Chapter 3
Methodical Framework

At a time when the world is agog with a new miracle almost every day in information technology, biotechnology etc, there virtually is no boundary to divide the world. It is quite amazing to realize how English has not only held on to its important position but has also increasingly becoming the medium of international communication. Today it would be a cliché to say that we are living in a technology driven world. So sciences will always remain crucial to any new development. The significance of this has not escaped our academicians or students. Yet we believe that the science students in Gujarat have a long way to go before they achieve their true potential simply because their competence in English is very poor compared to their peers in many other Indian States. Something is definitely not right with general English courses or officially the Compulsory English Courses.

The rationale behind the choice of this topic for research is our assumption that the present courses in compulsory English in the Sciences do not measure up to the mark. It is felt that most students of science generally go in for higher education. So it is clear that the students need English as a library language.
The researcher’s experience of teaching in a science college has strengthened the belief that a few points in grammar and focus on a single skill do not make for courses in compulsory English. The times have changed now and the learners’ needs in English go beyond being limited to library language. So other skills must also be given adequate importance. English compulsory courses in the sciences have remained unchanged by and large despite the recommendations of the 1986 National Level Workshop which are as follows:

- To enable students to read and understand anything in simple English, short messages, stories, paragraphs etc.
- To provide them with linguistic competence necessary for the purpose of using English so as to enable them to express their thoughts in simple spoken and written English.
- To train them to take part in short conversations in situations where there is no possibility of using the regional language.
- To have them build an active vocabulary of about 2,000 words (Over and above what they have built up to the plus 2 stage and 2,000 words to be added to the list over the next two years) at the end of the course in a given academic year.
- To have them to add to the number of vocabulary items, structures and phrases relevant to their specific needs in their respective
Khan (1993) in his report of the mini research project on designing courses and materials for teaching of compulsory English to undergraduates in Gujarat quotes, ‘Course in compulsory English at the undergraduate level in Gujarat do not follow any procedure involved in course design in toto. Although the needs, at least the main ones are same, differ in terms of register required, they are assumed to be the same. Objectives have neither been identified in most cases, nor have they been stated clearly. Except for the syllabus, there is no specification about any methodology, materials or any procedures to be used for the purpose of testing and evaluation. Objectives are implied in the choice of the content of the syllabi.’

Khan (1993) for the first time made the needs analysis of the learners seeking information both from the learners and teachers of English themselves. Another fresh attempt was made to take a good look at the compulsory English syllabus at the undergraduate level by the Department of English, Sardar Patel University, Vallabh Vidyanagar, in collaboration with the British Council, Mumbai. The Department of English organized a series of workshops on materials development for the
undergraduate compulsory English courses for the learners in Sardar Patel University.

The workshops were almost similar to the ones held by the Central Board of Secondary Education, New Delhi, for curriculum renewal of class IX and class X English courses. The whole idea was based on teachers' assessment of learners' needs etc. which led the development of a new textbook/course book. However, it did not meet with the expected success at least in the Sciences because the evaluation pattern and teaching methods did not change in line with the new textbook. So it is indeed a pity that a very noble purpose of designing a syllabus on communicative approach was defeated.

Through this research we have sought to answer the following questions:

(a) What is wrong with the compulsory English courses in the Sciences?

(b) What is it that the students need English for?

(c) Why are the students least motivated learn English despite an urgent need to develop competence in it?

(d) What can be done to remedy the situation?
II Research Design

Rationale

It is obvious as said earlier, that the present courses do not achieve what they are stated to achieve. They neither cater to the needs of the science students nor have they been able to keep pace with the changing times. The students on their part attend English (Compulsory) classes because, being, compulsory, a pass grade in the course is essential. However, one notices that English is learnt in complete isolation of other subjects, perhaps because the courses are completely out of touch with the long-term needs of the learners. So the students cannot use the skills they have mastered in English on other subjects. There is a need to reassess the approaches, objectives materials, and methodology, and design and develop a curriculum that is more relevant and meaningful.

Aims and Objectives

Through this investigation we wanted to analyze the English curricula in some select science colleges of Gujarat and study the objectives, the students’ requirements, achievements and shortfalls. Our aim is to design and develop a curriculum that addresses the needs of the learners. Such a course should address not only the communication needs in academic work but also raise the general level of proficiency in English.
The Research Questions:

1. What is wrong with the courses in English?
2. What is that the students need and expect?
3. Why the students are least motivated in learning through these Courses despite their desperate need to develop competence in English?
4. What can be done to remedy this situation?

Null hypotheses

This research seeks to test these three null hypotheses:

(1) The present English (Compulsory) courses in the science colleges in Gujarat fail to meet the students’ needs.
(2) Students in the science faculty need English for academic purposes.
(3) Students require study skills like note taking, note making, skimming, scanning, reference skills, presentation skills and interpersonal skills.

Research Tools

The research tools used in this research were three sets of questionnaires given to teachers of English in the science colleges of Gujarat and a set of
questionnaire to students of FY/SY and TY B.Sc of various colleges of Gujarat. We adopted this questionnaire from JL Andersen (Eds) (1985).

The tools have helped us to collect substantial data. Apart from this, during the course of this investigation, we had sought opinions from teachers of other subjects teaching at the sciences and also from employers because we believe they can also give valuable inputs to curriculum planners. All this has helped us a great deal to analyze the data objectively and arrive at certain conclusions.

For the purpose of our research, we had fixed for ourselves a sample size of 200 teacher respondents (Teachers of English in the sciences) but as time passed, the sample size could go only up 100 and that too with great difficulty. Similarly we had fixed a sample of 200 students from various science colleges enrolled in the first, second and third year B.Sc. Fortunately we were able to get the required responses. However, the pace at which the responses were returned to us, probably due to many factors that were beyond our control, caused an inordinate delay in submission of this thesis. On many occasions, the questionnaire had to be administered a second time as the responses could not reach us. Data was collected in person and through mail. Let now discuss the tools in greater detail.
Set 1

Questionnaire for Learners.

A questionnaire-cum-opinionnaire for the learners to was given to the FY/SY/TY B.Sc students studying in the various science colleges of Gujarat. We were interested in finding out the nature and extent of difficulties they might have faced/ are facing/ think they are going to face due to the present level of their communicative ability, on a 3 point scale with regard to spoken English, written English, understanding written English, self assessment and study methods. The opinionnaire also sought to get the learners' views on a 3 point rating scale on all topics concerned with teaching and learning processes including methodology, materials, feedback etc. In the third section of the questionnaire-cum-opinionnaire the learners were asked to show their preferences on what they wanted their English courses to focus on and their reasons for the same, and the kind of course material they would like to have.

We also gave three sets of checklist-cum-questionnaires to teachers of English in science colleges affiliated to various universities of Gujarat so as to elicit their views on this subject. The checklist cum-questionnaire carried a note titled 'to my fellow teachers', which explained to them that our inquiry was meant strictly for research purposes, and they need not
have any misapprehensions in their minds that the data might be misused. They were also requested not to suppress any vital information that they could provide in their response to the checklist and questionnaire. The note also pledged that the researcher would never compromise the confidentiality of their responses. It also explained to them that personal details were required but only for classification of the data. The respondents were asked to provide details like name, the institution they are working for. But both these details were kept optional and the essential details that the respondents were required to provide were whether or not they taught English compulsory courses, if yes, then at what level, and for how long they have taught these courses?

**Set 2**

**A questionnaire on the Nature of courses**

The first set was a questionnaire on the nature of courses in English compulsory offered to the undergraduates in the institutions. The teacher-respondents were required to choose one of the two or more of the options in the brackets of each question. The open ended once required their reaction in their own language. The questions were divided into broad categories which and as follows:

(A) Background information
This included questions about time set aside for the courses:

Whether the courses are available at all levels?

Level of proficiency gained by the students till class XII

Categorization of the learners on the basis of their language proficiency

The present language needs of the learners.

(B) Aims and objectives

Whether the courses aimed linguistic, literary or communicative competence, and whether the courses succeeded in fulfilling the objectives partially or completely and whether the course content and evaluation reflected their interdependence. There was also an open ended question on what modifications were necessary in the course content so that the objectives could be better met, and also what should be done so that the aims, course content and evaluation are fully interrelated.

(C) Course Content

The teacher-respondents were required to say how the content was organized, what kind of knowledge was required of the learners (linguistic/ literary, or are both) what skills (comprehension, expressional or both, or only reading and writing) the learners were required to master?
Whether it made any allowance for change in the implicit values of language as (Structure, system, communication as reflected in the selection and organization of information), the philosophy of language learning and teaching, the prioritizing of skills and whether the content allowed development of all skills.

II Materials

The teacher-respondents were required to answer questions regarding the appropriacy, structuring, the degree of accessibility, the appropriacy of language use and relevance to the vocational needs of the materials being used.

The third part of the questionnaire pertained to methodology. The teacher-respondents were asked to furnish information about the approaches, methods and techniques that could be used by the teacher. They were also required to furnish information on whether the materials used supplementary materials in the form of advertisements, articles, news items etc. and also about tasks types and their relevance to the content and whether the teacher was free to set his or her own tasks.

The fourth part of the questionnaire was concerned with questions relating to kinds of testing (formative or summative) reliability and
validity of the results of the tests and whether feedback was used to bring about changes in the course content.

Set 3

A Checklist on the Learners’ World

The second set given to the same respondents was a checklist on the learners’ world to determine the teachers’ views on various aspects of the teaching and learning process in the English compulsory class. The teacher-respondents were asked to put a checkmark on the option that they chose to tell us what they thought about their influence on ELT policies. The checklist was divided into five sections-social contexts, learners’ profile, learning conditions, learning processes and learning outcomes.

Social contexts

This section was included because we wanted to know the teacher-respondents’ views on the relative social status of English in comparison to that of the first language, historical and cultural factors, understanding of cultural factors, motivating factors in language learning, social attitudes towards language, towards English in general, opportunities for contact in English out of the class, availability of human and material
resources, attitude of parents towards English, environment, and age for the introduction of English.

**Learner’s profile**

This section required the teacher-respondents to provide information about the learners’ age grouping, attitude towards English, word knowledge, verbal intelligence, reasoning ability, academic performances, the ability to cope with the rules of grammar, speech and writing, style reflected in the use of English, orientation towards goal and task, involvement of ego, need for achievement, desire to learn and persevere, and attitude towards individual subject on the course.

**Learning conditions**

We wanted to know the learning conditions prevalent in the teaching/learning of English compulsory. The items here pertained to language policy at the state level and at the institutional level, availability of physical and supportive facilities, academic value of English, the primary objective teaching English, opportunities provided to the learners, time provision made for the teaching of English, orientation towards the material, condition of language learning, language teaching philosophy, level of frustration due to inability to communicate, level of disorientation, and learners’ tendencies.
Learning processes

The items in this section were used because we wanted to know what the teacher-respondents thought about the target stage of proficiency, the educational aim, medium of instruction, status of English, Learner involvement, approach adopted by the teacher, pedagogy, focus of methodology, product involved, the nature, quality and intensity of instruction, syllabus, quality of materials used, and the nature of evaluation.

Learning outcomes

This section sought the teacher-respondents' views on the level of proficiency reached, mastery of forms and meanings, capacity to use language, sensitivity towards English, development of creativity, communicative competence, clarity of concepts, overall performance and how evident was effectiveness of the strategies used

Set 4

A Needs Analysis Questionnaire

This questionnaire sought to determine the needs of the undergraduate students in the sciences and the tasks that the students were required to perform, the degree of importance attached to each task, and the number
of students who the teacher thought had difficulty in performing in each task.

The teacher-respondents were required to consider each item in relation to their students in the English class. There were three columns A, B, and C. In column A, the teacher-respondents were asked to use a checkmark to indicate each task that the student at the undergraduate level was required to perform.

The teacher-respondents had to use a similar checkmark to indicate with reference to the items marked in A the degree of importance attached to the students being able to perform each of these tasks completely in English, the number of students in percentage points they believed had problems in performing in each task, in column B and C, respectively with regards to the following skills:

**Reading**

Textbook/Literary works/journal articles/magazines/ Newspaper articles/duplicated notes/computer manuals/ tasks forming part of exam questions/reading where subject matter is complicated/tasks to gather information specially required for assignments/texts to establish and evaluate others' position.
Listening

In lectures, in seminars, following instructions, asking questions in class, answering questions in class, in group discussions, explaining one’s point of view, discussing once academic problems with staff, working with other students, and in oral exam.

Writing

Essay type assignments, term papers, reports on experiments, workbook exercises, the writing of exam peepers, writing a paragraph or two.

Study skills

Taking notes in a class, making notes from books, and writing down dictated material.

In section II A, the teacher-respondents were asked to indicate in percentage points the number of students they believed had serious problems with regard to specialized vocabulary, general vocabulary, writing grammatically correct sentences, linking sentences and writing, creating well structured paragraphs, spelling, punctuation, use of appropriate style while writing, using grammatically correct sentences while speaking, being intelligible in speech and fluency in speech.
In section III, the teacher-respondents were required to show on a three points scale how important they thought were the general skills of reading, listening, speaking and writing for their students. The three point rating scale was *not at all important, important enough* and *not very important*. Space was provided to the respondents to give any other relevant information or comment if they wished to.