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Textbook Analysis of English for Engineers

S. Jeyachandra, Ph.D.

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The present study analyzes the textbook prescribed by Anna University for engineering students. The various aspects of the textbook are analyzed to check whether the objectives are fulfilled and communicative skills are improved through the textbook. This is elucidated with statistical data and reports.

Need for Communication Skills among Engineering Students

The word communication is derived from the Latin 'communico' which means 'to share'. It means to share the information or to share what one knows and to interact with others.

The need of effective communication tends to be increasing due to globalization and information explosion. To keep abreast of the latest developments and trends in the field of technology, engineering students must have good communication skills. Science and Engineering students are often perceived to have poor communication skills¹. The Engineering students often fail to foresee their future needs to excel in language skills. Engineers may have technical knowledge and creativity. However, when they are unable to share their knowledge and fail to convince their colleagues or supervisors, their knowledge will go unnoticed, unused and unrewarded.

Sushma Panniker, communication training head at Wipro, Spectramind Powei explains (Nisha Fitter, 2005:33), "Globalization is so rampant in India that one cannot afford to ignore communication. One can be technically sound but if he is unable to communicate that knowledge he ends up stuck doing one thing and not growing".

General Objectives of Engineering Colleges

The objective of any Engineering college is to impart science-based knowledge education, to develop the professional skills for immediate employment.

Because of globalization many well-reputed companies have come into India in search of engineers with excellent communication skills. Tragically, majority of our Indian Youth today not only lack fluency and polish but also embarrassingly deficient in grammar. More efficiency with better leadership not only benefits the employee but also the company. Leadership skills are closely linked to efficient communication skills. Hence communication skills are the basic foundation and integral part of a technocrat. It has become indispensable for an engineer to acquire the communication skills.

Aim of This Paper

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Textbook Analysis of English for Engineers

There is widespread assumption that engineering students could obtain better knowledge and comprehension of their technical subjects through English. Hence it becomes necessary to analyze the engineering syllabus called "Technical English".

Many engineering colleges come under Anna University. An attempt has been made here to analyze the textbook "English for Engineers and Technologists" prescribed by Anna University. The aim is to find out the attitude of the students who have passed the examinations of various boards of education like the state board, Matriculation board, CBSE board toward the textbook, and methods of learning, teaching and testing. A review of these materials is done to check to what extent these materials or the methods they assume and demand are in accord with the realities, the needs, and expectations of the learners. Moreover, this paper will analyze how far these materials minimize the conscious efforts to acquire the language.

Method of Analysis

The descriptive method is selected and applied in the study. Opinions were gathered from Engineering students and the teachers of English working in Engineering Colleges. Two different questionnaires were prepared to obtain the views of students as well as teachers. The questionnaire contains questions related to their parental background, and the school board through which they took their school final exams. Students were asked to share their views on the content form, presentation and other aspects like grammar and the four skills. A mini survey was conducted among the students of five different Engineering colleges in southern Tamil Nadu and English teachers drawn from them.

Syllabus

We need to recognize an important point in Indian education. Generally, there is no direct contact between the learners and the syllabus. The textbook links them. Thus materials are implemented in the syllabus.

Textbook

A textbook is defined as a book used as a standard work for the students of a particular subject. It is usually written specifically for a particular purpose, as a manual of instruction in any science or branch of study, especially as a work organized by scholars who usually have taught courses on the subject/s dealt with in a particular textbook.

Advantages of Using a Textbook

When a question is asked how important a textbook is, many answers will be offered. The following are the advantages of using a text book. A course book provides a clear framework, a sense of structure; progress and goal are provided to both the learners and teachers.

In many places a textbook serves as a syllabus. It is adopted systematically as follows:

- i. A carefully planned and balanced selection of language content will be covered.
- ii. Readymade texts and tasks: The textbook provides the text and various tasks based on it.
- iii. Economy: A book is the cheapest way of providing learning material for each learner.
- iv. Convenience; It is a convenient package for the students to use.
- v. Guidance: For teachers who are inexperienced or occasionally unsure of their knowledge of the language, the textbook can provide useful guidance and support.
- vi. Autonomy: The learner can use the textbook to learn new material, review, and monitor progress with some degree of autonomy.

Technical English Textbook

An engineering educational career demands relevant communication skills in English. A text book, instead of trying to instill all the nuances of English into the minds of students, could provide selected aspects of English to help them understand their subjects through the medium of English to carry out their tasks assigned to them.

Syllabus design of Anna University is a general syllabus clubbed together, to all the branches of engineering students. The syllabus is graded thematically. It is a combination of task-oriented or skill-based pattern. The textbook prescribed is 'English for Engineers and Technologists'. Volume I and volume II' compiled and edited by the Humanities and Social Sciences Division, Anna University in 1990. In 2002, it is put together as one volume.

The book is an outcome of English Language teaching project undertaken by Anna University in collaboration with the Overseas Development Administration of the UK and the British Council. "The objective of the project was to develop suitable course materials for students of Engineering and technology who found the earlier conventional course, which was primarily literature based, irrelevant to their needs" (1990: iii).

The materials are organized around eight topics namely, 'Resources, Energy, Computers, Transport, Technology, Communication, Environment and Industry.' The topics have been chosen taking into account the needs and interest of students. Each topic consists of three units related to the topic.

Each unit consists of a main section to be tackled by the students. The support materials in the form of Preparation and Follow-up sections are designed to agree with the main section. They are arranged through various task-oriented materials. They are skimming, scanning skills, oral fluency, role-play, language focus, vocabulary practice, group discussion, writing activities etc. This sets a variety of tasks improving the skills involved in LSRW.

The authors adopt a skill approach to ESP and aims at providing the practice for developing their skills. They sensitize students to the inter-relationship between language and engineering. The

book is focused on guiding the learning process through a series of designed activities. The design of these materials offers a special guidance and support for the slow-learners as well as fast-learners. The text materials are compiled from various resources, *The Hindu*, *The Readers Digest*, *Time Magazine*, *India Today*, etc.

A Departure from the Conventional Textbook

Before discussing the findings of the survey, first-hand information about the materials in question must be considered. This is almost the first instance² in Tamil Nadu, an entire paper designed in two volumes to support, a skills-approach used throughout Tamil Nadu in all the engineering colleges affiliated to Anna University. This book marks a departure from the conventional textbook and it was first published in 1990. As a part of an effort to change teaching materials, the textbook was revised in 2002. This has recently motivated the design of same kind of course materials to the higher secondary students from 2003. The third edition, is published in the year 2006.

Textbook Analysis

This is done in three aspects.

- i. Content aspects,
- ii. Skills aspects and
- iii. Physical aspects.

Content

A textbook should be of standard when it consists of content materials related to the course. Here, the themes are related to the engineering course. And it should be developed or graded from known to unknown. The followings are the findings for the question whether the content materials are easy to comprehend, though they are the first year students of engineering students.

The Comprehension or Understandability of the Text

Table No. 1

STUDENTS DRAWN FROM	YES	NO	NIL
STATE BOARD	100	-	-
CBSE BOARD	96	4	-
MATRIC BOARD	91	9	-
OVERALL STUDENTS	96	4	-
TEACHERS	82	18	-

As the materials start from Resources, water, gold and silver and oil to energy, slowly to different themes, all the students are able to comprehend the textbook. Slowly it is increasing to

difficult passages, which could be seen in data. Except the teachers all the students more than 90% of them understand the text. Even the students coming from the state board, who hail from rural area, are able to comprehend. This is the sterling value or the mark of success of the syllabus design. Some teachers might be unfamiliar with the scientific and technical passages but for that, this data has proved its success.

Simplicity of the Text

Despite the varied themes from different fields in engineering and technology, the materials are relatively simple. As the materials are extracts taken from various sources like India Today, Time magazine etc., they could be comprehended by even a common person. Hence we find simplicity in the text.

Table No. 2

STUDENTS DRAWN FROM	YES	NO	NIL
STATE BOARD	91	9	-
CBSE BOARD	100	-	-
MATRIC BOARD	96	4	-
OVERALL STUDENTS	96	4	-
TEACHERS	100	-	-

All the students and the teachers find the text to be simple.

Suitability of the Text to the Engineering Course

A language textbook should impart skills in the target language, but also it should be relevant to the learner and his course. When the question is asked whether the concerned textbook is relevant to the engineering course, almost all the learners agreed to the fact that it is relevant.

Table No. 3

STUDENTS DRAWN FROM	YES	NO	NIL
STAE BOARD	90	10	-
CBSE BOARD	85	15	-
MATRIC BOARD	92	8	-
OVERALL STUDENTS	89	11	-
TEACHERS	85	15	-

Technical Terms Properly Designed

As the syllabus is said to be Technical English, designed for a specific purpose, it aims at introducing the technical terms. But they are required to be properly defined as the learners are Language in India www.languageinindia.com

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unfamiliar to engineering subjects in their schools. The learners are asked whether they could comprehend the technical terms and the definitions are clear. The opinions are given below.

Table No. 4

STUDENTS DRAWN FROM	YES	NO	NIL
STAE BOARD	46	54	-
CBSE BOARD	60	40	-
MATRIC BOARD	52	48	-
OVERALL STUDENTS	53	47	-
TEACHERS	64	36	-

Through the vocabulary section, the synonyms and antonyms and the technical terms and their meanings are given in the textbook. The results show that the CBSE students know better than other students drawn from other boards of study. 60% of them were able to recognize the definition whereas the 48% of the matriculation students and 54% of state board students did not agree to the fact that the terms are clearly defined. Nearly half of the students are unable to comprehend the technical terms. Only 64% of the teachers acknowledge that the definitions for technical terms are properly defined.

Promotion of Technical Knowledge or Language Learning

One major question such as whether the technical materials help to increase the technical knowledge or to increase the rate of learning the language draws very interesting responses. Only 36% approves that it promoted the students' technical knowledge and a very surprising response of 15% approves that it increases their language learning. A very amazing fact is, an affirmative response of 49% of them has improvement in both the technical knowledge and language learning.

Table No. 5

STUDENTS DRAWN FROM	TECHNICAL KNOWLEDGE	LANGUAGE LEARNING	BOTH
STATE BOARD	34	14	54
CBSE BOARD	36	17	47
MATRIC BOARD	38	14	48
OVERALL STUDENTS	36	15	49
TEACHERS	46	14	40

Development of Language With Respect to Grammar

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Among the questions related to the objectives, one is regarding the development of language aspect with respect to grammar. Nearly 70% of them respond that they have improvement in grammar. In the textbook the exercises that are separately meant for grammar are evenly distributed. The students are drilled to achieve the application of grammar like nouns, verbs, adjectives, word-formation, tenses etc. Only a very low percentage of 18% confess that they are unable to improve their grammar. The remaining 12% of them are not sure of their improvement or they could not understand the question at all. The graded answers are given as they had improvement in grammar to a great extent, to a little and nil.

Table No. 6

STUDENTS DRAWN FROM	TO A GREATER EXTENT	A LITTLE	NIL
STATE BOARD	66	16	18
MATRIC BOARD	70	18	12
CBSE BOARD	74	20	6
OVERALL STUDENTS	70	18	12
TEACHERS	76	24	-

CBSE students are able to understand the grammar items given along with the tasks and the students accepted the fact that they had improvement in grammar. Obviously students drawn from the state board found difficult to recognize what they learnt and so 18 of them didn't respond at all. Unlike state board, CBSE students have a clear understanding about the grammar and their learning ability.

Language Development Through Tasks

The textbook enumerates a lot of tasks like skimming, scanning, match the following, vocabulary, synonyms, cloze passages, note taking, summarizing, and error detection. When the engineering students are monitored to do the tasks they must be able to perform, instead of doing nothing and simply sitting. The success of this lies in their active participation and involvement.

Table No. 7

STUDENTS DRAWN FROM	EASY	MODERATE	DIFFICULT
STATE BOARD	29	58	13
CBSE BOARD	44	56	-
MATRIC BOARD	32	59	9

OVERALL STUDENTS	35	58	7
TEACHERS	24	76	-

The finding shows that the tasks promote learning in a sequence manner. Except for a few students to all the other students the tasks seem to be moderate and easy. The slow-learners or the students from rural areas find difficult to do the tasks, a very low percentage of 11% alone find it difficult. The over-all students 57% find the tasks moderate and 35% find it easy.

Variety in Tasks

Instead of providing the same type of task to a learner, a learner should be provided with a wide variety or range of tasks, which could induce his inspiration and creativity. The matriculation board students and the state board students find the materials with impetus so that they can do the tasks creatively. Since the students are not exposed to such tasks earlier they have such an opinion. However the CBSE students 26% of them didn't agree that they are creative and the teachers also have the same stand.

Table No. 8
Creativity Developed

STUDENTS DRAWN FROM	YES	NO	NIL
STATE BOARD	88	12	-
CBSE BOARD	74	26	-
MATRIC BOARD	92	8	-
OVERALL STUDENTS	85	15	-
TEACHERS	72	28	-

The majority of them accept that it provides creativity through various exercises but still around 26% find it monotonous. Because the students hail from rural areas and they may not be exposed to any kind of activities and they might feel that they are little bit difficult to do in the classroom where they might not get personal attention.

Textbook Or a Work Book

Normally a textbook first of all will have content material and later will have task based on it. Since this is a skill-based text it consists of more tasks than the content material. Therefore a question arises whether it is a textbook or a workbook.

Almost 75% of the students agree that it is a textbook rather than a workbook. Only the teachers find it as a workbook because they have to be silent in the classroom and it is not a talk-chalk

method. 52% of them consider it as a textbook while the remaining considers it to be a workbook. They feel that the textbook is a learner-oriented and not a teacher oriented one.

Table No. 9

STUDENTS DRAWN FROM	YES	NO	NIL
STATE BOARD	78	22	-
CBSE BOARD	68	32	-
MATRIC BOARD	80	20	-
OVERALL STUDENTS	75	15	-
TEACHERS	52	48	-

Physical Aspects

The physical aspects consist of themes, the organization cover design, etc. Here the preparatory section is given first which is followed by Part-I and Part-II and then finally follow-up section is given. Through these sections reading skill exercises, oral exercises and language focus, listening and writing skill, based tasks are given. This arrangement itself is unique though it is unfamiliar to the students as well as to the teachers. This motivates the teachers and the students to a greater extent.

A question arises whether the book provides necessary motivation to the learners as well as to the teachers. The motivation alone makes them go forward to achieve the intended objectives. Regarding the fulfillment of the objectives of the syllabus nearly all the teachers perceived that the textbook provides sufficient motivation and the students in the classroom are interactive. The cover design and the arrangement of the materials also come into account of physical aspects. Some might feel if it contains materials of literature like stories, poems and prose it will be attractive. Anyway it should motivate the learner to focus his attention to learning.

Motivation Aspect

Table No. 10

STUDENTS DRAWN FROM	YES	NO	NIL
STATE BOARD	76	24	-
CBSE BOARD	84	16	-
MATRIC BOARD	88	12	-
OVERALL STUDENTS	83	17	-
TEACHERS	82	18	-

85% of the students said yes to the question whether the text provides necessary motivation to the learners. Except the state board students all other students uniformly agreed that the motivation is provided. Even among the state board students there is not a huge variation, for 76% of them agreed to it. It was found less because they hail from rural areas and they come from mother tongue medium. The majority of the teachers also supported the fact that it provides motivation and to the remaining teachers it may be unfamiliar or they are not exposed the recent teaching methods or it may be their inexperience or they have to do a less job in the classroom.

Language Usage in Other Situations

One cannot deny the fact that if a person achieves competence in a language he must be able to use it or apply it in life situations. There lies the completion of language learning. Hence a question is asked whether through the textbook the learners' language is developed to the extent of using it properly in other situations. For this question the observed data are given in the following table:

Table No. 11

STUDENTS DRAWN FROM	YES	NO	TO SOME EXTENT
STATE BOARD	14	66	20
CBSE BOARD	32	30	38
MATRICULATION BOARD	23	51	26
OVER ALL STUDENTS	23	49	28

The table gives an interesting finding that the students are unable to use the language in a proper way. The students from State Board find it very difficult to use in other situations and so we have a low percentage of 14 where as CBSE students can make use of it as they have an earlier exposure to the language. On the whole only 23 percentages of students are able to use the language. Though the students are able to comprehend the text though their skills a developed the language applied practically.

49 percent of students are unable to use it successfully when 28 percent are able to use it to a certain extent.

Skill Aspects

The mastery of any language depends mainly on the learning of the basic skills LSRW. Language itself is called as a complex skill comprising the listening skill, the speaking skill, the reading skill and the writing skill. Without acquiring these skills one cannot become an expert in that language. Hence for effective communication and mastery of any language all the four skills, listening, speaking, reading, and writing are inevitable. Robert Lado (1957: 48) says,

The correct order of teaching the skills is LSRW. It is a fact that reading and writing are partial skills and exercising them constitutes partial language experience where as speaking and listening included are total language experiences.

Among the four skills, the speaking and writing are always called as active skills and they are called also as productive skills, whereas the reading and listening are called to be passive skills. As they require less activity on the part of a learner, they are called as receptive skills. As the four skills are related to each other the active skills depend on the passive skills for their fluency and development.

The textbook contains content materials based on engineering technical themes and the tasks are given along with them. Each unit possesses preparation, main content or main course materials in part - I, and part -II and the follow-up section.

The Preparation part itself consists of various tasks like reading skill development, oral practice, language development and writing skill development.

Part I consists of reading material and the questions based on it and the Role-play.

Part-II consists of listening exercise and a group discussion activity related to the content matter.

Follow-up section deals with the vocabulary exercises incorporating language check, cloze passages, word formation, grammar practice, oral practice and writing exercise.

Themes and Tasks in the Textbook

Table No.12

KNOWLEDGE OR THEMES	TASKS
RESOURCES 1. WATER 2. GOLD AND SILVER 3. HUMAN RESOURCES ENERGY: 1.OIL 2.NUCLEAR POWER 3.ALTERNATIVE SOURCES	READING SKILL DEVELOPMENT SKIMMING SCANNING CLOZE PASSAGE LANGUAGE DEVELOPMENT WORD FORMATION ROLE-PLAY, GROUP DISCUSSION A DIALOGUE

<p>COMPUTERS</p> <p>1.INTRODUCING COMPUTERS</p> <p>2.NEW FRONTIERS</p> <p>3.COMPUTERS IN INDIA</p> <p>TRANSPORT</p> <p>1.PROBLEMS AND SOLUTIONS</p> <p>2.TRANSPORT TOMORROW</p> <p>3.TRAVEL FOR PLEASURE</p> <p>TECHNOLOGY</p> <p>1.APPROPRIATE TECHNOLOGY</p> <p>2.PRINTING</p> <p>3.EVALUATING TECHNOLOGY</p> <p>COMMUNICATION</p> <p>1.LANGUAGE</p> <p>2.THE MEDIA</p> <p>3.COMMUNICATING CULTURE</p> <p>ENVIRONMENT</p> <p>1.POLLUTION</p> <p>2.ECOLOGY VERSUS DEVELOPMENT</p> <p>3.OUR LIVING ENVIRONMENT</p> <p>INDUSTRY</p> <p>1.PERSONNEL AND PRODUCTION</p> <p>2.SAFETY AND TRAINING</p> <p>3.SELLING PRODUCTS</p>	<p>NOTE MAKING</p> <p>SUMMARISING</p> <p>DESCRIPTION</p> <p>GRAMMAR EXERCISES</p> <p>ACTIVE INTO PASSIVE</p> <p>CORRECT FORM OF VERB AND TENSE</p> <p>ERROR CORRECTION</p> <p>ARTICLES</p> <p>PREPOSITIONS</p> <p>TRANSCODING A TABLE</p> <p>PARAGRAPH WRITING</p> <p>LETTER WRITING</p> <p>PREPARING CURRICULUM VITAE</p> <p>LISTENING COMPREHENSION</p>
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From the above table it is evident that the content materials are pertaining purely to the technical themes and they are arranged in wide range from 'Water' to 'Industry'. In Unit VII 'Communication', there are only two chapters in the recent edition in 2006. Earlier editions had three chapters. The third chapter, 'Communicating Culture' is the only chapter away from the technical side which is almost a general text.

An interesting impression gathered from the teachers of English in engineering colleges is the attitude towards the themes in the text. Though a majority of the teachers declare support to the learners-oriented method and task based materials they find difficult to adapt themselves to the themes. They don't feel comfortable with the materials and to many it is monotonous. They accept the need for such a learning method in ESP but still they find it not interesting.

This may be because of their non-exposure to such subjects while they studied. However by this time they might have accustomed to the text however, among the responses of the teachers we understand the fact that the course material is easy to teach, comprehend and even it does not become necessary for the teacher to give explanations in mother tongue. Many of them in fact agreed that this task approach was effective though it required more time for a great strength in a class.

This present textbook is much more revised and modified and full of interesting tasks which make the learners perform actively It tries to promote all the language skills in their own engineering context so that the learners could use the skills later in their own natural situations

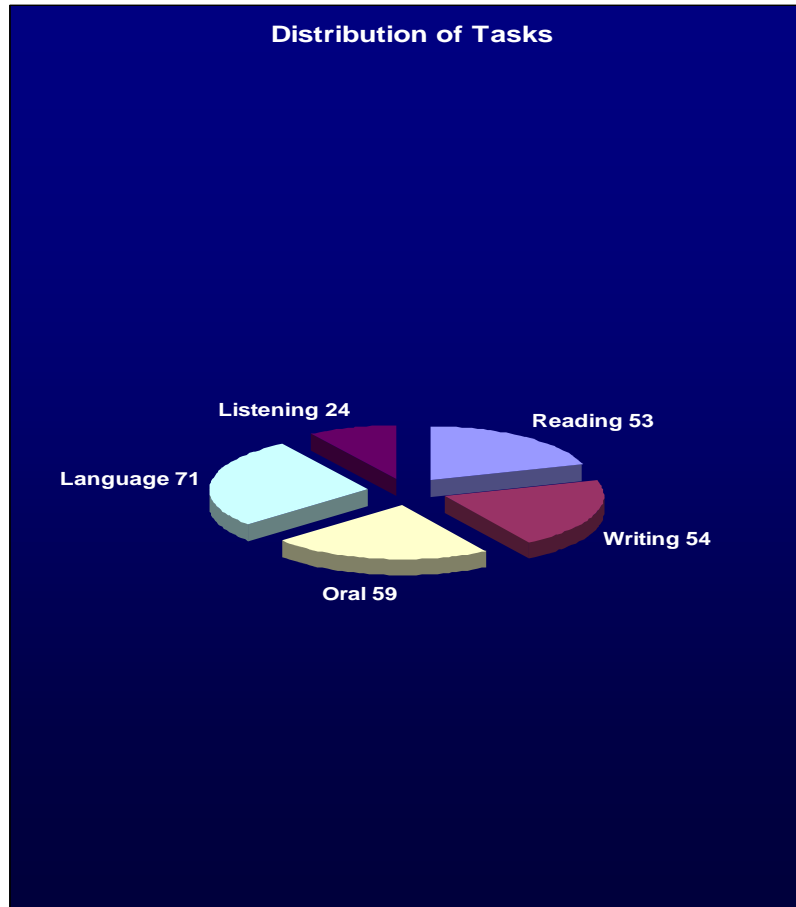
The following presents the status of distribution of tasks in the text.

Distribution of Tasks

Table No. 13

READING	WRITING	LANGUAGE FOCUS-	ORAL	LISTENING	TOTAL
53	54	71	59	24	270

The textbook “aims at the development of the basic skills (LSRW) involved in language learning” (1990:iii). Therefore it becomes necessary to analyze the skills aspects of the textbook. The findings show that the textbooks impart the skills to the students and they feel that the exercises are sufficient for developing their basic skills.



Listening Skill

Listening skill, though it is a receptive skill it requires a lot of practice for its improvement. Many think that it is not an important one and specific training is not given for improving it. Normally speaking, a listener can pay 100% attention continuously only for 10 minutes. It is not only a cognitive understanding but it includes the analytical ability to find the main theme, style, etc.. There is a need for an active involvement of the learner for the effective performance of listening. Hence listening becomes the stepping-stone for action. But in the curriculum we mainly find that it is neglected and only other skills are focused

In this particular textbook, listening exercises are really not given emphasis like other skills. The listening tasks are very limited to a number of 21 when the total no of tasks are 270. It is relatively very less when compared to the average number of other tasks. (56).

One may argue that it is not only the listening exercises but also all other instructions in the classroom develops listening skill of a learner.

Let us take the listening exercise given in Unit-II, Energy, chapter 2, `Nuclear power as an instance. The teacher has to give the talk related to the topic given. Here it is about the two types of nuclear reactor. The material is provided in the teacher's handbook. Apart from that the teacher can prepare more materials on the same topic in order to make it interesting to a listener. Students are asked to listen to the talk and asked to write notes as they listen. The topics for taking notes are given as guidelines. They are: types of reactor, reason for name, coolant system, relative merits and other information. Using the notes the student has to recommend one type of reactor and he has to defend it by giving the points.

This kind of listening task depends mainly on the presentation of the teacher and the individual's interest to involve and speak. The learners can understand the topic and the study skill, note taking will give them all the details they require. As the learners have to give the feedback they will definitely listen and it will enhance their ability to listen. Thus the listening skill is improved through these tasks and we cannot deny the fact that it is relatively very less when compared to other skills. When a question is asked how the learners' language skill is promoted and what its status is, a majority selects the last place (fourth place) for it.

Place of Learning Listening Skill

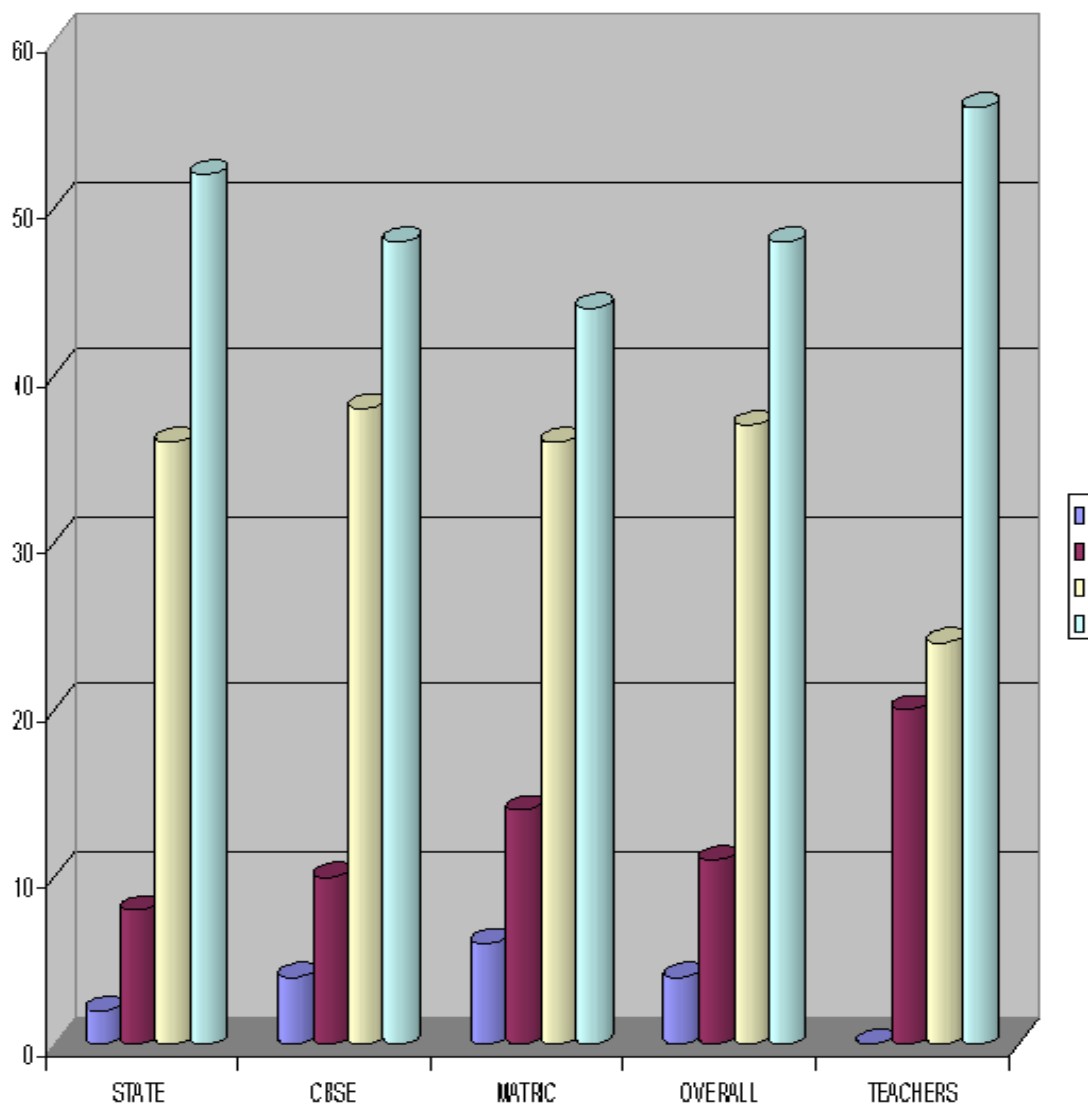
Table No. 14

PLACE/POSITION	STATE BOARD	CBSE BOARD	MATRIC BOARD	OVERALL STUDENTS	TEACHERS
FIRST PLACE	2	4	6	4	NIL
SECOND PLACE	8	10	14	11	20

THIRD PLACE	36	38	36	37	24
FOURTH PLACE	52	48	44	48	56

This table shows that nearly half of the students give the last place in learning the listening skill through these tasks. Almost the other half chose the third place. Only a very few (8, 10, 14, 11) give a second place to it. Hence it is clearly evident that listening is mostly neglected and much care is not given in the equal distribution of the tasks in the textbook.

PLACE OF LEARNING LISTENING SKILL



Speaking Skill

The word communication itself denotes that it is an exchange of ideas and thoughts. It denotes an interactive situation, or a communicative situation. The speaker should convey the message with clarity, brevity and with the correct choice of words and with right, decent pronunciation. The mastery of speaking skill enhances one's confidence and fluency. It is a systematic technique employed by a speaker to express his meaning. It is an active, productive and creative skill.

A child does not learn a language by mere imitation and this becomes still more complex in the case of learning a second language. He is not provided such imitating natural situations to learn to speak the second language and he does not have the privilege of listening and imitating a native speaker. Hence it is essential that he should develop habits through practice.

The speaking skill of a learner depends on the way in which he learnt the mother tongue, pronunciation of the teacher, and the area in which he lives and faces.

A person who has acquired the speaking skill has to possess the ability to produce the characteristic English speech sounds and sound patterns, both in isolation and in combination, to use appropriate stress and intonation patterns, to use appropriate words and structures to express the intended meaning, to recall words and quickly, to organize his thoughts and ideas in logical sequence and adjust his speech according to his audience, situation and subject matter.

The textbook consists of a lot of speaking skill tasks in the form of oral practice, role-play, group discussion, etc. Among the total tasks 270, 69 tasks represent oral skills. They are relatively simple and involve creativity on the part of a learner.

In the third unit's first chapter 'Introducing computers', a role-play is given. The first student has to imagine that he is a school head master and he has heard that next year his school will be given computers. He has to prepare a list of questions to ask his son who is on holiday from his studies at a university. The second student has to imagine that he is an engineering student visiting his father. He has to prepare to answer the questions regarding computers. To any student who involves himself and plays his role sincerely this will provide an opportunity to promote his speaking skill. Because he has to be creative to answer to the questions, he should be interactive, maintaining the relationship as he talks and so obviously he should come out of his shyness and shell to come out with his ideas boldly.

Thus such role-plays and other group discussions make the learners to improve his skill. But a question arises how far this is fulfilled among the learners. As per the data, speaking skill learning has secured the third place among the four skills.

Place of Learning the Oral Skills

Table No. 15

PLACE	STATE BOARD	CBSE BOARD	MATRIC BOARD	OVERALL STUDENTS	TEACHERS
FIRST PLACE	8	12	9	10	16
SECOND PLACE	18	20	16	18	20
THIRD PLACE	40	46	42	43	38
IV PLACE	34	22	23	19	26

From this table we understand that the learners have been exposed to oral situations and they have participated in them. Though the learning situations are provided (71 tasks) they do not provide the necessary impetus when compared to reading and writing.

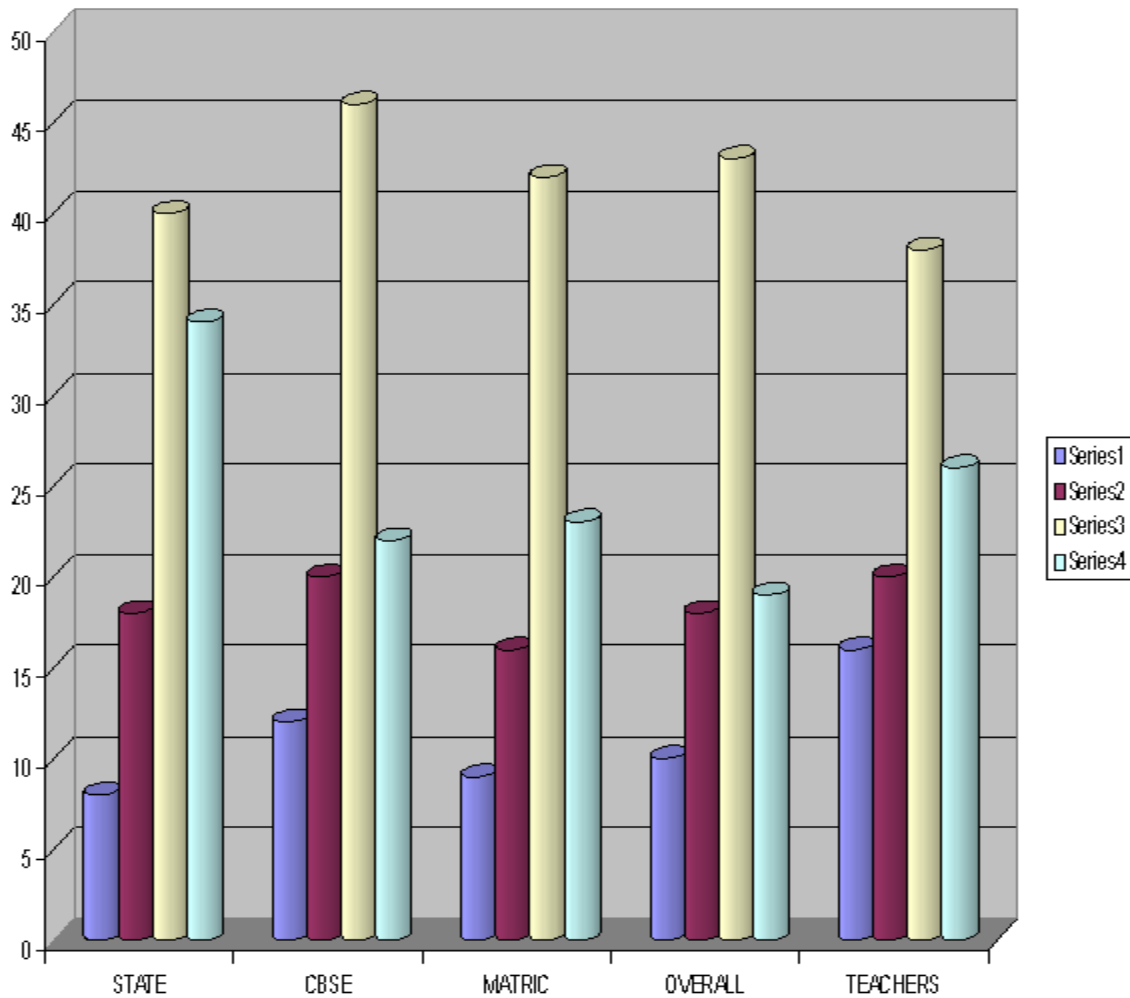
There may be other reasons to justify this.

The first problem is fear of making mistakes and shyness. Compared to a child, an adult learner like first year engineering student has already made a pattern of learning and a few prejudices regarding the second language speaking. Therefore it is really tough on the part of a teacher to motivate and to convince him.

Another problem is pronunciation. According to T.C. Baruah (2004:207) the reasons are: “English has been introduced too late; the native-like pronunciation is the ideal to be aimed at; the attempt to impose the characteristics of the mother tongue script on English orthography.”

The last reason is a question whether the teacher is competent enough to train him to speak well and whether his pronunciation is right. Even some competent teachers cannot speak the language fluently. The teachers do admit that the speaking skill has secured the third place among the four skills. Thus this task method at least makes both the learners and the teachers realize where they stand in acquiring the oral skill.

PLACE OF LEARNING ORAL SKILLS



Reading Skill

Reading skill is essentially important to the learners of engineering and it is called a receptive skill and a passive skill. It comprises three stages known as recognition, structuring and

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interpreting stage. In the first stage the learner recognizes a spoken word in a written form. In the second stage the learner sees the systematic relationships of the items and thereby understands the structural meaning of the syntactic units. In the third stage the learner comprehends the significance of a word, a phrase or a sentence in the overall context. The two study skills involved are skimming and scanning. There are other two types of reading like predicting, sensitizing, intensive reading and extensive reading.

Since efficient reading is essential the reading comprehensions are much useful in training the learners. The reading comprehensions must be arranged from simple to difficult or familiar to unfamiliar text. The questions' primary aim is to test the comprehending ability. This textbook also contains a plenty of reading comprehension passages throughout the textbook and the learners are instructed to read them and do the questions related to them.

In each and every unit there are more than two reading tasks and sometimes even sentences are given. The learner is trained to do the skimming and scanning and this makes the learner the entire time active. In the first unit, second chapter, in page no:30, a reading comprehension is given based on the extract 'The continuing spell of Ramanujam' which enhances intensive reading. There are analytical questions like the following.

“Do you think Ramanujam would have made a greater contribution if he had never gone to England?”

“Do you think that Ramanujam’s contribution to mathematics would have been exposed to the work of other great mathematicians?”

These questions make the learner to think and argue and also it promotes the speaking skill too. In the unit II, chapter Alternative sources, a passage on biomass plants is given. Learners are asked to take a quick glance for 1 minute only and then decide whether they come from an advertisement or a government handbook or a magazine.

Later at the end of the text there are many questions given which requires a slow reading. Thus the text provides a way to learn both skimming and scanning. Therefore the teaching materials provide many opportunities to improve their reading skill. The data also proves this fact that reading skill has acquired the first place among the four skills and a majority of learners were benefited by the tasks.

Place of Learning the Reading Skill

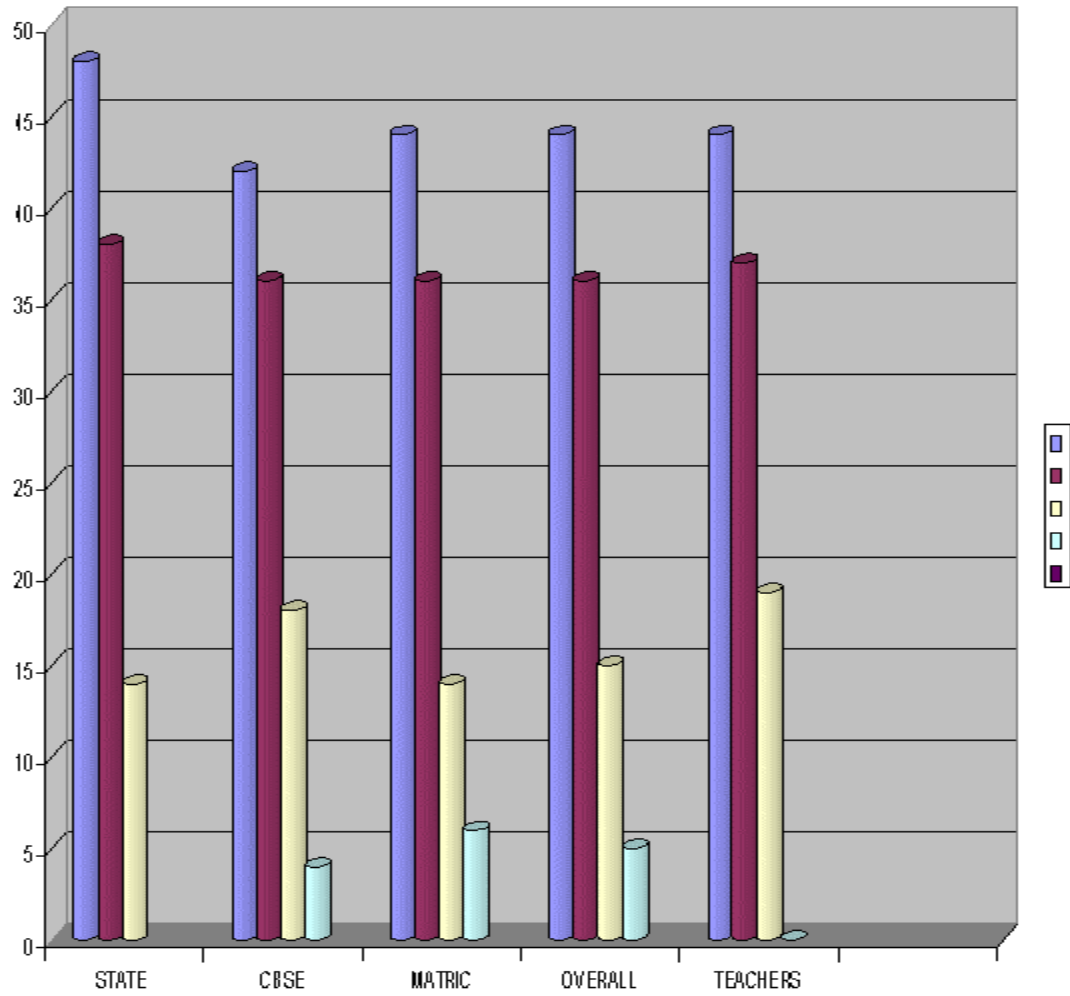
Table No. 16

PLACE	STATE	CBSE	MATRIC	OVERALL STUDENTS	TEACHERS
-------	-------	------	--------	------------------	----------

<u>I PLACE</u>	48	42	44	44	44
II PLACE	38	36	36	36	37
III PLACE	14	18	14	15	19
IV PLACE	NIL	4	6	5	NIL

Nearly half of them have an opinion that they have more improvement in reading skill than all other skills. 46% of them give I place to the reading skill among the four skills. A very few learners give the fourth place to the reading skill. From this we have an inference that through the tasks (68) they are drilled to do the reading comprehension exercises. As they are in plenty there is a variety of the tasks. The opportunities to use the ability to find, to search for an answer, to think critically, to analyze, to give titles to the paragraphs, to argue, to justify are also provided sufficiently.

PLACE OF LEARNING READING SKILL



Writing Skill

Writing skill is essential in so many social situations and this is one of the active skills. Especially it is an everyday affair to an engineer. He should be able to use words, together in correct word order, use the correct form of verbs, vocabulary, style, distinct main ideas and make the text coherent. 'Writing is an individual effort but is more rule-bound'.

According to T.C. Baruah (2004:245), writing is an extension of all skills. "Being different mode of communication, writing also serves another pedagogic purpose in second language teaching; it can be used to fix the structures and vocabulary already taught." The process of writing is of three stages namely manipulation, structuring and communication. These three correspond to the three stages of reading, recognition, structuring and interpretation. Development of all these stages will take the learner to proceed forward ultimately leading to the art of self-expression.

In the engineering textbook, many writing tasks are given. They are note-making, composition, summarizing, paragraph writing, dialogue writing, letter writing, description, preparing curriculum vitae, trans-coding a table, flow-chart into a paragraph, report writing, advertising etc. For an instance in Computers unit, a guided composition is given.

As we know the word composition means 'putting or arranging ideas in a certain order'. This guided composition provides all the guidelines. The learners are supplied with all the necessary structures and vocabulary together with the thoughts and ideas to be expressed. Here a chart with information about the human brain and computer is given. The information is given in many aspects like weight, energy sources, temperature needed, number of parts, and location of them, memory and speed of calculation. The learner is instructed to use the chart to write a paragraph comparing a human brain with a computer, using the connectives like however, while, whereas to make the comparison clearer. Not only this, there are many tasks to initiate the learners to participate actively according to their own engineering situations.

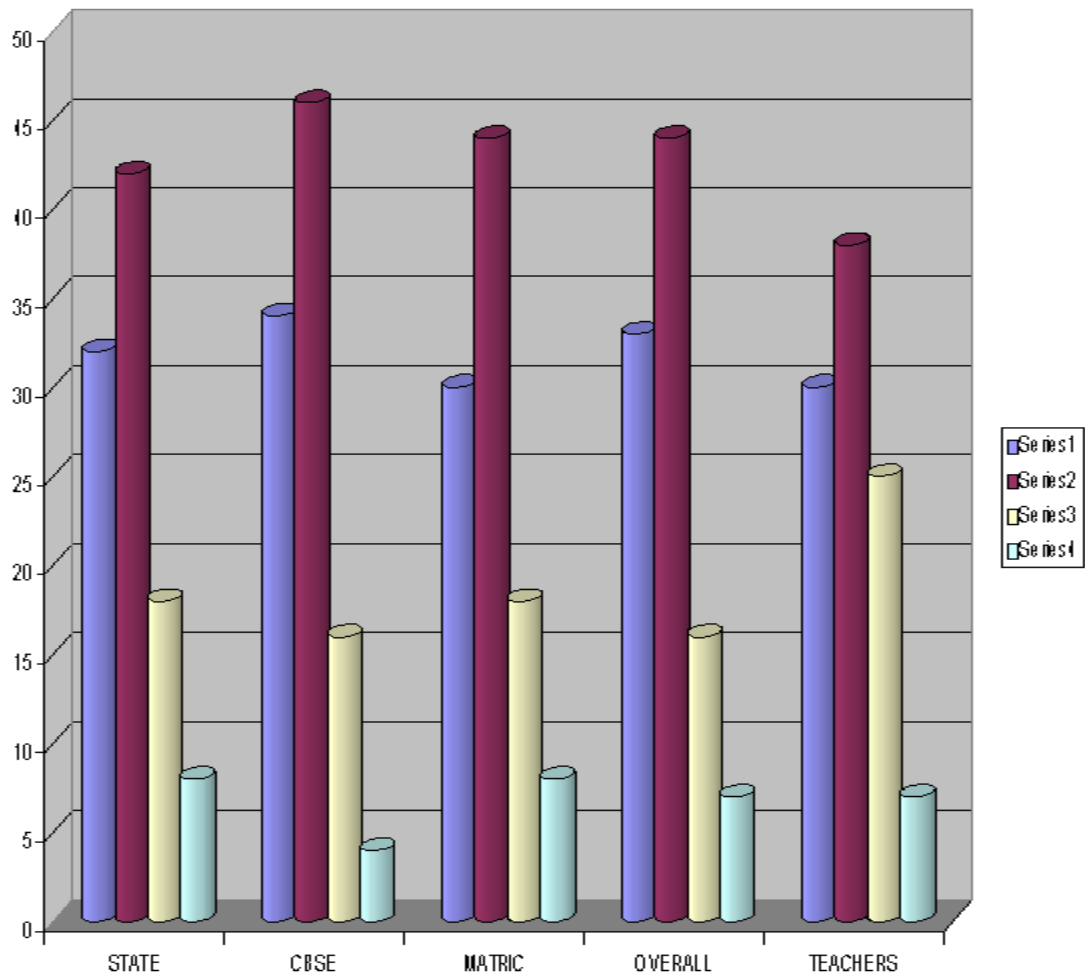
When the question is asked what is the position of writing skill among all the skills, in learning, many students and the teachers stated that it had the second place. The data is tabulated below.

Table No. 17

PLACE	STATE BOARD	CBSE BOARD	MATRIC BOARD	OVERALL STUDENTS	TEACHERS
I PLACE	32	34	30	33	30
II PLACE	42	46	44	44	38
III PLACE	18	16	18	16	25
IV PLACE	8	4	8	7	7

This shows that the second language learners are improved more in active skills because they always have such atmosphere in the classrooms. 44% of the students selected the second place for the improvement in the writing skill. Mostly equal to this the other group chose the first place. Roughly speaking, a majority had improvement in the writing skill and average of 44% had learnt to write with more organization and with correct form.

PLACE OF LEARNING WRITING SKILL



Evaluation of Learners' Second Language Learning

The table shows the overall valuation of textbook analysis. It indicates whether the objectives are fulfilled or not. The objectives are improvement of second language leaning, comprehension of the text and learning of all communication skills, language learning with respect to grammar and using second language in other situations.

Table No. 18

<u>OBJECTIVES</u>	FULFILLED	NOT FULFILLED	TO SOME EXTENT	UNSURE
IMPROVEMENT OF SECOND LANGUAGE	43	15	32	10
USAGE OF SECOND LANGUAGE IN OTHER SITUATIONS	23	49	28	-
LEARNING OF SKILLS – LISTENING	15	48	37	-
SPEAKING	28	19	43	-
READING	80	5	15	-
WRITING	77	7	16	-
COMPREHENSION OF THE TEXT	96	4	-	-
IMPROVEMENT OF LANGUAGE LEARNING IN GRAMMAR	70	18	12	-

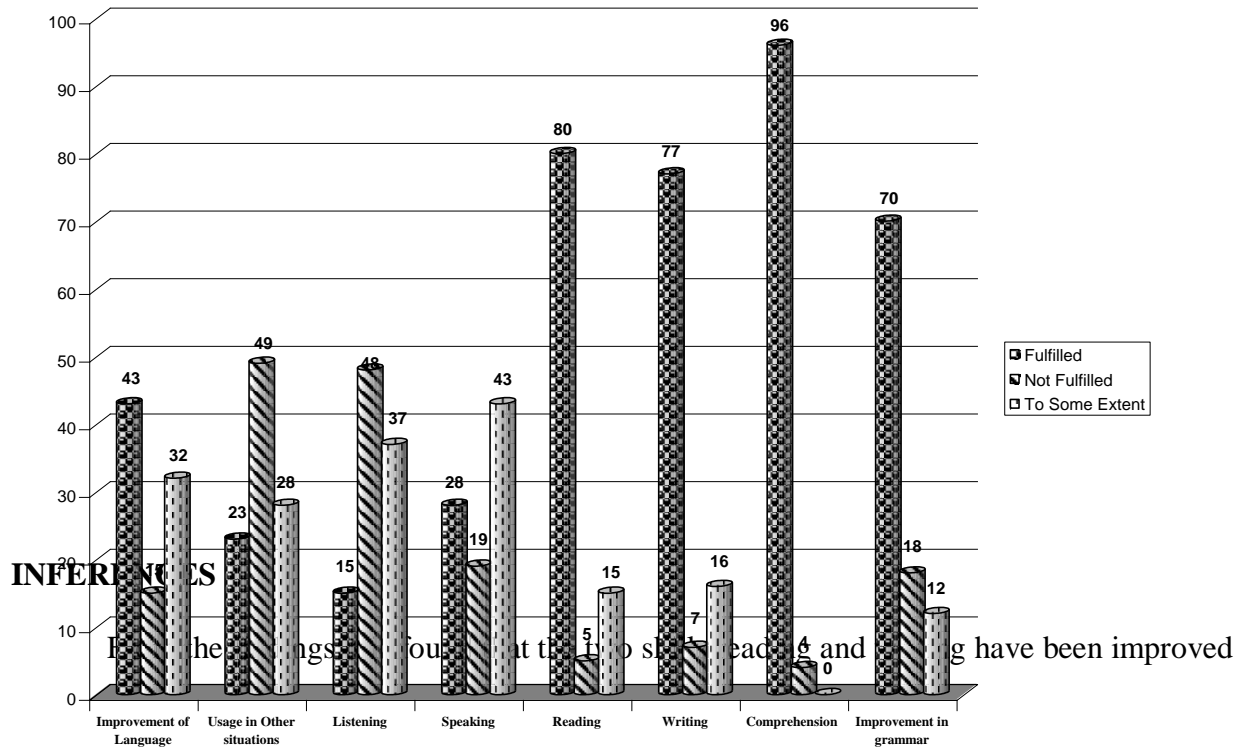
Among all these, some of the objectives are fulfilled. The majority of informants understand the text and only a few cannot comprehend the text. In the objective of language learning with respect to grammar most of the students feel that they have improvement in grammar. But this is a contradictory data when compared to the grammatical errors.

The informants might have improvement in grammar but still they are unaware of their own errors. Among the four skills seen earlier they lack in listening and then speaking skills where as 70 percent of them have improved their reading and writing. But the learners are unable to use the language in other situations.

A poor percentage of informants is confident of saying 'yes' to that. Just because informants have promotion in some aspects of language it doesn't mean that they are able to use the language in

other situation. So we conclude that language learning does not necessarily improve their application of knowledge to their like situations.

Evaluation of Learners' Second Language Learning



relatively. Still the textbook is unable to improve the learners' effectiveness in using English in other situations. Half of the students respond that the language is improved and they could use it effectively in other situations. It is also found that the text is simple and easy to comprehend but the slow learners and those who hail from rural areas find no improvement in their language. Despite the unique syllabus and unique arrangement of tasks, greater language learning does not necessarily lead to a greater usage of English in other situations. Otherwise the textbook satisfies the learners' needs, helps to improve their vocabulary, reading skill and other communicative skills.

Comments

The rural area students and slow learners find the textbook somewhat difficult and therefore the weak students may be identified and they can be given extra courses like bridge courses.

As the listening skill is mostly ignored the students may be taken to the language laboratory and their listening can be trained through the listening tapes and exercises.

As the tasks cannot be tested there is a lack of interest.

Though the students learn the skills in the first year when they go to II, III and IV year they lose touch with the language and they forget what they have learnt.

Many teachers find their job passive and so they find it boring and not interesting.

The university examination question paper does not examine and test all the skills.

As Technical English is not something that is familiar to all, many teachers and students find it difficult to use the features of technical English introduced to them in the text.

Conclusion

We have materials that exploit the notion that learning is an integrated process, combining and interconnecting reading, writing, speaking and listening skills. We can conclude that the text used clearly implements the objective laid down by the experts in curriculum development. The textbook is successful in imparting both reading and writing skills. It fulfills the principle of ESP teaching where teaching of English is done, according to R.K.Singh (2005:64), "by a better method by adopting a more practical attitude, a flexible approach, adopting a need based teaching programme and pursuing such teaching activities from which students know they are learning something useful."

Though the tasks offer practice of all the skills the ignored or less focused skills can also be trained with the help of modern methods. The various constraints listed here may be considered before revising the textbook, and communicative activities in the natural situations can be emphasized more, thus removing the little gap that is still noticed between the aims and the achievements.

NOTES

1. A study of language was conducted for Engineering Students of Nanyang Technical Institute, Singapore by Koh Moy Yin. This study supports the impression that their real problem has to do with communication as an interactive process and interpersonal skill.

Koh Moy Yin, "ESP for Engineers: a reassessment" **ELT Journal**, Vol., 42/2, Oxford: Oxford University Press, 1983.

2. Previously two textbooks were prescribed for Engineering students in TamilNadu. The book by A.J. Herbert provides technical passages and grammatical tasks. The next book Communication in English for Technical Students provides passages of general topics and the tasks.

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APPENDICES

A.1 QUESTIONNAIRE FOR STUDENTS

1. Name :
2. Age :
3. Sex :
4. Mother Tongue :
5. Educational Qualifications :
6. Medium of Instruction :

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7. Board of Studies : State / Matric / CBSE
8. Address :
9. Parents Educational Qualification :
10. Place of Study :
11. Do you read newspaper?
Yes No
12. Do you listen to English news?
Yes No
13. Do you interact with teachers?
Yes No
14. Is the TB attractive?
Yes No
15. Are there adequate charts, graphs?
Yes No
16. Is the exam based on the text?
Yes No
17. Are the topics or Materials easy to understand?
Yes No
18. Are the materials relevant to Engineering Course?
Yes No
19. Are they simple or easy to be understood?
Yes No
20. Are the technical terms comprehensible?
Yes No
21. Are the tech. terms properly designed?
Yes No
22. Do the tech. Materials help you to learn the language better?
Yes No

23. Are the topics relevant to Engineering?
Yes No
24. How do you find the tasks?
Easy Moderate Difficult.
25. Is there a variety in task distribution?
Yes No
26. Is it a textbook or a Workbook for its a skill - based text?
Yes No
27. Is the Cover design beautiful?
Yes No
28. Does the TB create and interest or bore the reader?
Yes No
29. Do you find the tasks interesting to do?
Yes No Sometimes
30. Is it easier for you to form new words?
Yes No
31. Do you find easier to comprehend the new words through the materials?
Yes No
32. Do you find the tasks, helping you to develop the language in the following sections?
Yes No A little
- a. Word - Formation
 - b. Grammar (Voice, Verb & Tense & Compound Nouns)
 - c. Grammar Usage
 - d. Meaning
33. Give reasons if you find it difficult to comprehend any of the above?
34. Do the tasks improve your skills?
Yes No

35. If so, arrange them or grade them according to their position of learning?
- | | | | | |
|--|---|----|-----|----|
| | I | II | III | IV |
|--|---|----|-----|----|
- a. Listening
b. Speaking
c. Reading
d. Writing
36. Does the text induce your Creativity?
Yes No
37. Does the textbook provide you sufficient materials for writing the essays?
Yes No
38. How do you find the text?
a. informative b. entertaining
c. task - oriented d. developing your language
39. Do you think that your language has been improved?
a) Yes b) To some extent c) No
40. Are you able to improve you effectiveness in using English in other situations by these textbooks?
Yes No
41. Are all the technical materials helpful to increase your technical knowledge or to increase the rate of learning the language?
- | | | | |
|----|-----------------------------------|------------------------------|-----------------------------|
| a. | to increase technical Knowledge | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| b. | The rate of Learning the language | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

A.2 QUESTIONNAIRE FOR TEACHERS

1. Name :
2. Age :
3. Sex :
4. Mother Tongue :

5. Designation :
6. Address for communication :
7. Educational Qualification :
8. Nature of the college :
9. Do you use the text by Anna university?
Yes No
10. Does the textbook motivate the students?
Yes No
11. Is the Exam based on Textbook?
Yes No
12. Are the Tasks arranged from simple to complex?
Yes No
13. Are the Topics relevant to Engineering?
Yes No
14. Are the Technical words properly defined?
Yes No
15. Is there a variety in tasks?
Yes No
16. Is it a Workbook or Textbook?
Yes No
17. Is grammar taught separately?
Yes No

18. Does the textbook fulfill the objectives of the Syllabus?
 Yes No Sometimes
19. Do you have any problem in adopting this task oriented methodology. If so, name them?
20. Is this approach effective? If not, give reasons?
21. Does this textbook help the students to develop their basic skills (LSRW) in language learning?
 Yes No
- If so in what order? I II III IV
- a. Listening
 b. Speaking
 c. Reading
 d. Writing
22. Is the language laboratory used? If so, is it useful?
 Yes No
23. Do the Materials & exercises really focus on the learning of grammar?
 Yes No
24. Are the exercises sufficient for developing their writing skill?
 Yes No
25. Do the students really participate in activities their role - play discussions etc?
 Yes No
26. Of the two methods, Lecture and Task oriented method, which's the appropriate one?
 Yes No
27. Are the tasks interesting to teach?
 Yes No

28. How do the students find the method of doing tasks?
 a) interesting b) hard c) easy d) useful
29. Does it become necessary for you to give explanations in Mother Tongue?
 Yes No
30. Are the Students able to improve their effectiveness in using English in other situation by the textbooks?
 Yes No
31. Do you think language has been improved?
 Yes No
32. Do you find the technical materials easy to handle?
 Yes No
33. Are all the technical materials helpful to increase the technical knowledge or to increase the rate of learning the language.
- a. to increase technical Knowledge Yes No
- b. The rate of Learning the language Yes No
34. Give your Suggestions to improve the learning of English?
-

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