LSRW and L2 Engineering Students

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1. Review of Literature

EAP (English for Academic Purposes) researchers, such as Christison and Krahnke, 1986; Ferris, 1998; Ostler, 1980, have surveyed L2 students enrolled in subject-matter courses to ascertain their perceptions about the relative importance of language skills and classroom tasks for academic success (Stoller, 2001). Ostler’s early study showed that students felt the greatest need to develop the ability to read textbooks (indicated by 90% of respondents), followed by the need to listen and take notes (84%), ask questions in class (68%), write research papers (58%). According to Stoller, faculty and student input have provided the impetus for many of the changes and innovations in curricular modifications. Huckin and Olson (1983), while talking about ‘the importance of communication skills,’ refer to the survey conducted by the American Society for Engineering Education to determine which academic subjects are most needed for engineering careers in industry. Responses were received from 4057 experienced engineers. The results show that communication skills rank above any other type of skill, capturing five of the nine “most needed” categories. Other items in the list (the rank secured by each item is given in brackets): technical writing (2), public speaking (4), working with individuals (6), working with groups (7), and talking with people (9). In contrast, technical skills rank toward the bottom of the list. The Mississippi 3 State University Bagley College of Engineering’s Shackoul Technical Communication Program (TCP) exists to prepare engineering students for the writing and speaking situations they will face as working engineers. Begun in 1999, the TCP chiefly consists of three related efforts: GE 3513 Technical Writing, The Writing Tutor Program, The Coursework Integration Initiative.

Analyzing all these factors TOMSK Polytechnic University (TPU), TOMSK, Russia has developed and designed a course for engineers entitled as English for Specific Purpose (ESP) in engineering education. “The TPU’s ESP course is a part of an extended Multilevel Intensive Foreign Language raining (MILFT) program that has been deigned for the students and the faculty of the---” (Cheremissina 57-60) The overall concept of ESP focuses the learner’s attention on the particular technology and communication skills required in the engineering profession.

The Language Studies Unit of the Curriculum Development Cell, IIT, Kanpur conducted a national survey in 1990 for the purpose of identifying English Language Needs for Technical Education. This survey was funded by the Department of Education, Ministry of Human Resource Development, New Delhi. Data was collected on the nature of
language-related needs of technical students across the country to provide an objective database for developing a more learner-centered curriculum. Basing on the findings, the following courses were developed: Introduction to Technical Communication and Advanced Technical Writing.

Fenn College of Engineering at Cleveland State University developed Pro-skill (LSRW) to enhance and expand a wide range of the non-technical skills engineering students must have to be successful. Unlike the classical approach used to teach written and oral communication in liberal arts courses or across the engineering curricula, ProSkills integrates communication skill enhancement within the existing technical curricula.

2. Introduction

Communication is obviously a vital tool. Not only it helps sharing thoughts and ideas, but it forges friendships, cultural ties, and economic relationships. Today, effective communication skills have become a predominant factor even while recruiting employees. While interviewing candidates, most interviewers judge them on the basis of the way they communicate. They believe that skills can be improvised on the job; but ability to communicate well is important, as every employee becomes the representing face of the company. This is true in the case of engineering graduates too. Thus, the professional profile of a modern qualified engineer should include command on communication skills.

3. Why English?

In a multi-lingual society modern engineering professionals must also be able to communicate effectively in a shared tongue. English is considered as an international language as it is widely spoken language of the world. English as a language enjoys the status of Lingua Franca. “English has been widely accepted as the most widespread language in the world.” (Tattersal 38-44). By the end of 20th century English began to emerge as a global language. English has a great acceptance at social, economical and political levels. English is cited as the …major language of international business, diplomacy, science and professions” (Kitao 03) The position paper of the National Focus Group on Teaching of English for NCF – 2005 makes it clear when it addresses the ‘English language question’. It says, “English is in India today a symbol of people’s aspiration for quality in education and a fuller participation in national and international life…. the current state of English stem from its overwhelming presence on the world stage and the reflection of this in the national arena. … (P 1)”

4. LSRW: Natural Process of learning

The mastery of any language depends mainly on the learning of the basic skills LSRW. 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) considers LSRW as the correct order of teaching the skills.

Among the four skills, the speaking and writing are always called as active and productive skills, whereas the reading and listening are called to be passive and receptive skills. As the four skills are related to each other the active skills depend on the passive skills for their fluency and development.

4.1 Language Learning Materials

A detailed discussion of how LSRW can be effectively used is taken up in the following sections. The discussion focuses on attracting and sustaining the motivation of learners so as to make them use language for a real purpose confidently and without much anxiety.

“Materials could obviously be cassettes, videos, CD-Roms, dictionaries, grammar books, readers, workbooks or photocopied exercises. They could also be newspapers, food packages, photographs and live talks by invited native speakers, instructions given by a teacher, tasks written on cards or discussions between learners. In other words, they can be anything which is deliberately used to increase the learners’ knowledge and/or experience of the language.” (Tomlinson 1998) Materials can be made suitable to learners with different learning styles and affective attitudes by providing variety through different types of texts and activities to suit different learners, providing extra activities for highly motivated learners and providing activities to sensitize the learners to their own attitudes, feelings and learning styles.

As Brian Tomlinson (1998) aptly points out, “…… in order to facilitate the gradual process of acquisition it is important for materials to recycle instruction and to provide frequent and ample exposure to the instructed language features in communicative use.” Learners’ motivation can also be sustained by making the materials serve some real life purpose. Materials of this type, by being personally significant to the learners add value to the whole learning process.

As Dulay, Burt and Krashen (1982) point out, “……the learners motives, emotions and attitudes screen what is presented in the language classroom…This affective screening is highly individual and results in different learning rates and results.”

4.2 Listening skill

*Listening is (at least) half of effective communication.* 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 engineering curriculum we mainly find that it is neglected and only other skills are
focused. To overcome this deficient teacher should prepare more materials on the prescribed topic in order to make it interesting to a listener. At the outset students should be told that they will be asked for the feedback.

1. To begin with, ask students to do a specific activity: listening for general content, listening to fill up information, listening for specific information, listening for pronunciation, etc.
2. Later students can be asked to listen to the talk and to write notes as they listen. They must be reminded of using the active listening techniques (such as mirroring, paraphrasing, summarizing, and clarifying questions) it will give them the details they need.
3. Divide the class into pairs (according to their language efficiency) and ask partners to tell each other about the topic they heard. Spend a minute or two with each pair to make sure they are using active listening skills correctly. Offer praise or suggestions for improvement when necessary.
4. Ask students why they did not remember much after listening. Discuss how they could improve their listening skills.
5. Students should be given practice in listening to the sounds of the language to be able to recognize them, to distinguish between them to mark stress and recognize and use the right intonation in sentences.
6. Teach them to listen to the nonverbal communication: ask them to pay attention to the gestures, posters and other nonverbal cues while they are listening. Audio-visual aids too can be used for the purpose.
7. Motivate them to apply rules of active listening even in the informal situations.
8. Instead of huge language labs, individual portable gadgets like I pods or CD players should be promoted.

4.3 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. It must be focused on clarity of thought, expression, brevity, precision. It is a systematic technique employed by a speaker to express his meaning. It is an active, productive and creative skill.

1. English is a second language hence creates mock situations.
2. Use introduction sessions as ice breakers.
3. Oral practice- describing objects/situations/people etc. will enhance their skill of describing, explaining and analyzing things and situations with clarity and precision.
4. Ask students to record their descriptions; it will make an interesting activity. Playing it back to them will work as the feedback.
5. Role play - Individual/Group activities, Just A Minute (JAM) Sessions-Such activities help to build team spirit and students get the chance of learning by doing. Oral communication skills are required not just for internal matters but also for external matters. Such will encourage self-awareness while role reversal will contribute to the students understanding of empathy of knowing how the other side perceives engineers.
6. Presentation skills—Students can be asked to give presentation on any technical topic. Now a days business organizations pay special heed on presentation skills. A recent research study observed that “engineering graduates are expected to give oral presentation as part of their work” (Keane and Gibson 1999). Group tasks and presentation enhance interpersonal skills.

5. Ask them to give feedback on presentations, this will help engineering graduates to think about the exercises more deeply, recognize others viewpoints and how to provide constructive criticism to peers.

7. Debate is another way teachers can provide their students with the opportunity to practice their communication skills. Research suggests that debate encourages different types of responses, helps students to develop convincing arguments, and allows teachers and students to learn from one another. This also encourages students to back up what they believe and it allows teachers to get a good idea of what kind of conceptual knowledge students have about certain topics.

8. Teachers can also organize mock interviews and group discussion to sharpen the communication skills of the learners.

4.4 Reading Skill

Reading skill is essentially important to the learners of engineering. It is called a receptive skill and a passive skill. It comprises three stages known as recognition, structuring and 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. Since efficient reading is essential. Reading comprehensions are much useful in training the learners.

1. Provide tips to the learners on library skills so that they can develop habit of reading.
2. Suggest them informative and light reading stuff or ask them to pick anything of their own choice. It can develop their thought process and can provide scope to their imagination.
3. The reading comprehensions must be arranged from simple to difficult or familiar to unfamiliar text.
4. Students should be asked to do specific reading: skimming/scanning, intensive/extensive.
5. Ask them to identifying the topic sentence when they read, it can help them in paraphrasing.
6. Recognizing coherence/sequencing of sentences can help them in comprehension and analysis of written documents.

4.5 Writing Activity

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.

1. Aim at developing awareness in the students about writing as an exact and formal skill.  
2. Plan activities to equip them with the components of different forms of writing, beginning with the lower order ones.  
3. Select topic and ask every student to write on board one sentence each using appropriate vocabulary, finally assign individually to arrange all sentences in proper order.  
4. Give feedback and discuss importance of coherence, emphasis, unity and cohesiveness.  
5. Make pairs. Ask each student to write anything that they finds interesting, swap notebooks and ask them to make note on what their partner has written.  
6. Conduct writing workshops on letter, report, resume, paper, poster, and project writing and provide remedial feedback to the learners.

Conclusion

In the English classes, the focus should be on the skills of reading, writing, listening and speaking and for this the teachers should use the text prescribed along with the appropriate material developed by him/her. The material should engage the learners in meaningful interactions and provide a real purpose for the language learning activity. Integration of LSRW skills within subject modules will definitely provide ample opportunities to the professional engineers. Some technical universities have restricted communication skills as a subject in I year of engineering which does not provide enough scope to the engineering graduates to develop their communication skills. It should be incorporated throughout the engineering program as limited communication skills may impede professional growth.

Works Cited:

Kitao, k., Why Do We Teach English? The Internet TESL Journal, 2,4 (1996) 1-3.