

# Effectiveness of Intervention Strategies in Developing Communicative Competencies Among Engineering Students



## Education

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### ABSTRACT

*Communication skill is considered as a salient feature in the making of a global professional. Professionals who are proficient in communication skills have a considerable edge over those who have not. English has become the ascendant language and influenced the language of communication between professionals and claims to be the first rate International language and even be called a Universal language. Hence a working knowledge of English has become a requirement in a number of fields, occupations and professions internationally. The emphasis in this investigation is to develop the communicative competencies especially listening and speaking competencies of first year engineering students through intervention strategies. The study presents a framework of Communicative Competencies developed by the investigator. The frame work will serve as a basis for training the engineering students' communicative competencies in order to achieve success in the modern highly competitive global work arena*

### Introduction:

English language Communication is essential because, it is a global language and in the globalized backdrop, good listening, speaking, reading and writing skills are the keys to unlock the doors to success. These skills help to build strong relationship and better understanding which are so vital in personal and professional life (Mehta and Mehta, 2002). English language has become one of the major languages of the world (Dash and Dash, 2007). Professionals having strong hold on communication skills are considered assets for any organization. Communication skills are essential for engineers, who aspire to carry out their professional practice in the global arena (Marc J. Riemer, 2002). International practice of Engineering is important in this globalization age, as the number of international projects is increasing, and cross-cultural communication and collaboration is on the rise. Engineering and technology students especially require communication skills to enhance technological knowledge and thereby excel in their career. Hence, technology and communication goes hand-in-hand (A.O. Adeosun, 2011). In India, the curriculum for English in Technical Education is inadequate in meeting the needs of Engineering Students (Veenakumar, 1999). But adequate language and communication competencies are imperative for good engineers. In most developing countries, only a very diminutive percentage of students have access to learn through English medium. But the medium of all higher and professional education is in English. Inclusiveness in higher education has provided opportunity for the learners from backward and under developed sections of the society to enroll in professional courses especially, the engineering course. Consequently, at the level of higher education, the expectations change and progressively become more demanding. In spite of good subject knowledge, students with poor communicative skills are selected out in interviews for placements in jobs; thereby they become unemployable much to the disappointment of both the job aspirants and their parents who strongly believe that their wards are their only future.

There is a great mismatch between urban and rural students of engineering in India though they have a same prescribed syllabus. Most of the rural students are first generation learners who take English as foster language and throughout life not able to cope with it in spite of their best efforts. However, they might be able to write as per requirement but, speaking remains out of their range. Linguistic research says this is why a feeling of backwardness embosses among these learners. Most students find it difficult to understand the substance of the prescribed literary selection. . English in India is taught as an academic subject as a medium or mode of active, constructive communicational intellectualization. It is rarely student centered and most students have neither the chance nor the motivation to actively participate. Rural students are deprived of technology as enjoyed by urban or university students. Lack of technology, books and other things become an obstacle in their learning process and they do not get the opportunity to interact with

other renowned personality or peer groups. A review of related literature showed that there were several studies done on the communication skills of students especially during school education (Huckin and Olson, 1983; Mehta and Mehta, 2002). But on college students particularly, on engineering students, only a few studies have been done. The need for the study is felt due to inadequacies of researches in this area. Most of the studies reviewed were descriptive and some focused only on the reasons for possessing poor communication skills among the students. There were experimental studies trying effectiveness of some techniques/strategies to improve Communication. Further, the investigator felt through her 15 years of experience, she came across many Engineering students displaying poor communicative skills. Therefore a study was conducted employing Intervention Strategies with activity modules to develop Communicative skills of engineering students.

**Materials and Methods:** The study was confined to the First Year Engineering students of Saranathan College of Engineering, Tiruchirappalli, Tamilnadu, India possessing poor communication skills.

**Study design:** The present study is a single group, Pre-Test – Treatment – Post-Test experimental design with Intervention Strategies to enhance communicative skills. The Intervention Strategies are independent variable and the communicative competencies are dependent variable. Observation, interaction and discussion were the approaches employed to make the study more empirical.

### Communicative Competencies identified for engineering students:

An informal interview was conducted with the students and teaching staff of Engineering Colleges in and around Tiruchirappalli who expressed uniformly that the communicative competencies, especially listening and speaking competencies were difficult for students.

There are several general Communicative Competencies, which are essential for an engineering student. Based on the obligatory needs, the investigator identified forty five general Communicative Competencies. As the number of competencies was more the investigator identified only seventeen specific important Communicative Competencies for the engineering students.

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| 1. Expresses Self clearly by providing essential information   |
| 2. Asks open questions effectively and giving answers politely |
| 3. Asking follow up questions                                  |
| 4. Arrange appointments and meetings                           |
| 5. Making, canceling and rescheduling appointments             |
| 6. Seeks clarifications  |

7. Extends apology
8. Expresses an opinion
9. Offers help, makes requests and asks permission
10. Complains politely, using neutral tone and be helpful to other person.
11. Listen carefully for making inferences.
12. Expresses agreement and disagreement
13. Telephone etiquette
14. Listens carefully for facts and drawing inferences.
15. Listens attentively for specific information
16. Listens attentively for overall information
17. Understands and follows directions when presented orally

Based on the interview with the professors of English and students the modules were prepared. Then those modules were validated in consultation with subject experts and Professors of English. A systematic schedule was prepared to implement the modules of activities. A module of activities was in the form of printed materials, designed and prepared in accordance with the criteria of Intervention Strategies of Communicative Competencies for first year Engineering Students. Twenty Five activities were designed for developing Communicative Competencies among engineering students. One of the activities in the strategies is given below. Giving personal information. In this activity students learnt to give personal information to others. Students were given one formal and one informal dialogue to learn the competency. Then they were asked to use the learnt expressions to enact in a group of four or five members to introduce and give personal information.

A field test was conducted for 35 students. The population of the study constituted 420 First Year Engineering students in Saranathan College of Engineering, Tiruchirappalli, Tamilnadu. Before the implementation of Intervention Strategies, validated Pre-Test (Performance Test) for Communicative Competencies was administered to 160 students belonging to Instrumentation and Control Engineering group and Electronics and Communication Engineering group. A sample of 32 students was selected through the Performance Test.

The investigator utilised the English Language laboratory of her college to conduct the activities. The validated activities on Communicative Competencies were implemented on the sample students and were given directions for doing the activities. The students were given activities for all the specific expected communicative competencies. In a regular interval they were administered to progressive and post test. The difference in the performance by the students between Pre-Tests and Progressive Tests, Progressive Tests and Post-Tests and Pre-Tests and Post-Tests for the Intervention Strategies revealed the effectiveness of these Strategies.

#### The scores obtained were subjected to statistical analysis employing following techniques:

1. Measure of Central Tendency – Arithmetic Mean
2. Measure of variability – Standard deviation
3. Test of Significance – 't' test
4. Effect Size

#### Results and discussion:

Intervention Strategies implemented on First Year Engineering students have significantly improved the Communicative Competencies with reference to Listening and Speaking Competencies.

#### The nurturant effects of intervention strategies:

The research has facilitated the students to get score marks and obtain grades A, B, C, D and E in their First and Second Semester University Examination Conducted by Anna University,

Chennai, Tamilnadu. The grade and its percentage is given below:

A: 80 – 90 B: 70 – 80

C: 60 – 70 D: 55 – 60

This shows the long term effect of the intervention.

- The students who served as the sample for the present research are now doing IV Semester and they don't have English as a subject in their syllabus. But the investigator could witness students' communication with their peer group and faculty with confidence. The colleagues of the investigator handling classes for the students who were sample for the study reported that these students now take better initiative, and take up responsibilities willingly. This is a proof for the change that the Intervention Strategies have brought about on the erstwhile low Esteem students.
- The collective response from the students revealed gain in certain learning aspects. During the investigation most of the students were very much interested and completed all the activities with ease and confidence. Later on those activities promoted self study among students. The teaching method used by the investigator made the students develop inquisitiveness in learning Second Language with more confidence.
- They revealed Intervention Strategies provided an opportunity to understand and internalise the basic communicative concepts through concrete situations. Repeated activities made them to rethink and recollect the activity for their day-to-day life situations. It allowed to understand the structure, vocabulary, appreciate the grammar and to use in the surroundings and real life situations. The verbal and non-verbal expressions in the activities involved both the mind and senses working together which facilitated cognition. It widened the experimental base and prepared the ground for better learning of new areas of subject.

#### Educational implications

- The curriculum for English in Engineering Institutions is mark-oriented and therefore books should be changed into competency and activity based in order to achieve the real purpose of developing Communicative Competencies of students.
- Students from slum areas, tribal pockets and interior rural areas may be identified in the first month of first semester and given appropriate activities for building communicative competencies. This will be a useful investment for their future.
- Steps should be taken to have specific syllabus for Communicative Competencies from I to III year in Engineering Colleges which may be introduced as modules with a provision for evaluation. This will address the problem of educated unemployables on account of poor communication but with good subject knowledge.
- The objective of inclusive education will be fully realised in a democratic country like India, if free flow of funds can be ensured by the Government.
- The strategies developed, validated and successfully implemented by the investigator may be adopted by other teachers from engineering colleges.

#### Conclusion

Today's youth face a far different and far more competitive world than their parents and grandparents. With unlimited information at their fingertips and extraordinary opportunities waiting to be tapped, students must possess good communication skill. They must know how to think critically, to solve complex problems, to work in teams and adapt to rapidly changing technology. Students' inadequate communication skill consequently leads to their poor performance in communicating in the target language. Language learning is a matter of practicality. The development of learners' oral skills, like that of any other skills, requires the learners' own active participation and initiative practice. The investigator strongly believes that the outcome of this study will definitely help the students of engineering to acquire communicative competencies. The findings of the present

study provided useful and practical information to the Technical Universities and to the AICTE to improve the competencies of the students of English in Engineering colleges. The students

with their proficiency in the set of competencies identified by the study would be able to function more efficiently in their great future prospects that await them.

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