shopping area</td>
<td>(a) ----</td>
</tr>
<tr>
<td></td>
<td>(b) ----</td>
</tr>
<tr>
<td>Airplane noise</td>
<td>Build new runway, N-S</td>
</tr>
<tr>
<td>Car horns</td>
<td>---</td>
</tr>
<tr>
<td>Loudspeaker vans</td>
<td>---</td>
</tr>
<tr>
<td>Vehicle exhaust gases</td>
<td>---</td>
</tr>
</tbody>
</table>
C.3 For each of the five extracts below, choose a suitable headline from the following seven:

1. extract from *The International Journal Of Environmental Pollution*
2. Taxi drivers Association Welcomes Proposed New Regulation on Vehicle Pollution
3. A Pavement — for People to Walk on — Please!
4. SHANTINAGAR MUNICIPAL COUNCIL — Regulation 2/674 - Vehicle Pollution Control
5. Sources and Effects of Noise Pollution
6. Vehicle Pollution Control Regulations will be Difficult to Enforce, Say Police
7. Storm of Protest against Vehicle Pollution Control

(A) Notice is hereby given that with effect from 1 September the Municipal Corporation proposes to introduce the following regulations:

1. All vehicles (public and private) operating within the city boundaries shall be required to take a test to determine the amount of carbon, dioxide and other poisonous gases being emitted.
2. Such tests will be conducted in the Municipal Corporation’s Vehicle Inspection Centre on Roshanara Marg.
3. Vehicle passing the test will be issued with a “Pollution OK” certificate valid for six months, which must be clearly displayed on the windscreen at all times.

4. Vehicles failing the test will be refused a certificate, and will not be permitted to use public roads.

5. Any driver driving a vehicle without a “Pollution OK” certificate will be subjected to an on-the-spot fine of Rs. 500, when stopped by the police.

Any person wishing to object to part or all of the proposed regulations above should contact the Municipal Corporation not later than 30th June, setting out their objection(s) in writing.

(signed) A. K. Bhatt.

Chairman, Shantinagar Municipal Corporation

13 May 19xx.

(B)

SHANTINAGAR TIMES

15 May xx

Angry taxi-drivers, bus-drivers, lorry-drivers and private car owners yesterday threatened “violent opposition” to the Municipal Corporation’s proposed vehicle regulations to control the emission of carbon dioxide and other poisonous gases. ‘It will cast far too much: I simply can’t afford it’, shouted one angry motorist, when questioned by this reporter. A bus driver added, ‘Why should the driver of the vehicle has to pay the on-the-spot fine? This isn’t my personal bus: I just drive it.’

Taxi owners, too, are incensed at the new regulations. ‘Why weren’t we consulted?’ they demanded angrily. ‘We will have to spend a lot of money getting taxis fixed in order to meet these tough regulations. This will put up taxi fares at least 25%. The public will suffer—’

(C)

Research recently carried out by Prof. S. K. Banerjee of the Department of Environmental Studies, University of Shantinagar, India, suggests that noise levels during peak traffic hours in the centre of Shantinagar frequently reach 130 decibels. The incidence of deafness among the population is 4.6 times higher than normal. The City Hospital also reports large numbers of patients suffering from asthma and other respiratory illnesses, the direct result (reports Prof. Banerjee) of carbon dioxide poisoning from vehicle exhaust fumes.
Dear Sir

I was recently walking along Sikandra Marg with my wife and young children, on our way to the park. Unfortunately, we were not able to walk on the pavement, because our way was totally blocked by an endless display of goods from adjacent sops, and by innumerable hawker-stalls. We tried to walk on the road, but delivery vans, illegally parked cars, and normal traffic using the road made our journey extremely hazardous. My dictionary describes a pavement as “a hard surface or path at the side of a street for people to walk on”. But Shantinagar appears to have a different definition.

I urge the Municipal Corporation to do something about this extremely dangerous situation – before lives are lost.

S. M. Sharma.

Noise Pollution is a problem in urban area. Loud noise annoy people and under some circumstances, can cause damage to hearing. Noises are measured in units called decibels. The chart below shows the approximate decibel level from sources of noise and the effects various decibel levels can have.

<table>
<thead>
<tr>
<th>Source</th>
<th>Decibels</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet airplane take off</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>At close range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent exposure to rock</td>
<td></td>
<td>Possibly damaging to hearing</td>
</tr>
<tr>
<td>Music at close range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jackhammer</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Car horn</td>
<td></td>
<td>Annoying</td>
</tr>
<tr>
<td>Heavy traffic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum cleaner</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Residential street traffic</td>
<td></td>
<td>Acceptable</td>
</tr>
<tr>
<td>Average living room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whispering</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Breathing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
C.4 Punctuate the following:

The city of Lagos in Nigeria has come up with an innovative solution to its traffic jams. Drivers can only bring their cars into the city centre on alternate days if their vehicle registration number ends with 0 to 4, you may drive in the city centre Monday, Wednesday, and Friday; if your number ends with 5 to 9, your lucky days are Tuesday, Thursday, and Saturday, Sunday. The answer is that everyone is welcome.

C.5 Your teacher will now arrange you into groups of four, and will give you role cards together with necessary instructions for a role play. In your groups, you will play the role of:

1. The Chairman of Shantinagar Municipal Corporation
2. A shop-keeper
3. A concerned citizen
4. A taxi driver

One person from your group must act as a group secretary and note down points as you discuss. Another person must be the group speaker, who will use these notes at the meeting of the whole class to be held later.

Your task is to decide what changes you wish to see, in order to help solve the problems of Shantinagar's city centre. Take ideas from the extracts you have just read, from the conversation you listened to in the beginning of this section, and also use your own ideas. If you cannot agree on a particular proposal, take a vote on it and proceed to another proposal.
You will find the following language useful in your role play:

SUGGESTING

CONSENSUS
Suppose we (Verb) ... ?
What about Verb + ing ... ?
How...
I think ...
I suggest ...
I've got an idea.
then.
What if we Verb ... ?
Would it help if ...?

AGREEING
Great!
Good idea.
Fine!
Right.
OK.
I'm sure
I think you're right.
I agree with...
Agreed.
I agree up to a point.

REACHING
Are we agreed, then?
Is everyone happy
Can we agree (on) ...?
Is that agreed
all right then ...?
So the consensus is that
OK?

DISAGREEING
That's no good, because ...
I don't think that would work because ...
I disagree ...
I strongly disagree ...
I'm against ... because ...
I don't know about that.

C.6 After the role play, your teacher will convene a class meeting. At this meeting, one member of each group will be asked to report briefly on their group's proposal + reasons. There will also be an opportunity for other students to question the speakers, and to join in a general discussion.

C.7 Think now, of your own city or town, not Shantinagar. This may be either where you live, or where you are at school. Think of 4-6 particular problems of that town or city. (Some may be same as Shantinagar, some may be very different.) Write a formal
letter to the Chairman of the Municipal Corporation, offering solutions to those problems. If it helps, include a sketch map in your letter.

Organise your letter like this:
(Your address)
The Chairman
Municipal Corporation
(address)
(date)
Dear Sir
Sub: (suitable heading)
Paragraph 1: introduction – your reason for writing, summary of main problems
Paragraph 2: problem 1 + your proposal
Paragraph 3: problem 2 + your proposal
Etc.
Final paragraph: summary of action that you want the Municipal Corporation to take.

Yours faithfully,
(your signature)
(your name)

Following the guidelines, students wrote letters to the municipal corporation regarding the absence of gutters and a regular throw of dirty water near some apartments.

In order to boost up the confidence of the students, the investigator also arranged a seminar competition. The following presentation was done by a girl-student who stood first in the competition:
Air Pollution Due to Automobiles & Its Remedial Measure - Infra Red Gas Analyser

Introduction

Air pollution is the stupendous problem that man has ever faced, is facing and will face till the existence of the earth. Automobiles are major source of air pollution. Hence, it becomes necessary to prevent it. We cannot prevent it totally but to minimize, it is necessary to have your automobiles regularly PVC (Pollution Under Control) checked. It is done by instrument known as Infra Red Gas Analyser.

Principle

It is based on the principle that different gases absorb light radiation at characteristic wavelengths.

Construction & Working

(P.T.O)
Diagrammatic representation of front view of Technovation 5000, Series Infra-Red Gas Analyser.

Technovation 5000 consists of three individual displays as seen in front view.

A = Upper part is of CO level of 0.86%.

B = Middle part is of HC level of 0-2000 ppm.

C = CO₂ level of 0-10%.

There are three different gages for each of the individual display. D is the switch of internal pump. Also there are three individualSPAN regulators for three gases. Power is 220 V AC supply at 50 Hz.

It has humidity of 0-85% RH and weight is 5.7 kg. Its back panel consists of filler tube.
which removes particulate matter followed by absorber tube consisting of silica gel which absorbs moisture from the inlet sample of smoke (0.85% RH) and filter which removes particulate matter down to 20 μ size.

Working: The inlet of machine is attached with exhaust of vehicle. Inlet nozzle determines the amount of gas to be drawn. The sample (gas) then passes to filter tube where big particulate matter is removed. Then it is passed to absorber tube where silica gel absorbs humidity from sample again and then sample passes to check out and same fine filter which removes particulate matter of size less than 20 μ in size. Then this aliquot sample is collected in pet from where it passes into analyzer and we get output result within 20-60 seconds.
REMEDIAL MEASURES.

Beside your vehicle regularly PVC checked, it is necessary that the vehicle's engine should be thoroughly checked at least once in a month. Always use clean and undiluted petrol. Use four wheelers use of catalytic converter is also recommended and then only.

we'll be able to live, we'll make others to live by keeping our clean
global environment.

X

BHUVAN PATHAK
F.Y.B.Sc
1999-2000
V.P. & R.P.I.P. SCIENCE COLLEGE.
To give them further practice in report writing, one more such task was given. However, here the emphasis was laid totally on report writing. The investigator avoided the role play of any kind and concentrated fully on writing skill.

**Promoting Tourism**

I. Imagine that you are the Director of the Department of Tourism of the State of Rajasthan. You have recently received the following letter from the Minister of Tourism.

**Government of Rajasthan**

Ministry of Tourism

23rd Nov. 2000

Director of Tourism,
121 Janta Bazaar,
Udepur,
Rajasthan.

Dear ...

As you are aware, local and international tourism is becoming important to Rajasthan. It is now a major employer, and a significant means of earning foreign exchange. I am therefore anxious to promote and develop the State’s tourism industry.

I should like you to study the present trends in tourism and send me a report on their main features, with projections for ten years’ time. I should also like to receive your recommendations on certain matters. Specifically, your report should deal with the following:

Origin of Tourists: Where are they from – India and/or foreign countries?

What do you predict will be the figures in 10 years’ time?

What action do you recommend?

I look forward to receiving your report.

Yours sincerely,

(Mrunal Pandey)

Minister of Tourism
II. In section III you will write the report asked for. First, though, it is necessary to study the following statistics and draw appropriate conclusions. Work in groups of four. Discuss the three Figures in this section and the questions that follow each Figure, and write notes to answer those questions.

Fig. 1. Number of tourists over the last five years

1. What has been the general trend in the number of tourists visiting Rajasthan over the last five years?
2. Which groups have shown increases, and by how much?
3. Suggest reasons for the changes over the last five years, for both groups of tourists.

Fig. 2. Accommodation Preferences (this year’s figure)

1. For each group of tourists, which is the most popular type of accommodation?
2. How many tourists of each group stayed in these most popular types of accommodation?

3. Suggest why different types of accommodation are more popular with different types of tourists.

<table>
<thead>
<tr>
<th>Type of accommodation</th>
<th>Number</th>
<th>Total number of beds</th>
<th>Occupancy rate (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 star hotels</td>
<td>3</td>
<td>780</td>
<td>85</td>
</tr>
<tr>
<td>4 star hotels</td>
<td>5</td>
<td>500</td>
<td>92</td>
</tr>
<tr>
<td>3 star hotels</td>
<td>10</td>
<td>350</td>
<td>65</td>
</tr>
<tr>
<td>1 and 2 star hotels</td>
<td>16</td>
<td>465</td>
<td>82</td>
</tr>
<tr>
<td>guest houses</td>
<td>32</td>
<td>255</td>
<td>78</td>
</tr>
<tr>
<td>youth hostels</td>
<td>13</td>
<td>780</td>
<td>95</td>
</tr>
</tbody>
</table>

Fig. 3. Types of accommodation (this year's figures)

1. What does the final column mean? Why is it important
2. There are three 5 star hotels and 13 youth hostels, yet each type of accommodation has the same number of beds. Explain.
3. Which are the two most popular types of accommodation?
4. Which type of accommodation have occupancy rates of 85% or over?

III. Work with a partner to write the report asked for in I. You are the Director of Tourism for Rajasthan. Make sure that...
- You answer all the questions raised by the Minister
- You quote from the statistics in II to support the points you make.
- You follow the report format and style in IV below.
- You use the language advice given in V below.

First study IV and V then (working in pairs) write your report.

IV. Report
From : (your name), Director of Tourism, Rajasthan
To : Minister of Tourism, Rajasthan
(Date)
(Suitable Heading)
(Suitable introduction, e.g.). You recently asked me to submit a report on tourism in our State – specifically, present trends, projections for 10 years’ time, and
recommendations on certain matters. The following are my findings and recommendations:

1. Current trends
   1.1 Origin of Tourists
       (Summarize your answers to Questions 1-3 under Fig. 1)
   1.2 Accommodation
       (Summarize your answer to Questions 1-3, Fig. 2)

2. Predictions for 10 years in the Future
   2.1 Origin of Tourists
       (On the basis of Fig. 1 and your own personal views, predict the situation in 10 years’ time)
   2.2 Accommodation
       (On the basis of Fig. 3 and your prediction in 2.1 above, predict the number of beds needed in 10 year’s time for each type of accommodation.)

3. Recommendations
   3.1 Accommodation
       (On the basis of your predictions in 2.2 above, recommend the types of new hotel needed in 01 years’ time)
   3.2 Other means of attracting Tourists
       (Do you have any recommendations to make?)

4. Conclusions
   (a suitable ending, possibly expressing confidence in the future of tourism in Rajasthan, if action is taken now)

(Your Signature)

(Your name)
Director of Tourism

V. In your written report, you will find the following language useful:
When describing trends and changes:

- sharp fall
- has dropped sharply
- gradual decline
- in ...
- gradually declined
- steady rise
- risen steadily
- steep rise
- risen steeply

... has leveled off at
When making projections:

- **forecast**

  It is projected that approx ...

  I would predict that approx ...

  Present trends indicate that approx ... is projected to reach approx ... in ...

When expressing probability:

- **probable**

  The probability is that ...

When making recommendations:

- **recommend**
- **urge**
- **propose**

  It is proposed that ...

  recommended

  My recommendation is that ...

### IV. A Final Check

Before you hand in your report:

1. Have you answered all the questions in the Minister's letter in I?
2. Have you proof-read your report for accuracy in grammar, spelling and punctuation?
3. Is your report written in a simple, easy-to-read, interesting style?
4. Have you asked a classmate to read your report, and give you feedback on it?

The students then presented their reports before the class. A group even prepared some transparencies to present their views. The students did most of the writing on their own but the investigator, to polish their writing skill suggested some changes and guided them time and again.

### 4.6 Feedback from the Students and Observers

During the experiment, at regular intervals, feedback was taken by the investigator. The observers provided the following comments:

1. The students needed a lot of support in the initial stage for gaining confidence as well as for using the language.
2. The changed role of the teacher from an authoritarian to a counsellor made miracles.

3. Pair work and Group work provided to be quite fruitful.

4. This new approach is far superior to the traditional approach where the students' involvement is 'zero'.

5. Sharing responsibility with students can very well solve the problems of indiscipline and unrest among students.

6. The general awareness of the students is increased.

7. Students were more active and participated in learning wholeheartedly.

8. The course also contributed to the overall development of the students.

9. The teacher's role is not limited to just passing the information to the students, he/she has to also contribute to the character building.

10. Education is not just the process of transmission of knowledge, which is there in the teacher's head. The teacher can only facilitate, the learning is to be done by the learners.

11. Instead of making the students depend on her, the teacher tried to make them self-reliant.

4.6.1 The Students Provided the Following Comments

1. We were given more opportunities to talk, discuss and share our ideas with friends.

2. We always looked forward to English classes.

3. We feel more confident.

4. We never thought that learning could be a two way traffic. We liked the way teaching was done in the class.

5. Till now, we thought that English is a boring subject and the most difficult to learn. Now, for us, English is the most interesting and the easiest to learn.

6. We enjoyed the language games played in the class.

7. We were free to say whatever we wanted to say. The teacher acted like our friend.

8. We have English at only F. Y. B. Sc. level. We wish we can have English at S. Y. B. Sc. And T. Y. B. Sc. Also.

9. We learnt many new things in the class which we did not know.

10. The coaching done in this class also helped us in other science subjects where we have to take notes and write answers in English.
11. Presenting seminars and facing viva were a matter of great tension for us. But after attending this class, we have started feeling confident.

12. We liked to study through materials related to science.

13. The time given to this class is not at all sufficient. More time should be allotted to English classes.

14. We liked to work in pairs and groups but the materials should be given individually. We did not like to share it with others.

15. Some of our performances were recorded by the teacher. Later on when it was played, we liked to hear our voices and we also learnt from our mistakes.

To know what students expect from their teacher the following survey table was given to them:

<table>
<thead>
<tr>
<th>Frequency surveys (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A good teacher I have known</td>
</tr>
<tr>
<td>How often did he or she ---</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Very often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. give homework?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. play games?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. make jokes?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. give punishments?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. praise?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. criticize?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. get angry?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. smile?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The common factors among all the answers were that the students wanted their teacher to smile all time, play games with them sometimes, praise often and never criticise. The face of the teacher, if one tries to form from their answers was that of a friend, a counsellor, who observes their progress constantly and is always there, when they need support.

At the end of the course, through a questionnaire the investigator also tried to find out whether they feel that their level of fluency and accuracy has gone up or not. The questionnaire also tried to find out whether they liked to study through such
package or not. And if so, what kind of materials they will prefer. (see appendix-iv) Most of them said that their level of fluency has gone up and declared that they liked this course.

4.6.2 Attitudinal Difference Between the Experimental Group and the Control Group

In the experimental group, the students were totally involved. While in the control group, in the beginning, the students seemed interested but after a few weeks, they were rather indifferent. Because of the monotony of the classroom procedure, they gradually lost their interest. Most of the time they were not attentive. There was a tremendous lack of motivation. They always tried to shirk when they were asked to do some task independently. They were reluctant to open their mouth and even when they spoke they tried to seek support from others. The general tendency among these students was to keep away from the class. While the students in the experimental group were quite motivated and as the time passed, their involvement increased. They gained confidence and were quite inter-active. They always looked forward to this class and even came for extra classes. They were highly motivated.

4.7 Problems Faced

If a student was absent for one class due to illness or some other reason, it was difficult to make up the loss because they have a very tight schedule. In that case, the student had to sacrifice some other class, which was not desirable. The only alternative left was to call him on Sunday.

There was no extra class given for remedial teaching. So the investigator had to take care of the weaker students during the regular class.

The students have only one session of two hours per week, for the subject of English. So there was much gap between two classes. To overcome this problem, the investigator called the students in the morning hours i.e. from 8.00 a.m. to 10.00 a.m. for one extra session. With the result, the students were over-burdened on that particular day as their normal schedule runs between 10.45 a.m. and 5.15 p.m. Some days they have zero classes also. In that case they will have classes from 10.00 a.m. to 5.15 p.m.
Many students aspiring to join Medicine, Engineering, Pharmacy and such other courses got admission in the month of September. So by October, nearly 150 students from F. Y. B. Sc. had left the college. To make the system compact, in the second term, the batches were reshuffled by the administrative office. This disturbed the groups. Because of the restructuring of the batches a few students were sent to other batches. However, the investigator, with the help of the authorities, managed to bring them back in their original batches.

Because of the tight schedule, it was difficult to arrange any programme or extracurricular activity in the college. So, the college has a tradition that whenever such programme is arranged they will cut down 15 minutes from each lecture. That means on that day, 45 minutes’ lecture will be that of 30 minutes’ only. Accordingly, English class which has normally two hours, will have on that day only one hour and fifteen minutes. This created problem as it was difficult to complete the targeted tasks in less time.

4.8 Tests

In the course of the experiment, two tests were administered.

(a) Pre test
(b) Post test

This section gives a description of each of these tests. Both, Pre test and Post test were administered by the investigator independently. Care was taken to keep the format of both the Pre test and the Post test as uniform as possible.

4.8.1 Scoring Procedures

In order to analyse the students’ performance, it was essential to mark the tests. The marking was done as objectively as possible. A scoring procedure was prepared for this.

4.8.2

(a) Pre - test

This test was administered at the beginning of the experiment.

Objective

To measure the students’ level of competence before the actual try out.
Construction: The test was constructed with care to make it reliable and valid. For this purpose, it was considered necessary to adopt the procedures of piloting and revising the test. In order to find out whether the test items were valid and reliable, the first draft of the test was piloted on a small group. The students selected for this purpose did not belong to the experimental or the control group. After piloting the test, the necessary changes were made.

The Description of the Pre-test

There are total six questions. The test was that of total 60 marks.

<table>
<thead>
<tr>
<th>Q : 1 (A)</th>
<th>Students will choose a word or a phrase that best completes the incomplete sentence. There are four possible answers to choose from. There are five questions in it.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q : 1 (B)</td>
<td>Students have to make necessary changes in the sentence as per the instructions given in to the bracket. There are five questions in it.</td>
</tr>
<tr>
<td>Q : 1 (C)</td>
<td>Grammar based ‘do as directed’ type of questions. There are five questions in it.</td>
</tr>
<tr>
<td>Q : 2 (A)</td>
<td>Reading comprehension followed by questions. There are total 7 questions. They are ‘answer in short’ type of questions.</td>
</tr>
<tr>
<td>Q : 2 (B)</td>
<td>A jumbled up story is given. Students have to arrange it in order.</td>
</tr>
<tr>
<td>Q : 3 (A)</td>
<td>Vocabulary based five questions where the description of the word is given and the students have to supply the word.</td>
</tr>
<tr>
<td>Q : 3 (B)</td>
<td>Students have to write antonyms for the given words. description given,.</td>
</tr>
<tr>
<td>Q : 3 (C)</td>
<td>Idioms/Expressions are given. Students have to choose the correct option which will provide the right meaning of that Idiom/Expression.</td>
</tr>
<tr>
<td>Q : 4 (A)</td>
<td>Students are to write their short introductions.</td>
</tr>
<tr>
<td>Q : 4 (B)</td>
<td>An essay type question</td>
</tr>
<tr>
<td>Q : 5</td>
<td>Listening comprehension test. Students listen to a conversation on the tape recorder. The recorded text has clarity and the English is spoken at a reasonable speed. There after, students have to answer the questions.</td>
</tr>
<tr>
<td>Q : 6</td>
<td>Viva</td>
</tr>
</tbody>
</table>
Test Administration

The test was administered by the investigator to rule out the teacher variable. The classroom where the test was given was noise free, well ventilated and bright. The time limit for the test was that of two hours which was strictly observed. The test was administered under the strict observation of the investigator.

4.8.3 Post-test

This test was administered at the end of the try-out.

Objective

To measure the students' competence as revealed in the test performance after the try-out.

Construction: This test was carefully constructed so as to include the language items taught in the course of the experiment. Care was taken to ensure that the test items were valid and appropriate. For this purpose, it was considered necessary to adopt the procedure of piloting and revision. The first draft of the test was piloted on a small group other than the experimental group and the control group. After piloting, necessary changes were made.

The Description of the Post-test

There are total six questions. Total marks are 60.

<p>| Q : 1 (A) | Students will choose a word that best conveys the meaning of the sentence. Two possible answers are given. There are five questions in it. |
| Q : 1 (B) | Students have to make necessary changes in the sentence and rewrite as per the instructions given into the bracket. There are total five questions. |
| Q : 1 (C) | Grammar based 'do as directed' type of questions. Total five questions are there. |
| Q : 2 (A) | Reading comprehension followed by questions. There are total 8 questions. Questions 1 and 2 are 'answer in short' type of questions. Questions 3 to 7 are True/False type questions. Question 8 is Match A with B type question. |
| Q : 2 (B) | Arrange the sentences in the most appropriate order. Sentence no. 1 and 6 are done for them. |</p>
<table>
<thead>
<tr>
<th>Q: 3 (A)</th>
<th>Vocabulary based five questions where the description of the word is given.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q: 3 (B)</td>
<td>Students have to write adjectives from the description given, clue is provided by giving the first letter.</td>
</tr>
<tr>
<td>Q: 3 (C)</td>
<td>Synonyms and antonyms.</td>
</tr>
<tr>
<td>Q: 4 (A)</td>
<td>The first part of the dialogue is given. Students have to supply the second part of it choosing from the five overall options. (Idioms/Expressions)</td>
</tr>
<tr>
<td>Q: 4 (B)</td>
<td>An essay type question</td>
</tr>
<tr>
<td>Q: 5</td>
<td>Listening comprehension test. Students listen to a conversation on the tape recorder. The recorded text has clarity and the English is spoken at a reasonable speed. There after, students have to answer the questions.</td>
</tr>
<tr>
<td>Q: 6</td>
<td>Viva</td>
</tr>
</tbody>
</table>

**4.8.4 Viva**

At the end of the both pre and post tests, oral testing was done with the help of the faculty members teaching English. Viva was taken where in the focus was to make students use the language. This was done by group discussions and asking them to enact different roles with the partners. For this, various situations were provided to them. For the purpose of viva, students were called in a group of four at a time.