

Needs Analysis: English Courses for Bachelors of Engineering in Pakistan

Ameer Sultan¹, Ayaz Afsar², Shahid Abbas³

Abstract

The importance of communication skills could not be undermined in any field of life but its role in the field of Engineering and information technology is crucial. It is very difficult for young engineering students to shape their thoughts in second language. The task becomes more difficult when the students have to write for specific purposes like TOR, technical reports, proposals, memos and letters. Needs Analysis is the first step towards developing curriculum. It could be used to bring improvements in existing syllabus/methodology. The research was conducted to analyse the target needs of the Bachelors of Engineering students in Pakistan and to identify the gap between present syllabi and the needs of the students. The research was conducted in five engineering institutions of Rawalpindi and Islamabad. The data was collected through questionnaires and class observation. The findings of the study indicate the wants of the students regarding English courses. It also reveals that teaching/ learning situation in the classrooms of English courses for engineering students.

Keywords: Need analysis, English courses, Engineering

¹ Lecturer, Department of English, International Islamic University, Islamabad-Pakistan
ameer.sultan@iiu.edu.pk

² Professor, Department of English, International Islamic University, Islamabad-Pakistan

³ Lecturer, Department of English, University of Sargodha, Sargodha-Pakistan

Introduction

English has gained the status of international language around the globe. Pakistan inherited this language as a result of British colonial rule over subcontinent. It is the official language of the country and key to success. Since most of the published literature in science and technology is in English; its knowledge is pivotal to sustain in the scientific world.

Though the importance of Communication Skills could not be undermined any field but its role in the field of Engineering and information technology is crucial. It is very difficult for young engineering students to shape thoughts in foreign language. The task becomes more difficult when the students have to write in a foreign language for specific purposes. The students need linguistic competence and communication skills at work place and to pursue higher education in the field of Engineering. Even the professional engineers are required to refresh their communication skills to keep themselves updated with the latest development in their field. Since most of the published literature of science and technology is available in English language, it is mandatory for engineers, irrespective of their geographical boundaries, to have good communication skills to excel in their respective field of specialization. A modern highly qualified engineers is expected to have well-developed communication and high English language proficiency to get efficient opportunities for competitiveness and success in the global work arena.

English is not the native language of Pakistani students and they face difficulty in expressing themselves. Oakley, Barbara; Connery, Brian and Allen, Kristine (1999) observes the poor writing skills of graduating engineers in USA “one of the most common complaints from industry about graduating engineers is their poor writing skills. Reports, for example, are poorly written, rife with misspellings, redundancies, and grammatical errors” (p.1). It reflects that writing for engineering purposes is quite problematic for fresh graduates. In Pakistani context, the low standard of English language teaching at secondary and higher secondary level is another factor why the students of engineering are not so good in English as they come from government schools and colleges which are considered to be lower in language proficiency as compare to the private sector schools.

Literature Review

Effective communication skills are expected from an engineer in global setting. There are four important skills as far as communication is concerned and these are; listening, speaking, reading and writing.

Houp, Kenneth .W.; Thomas.E.Pearsall and Tebeaux, Elizabeth (1998) are of the view that an engineer is not simply a person whose only product is a new design or a gadget that works. Writing about what he thought and done is a recurring necessity.

Technical writing, strange and difficult as it may seem at first is something that can be learned by anyone of reasonable intelligence and perseverance.

Scientists and engineers may be technically brilliant and creative, but unless they can convince co-workers, clients, and supervisors of their worth, their technical skills will be unnoticed, unappreciated, and unused. From this perspective communication skills are not just handy; they are critical tools for success even survival, in the competitive environment.

Huckin and Oslen (1991) observe that every technical person stands to gain from improving his or her communication skills. Most scientists and engineers work in organizational settings where network is essential. Good teamwork is impossible without good communication. And those scientists and engineers who work independently have to communicate with their clients and sponsors. For many technical professionals, the ultimate product of their work is a written document. If that document is badly written, it reflects badly on their individual involvement and will harm the reputation of the organization. Organizations know this and base their hiring and promotion on the ability of the candidates who have good writing skills.

The engineering universities in Pakistan used to have only one subject of English viz Communication Skills in their engineering programmes before 2006. It appears that the HEC realized the importance of English language for the engineering students of Pakistani universities. The HEC has responsibility of curriculum revision from class XII to PhD as it is mentioned in the HEC Booklet Curriculum Revision (2008) in the following words:

Sub Section (1) of section 3 of the Federal Supervision of Curricula Textbook and Maintenance of Standards of Education Act 1976 and Federal Government notification No.D773/76-JEA (cur) dated December 4th 1976, appointed the University Grants Commission as the competent authority to look after the curriculum revision work beyond class XII at the bachelor level and onwards to all degrees awarded by degree colleges, universities and other institutions of higher education. (p.4)

In exercise of the powers conferred by the act, in 2008, HEC revised the curriculum of Bachelor of Engineering (BE) in Pakistan. The most significant part of the revision is related to English courses for engineering students. The HEC directed the engineering universities to include three English courses of three credit hours each at undergraduate level.

Technical English is different from General English as Swales (1971) states that the English of Electrical Engineering has specific registers different from other disciplines/subjects.

Review of ESP Needs Analysis Projects in Pakistan

In Pakistan the researchers have focused on English for Business, Commerce, Medical, Law, tourism. Most of the researchers have worked on the pedagogical aspect of ESP. Mahmood (1985) has looked into ESP in Pakistani medical colleges. She designed a questionnaire for medical students containing questions about four skills. She suggested in-service ESP courses for doctors. She also suggested that ESP should be part of MBBS curriculum. There should be emphasis on speaking. Imtiaz (2003) has evaluated Business communication and Technical Report Writing courses for Master of Commerce in Banking with special reference to BZU, Multan. She collected the data through questionnaires, interviews and class observations. She suggested Communicative Language Teaching approach, use of AVA and teachers training in her thesis. Shakir (2003) analyzed the communicative needs of hotel industry staff in Pakistan. Naz (2004) analysed ESP Syllabus for Science Students at secondary level.

Hassan (2005) has focused his research on ESP Syllabus for the Engineers of Lahore Technical Colleges. He collected data by distributing questionnaires to 100 students of Diploma of Associate Engineering (DAE) and 20 of their teachers. He interviewed the students and teachers and validated his research through class observations. Hassan (2005) has not suggested any syllabus for the students but suggested guidelines for the teachers. He suggested that teachers should be well prepared for the class. There should be emphasis on all four skills. He ranked writing skills as the most important for diploma students.

A lot of Research has already been done on ESP courses in different parts of the world. No comprehensive research has been done regarding English courses offered by engineering universities in their engineering programmes. Communicative Needs of engineering students at workplace differ from country to country. Triangulation in needs analysis was not applied in ESP research in Pakistani context. Triangulation in research is important to get valid data from different stakeholders. I have collected the data from all the stakeholders through questionnaire, interviews and class observation. Hassan (2005) collected the data from teachers and students of Diploma of Associate Engineering. There seems to be no significant research conducted on the communicative needs of Bachelor of Engineering students in Pakistan. Keeping in view the growing need for good communication skills of Engineers, the present study will fill the gap and investigate the effectiveness of English courses in engineering universities.

Needs Analysis and Effectiveness of a Course

Needs Analysis is an important step before running an ESP course. Songhori (2008)

emphasized the importance of Needs Analysis in the following way: “ Needs analysis (also known as needs assessment) has a vital role in the process of designing and

carrying out any language course, whether it be English for Specific Purposes (ESP) or general English course”(P.2). Needs Analysis is an important step in designing a language course. Its importance in course design can not be undermined. Michael (2005) has emphasized it in the following way:

There are growing demands for accountability in public life, including education. In foreign and second language teaching, one of several consequences is the increasing importance attached to careful studies of learner needs as a prerequisite for effective course design. (p.1)

ESP is a learner centred approach to syllabus design . Needs Analysis is first step and back bone in designing/evaluating syllabus and understanding the needs of the learners. In the theoretical frame work of Munby (1978) communication needs have the dominance over other factors. According to Hutchinson and Walters (1987) ESP is different from General English in many ways. The most important thing is “not the existence of a need but rather an awareness of the need” (p.53). Nunan (1988) is of the view that Needs analysis covers“ techniques and procedures for obtaining information from and about learners to be used in curriculum development” (p.158). Needs analysis research helps in developing a curriculum in EAP/ESP.

Needs analysis research in English for academic purposes (EAP)/ English for special purposes (ESP) is mainly descriptive. Researchers identify and describe existing elements of the target situation to provide the basis for curriculum development. (Benesch,1996, p.723)

Needs Analysis is a first step towards developing curriculum. It could be used to bring improvements in existing syllabus/methodology. Since it is about the wants of the learner. It covers different aspects.

As ESP delves deeper into students' needs and extends beyond its traditional EAP base, there will be an increasing need for research into the nature of discourse, written or spoken, that must be produced or understood by those enrolled in ESP courses. (Evans & John, 1998, p.307)

Communicative needs of the students is the hallmark of needs analysis. In most cases needs analysis is conducted to know the future needs of the students. Kaewpet (2009) observe that “The most important aspect to keep in mind when running ESP courses is that the course content should consist of material that the learner can authentically use outside class” (P.1). Few needs of the students may be similar but there are certain variables which determine the needs of the students. MacGrath (2002) is of the view that age range, proficiency level in the target language, first language, academic and educational level, socio-cultural background, occupation (if relevant), reasons for studying the target language, attitude to learning (including attitudes to the language, the teacher, the institution), language learning aptitude, general expectations (of course/textbook/teacher/ own role), specific wants, preferred learning style, sex

distribution and interests of the students must be considered in conducting effective needs analysis(p.19).

Hutchinson and Walters (1987) differentiate between learning needs and target needs. What learner need in the target situation (at work place) is called target needs and what they need to learn to accomplish this task are learning needs. They further divide the target needs in necessities (work place requirement), Lacks (the gap between the target proficiency and existing proficiency) and wants (what they want/expect from the course).

One can not conduct effective needs analysis without the knowledge of target situation. Munby (1978) has presented a model for conducting needs analysis. His model is comprehensive and specifies the uses of language learners encountered in a particular situation. The checklist for conducting needs analysis is a convenient way. The framework given by Hutchinson and Walters (1987) for analyzing needs is appropriate for most of the researchers of ESP courses.

The questions for conducting needs analysis are: why are the learners taking the course, is it compulsory or optional. Are statuses, money, promotion involved? What do learners think they will achieve? What is their attitude towards the ESP course? How do the learners learn? What is their learning background? What methodology will appeal to them? What sorts of techniques are likely to bore/alienate them? number and professional competence of teachers, attitude of teachers to ESP, teachers' knowledge of and attitude to the subject content, materials, aids, opportunities for out of class activities, age/sex/nationality of the learners, what do they know already about English? What teaching styles are they used to? (ibid, p.62-63)

After getting the data from the learners regarding these questions a researcher can determine the effectiveness of the course. Since the aim of the research is to review the effectiveness of existing ESP courses in professional development of engineering students of Pakistani universities, the researcher has formulated the questionnaire keeping in mind the current practices of English teaching and target needs of the students.

Methodology

The aim of the study was to see whether present syllabi and teaching methodology of English courses at Engineering Universities of Pakistan at undergraduate level meet the future needs of engineering students?

The researcher decided to apply quantitative and qualitative approaches of research. Walliman (2005) suggests "when appropriate, a mixture of quantitative and qualitative research is possible"(p.271). Triangulation techniques refer to the blend of qualitative and quantitative methodologies. Cohen, Manion, and Morrison (2007) define the importance of triangulation technique in Social Sciences in the following way:

Triangulation techniques in social sciences attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and, in so doing by making use of both quantitative and qualitative data. Triangulation is a powerful way of demonstrating concurrent. (p.141)

Teachers, students and alumni data has been collected through questionnaires. The researcher observed the communication skills classes in all the five university and collected that data through observation sheet. In this way the researcher mixed the qualitative and quantitative data collection methods.

The sampling of the study consisted of 200 students, 10 teachers, 15 engineers (alumni) of five universities in Rawalpindi/Islamabad.. By using random sampling, the data for the study was collected from Rawalpindi: College of Electrical and Mechanical Engineering, NUST, and from Islamabad: National University- FAST; Air University; International Islamic University and Centre for Advanced Studies in Engineering.

To assess the effectiveness of English courses for engineering students questionnaires were designed for current students, teachers and the students who have already graduated from the selected universities and working in different organizations. To observe the methodology and techniques of teaching and classroom environment, the researcher observed the classes of English courses in the four engineering universities of Rawalpindi/Islamabad. A comprehensive observation sheet was used to record the teaching learning practices in the classrooms.

Data Analysis

The researchers analyzed the collected data by using SPSS (Statistical Package for Social Sciences). To avoid unnecessary length, the data is shown in tabular form only. The Bar Charts are used where it was felt that graphical representation will be more suitable than numerical representation. The first question was about the importance of English language.

		Frequency	Percent	Valid Percent
Valid	Very Important	76	38.0	39.4
	Useful	83	41.5	43.0
	Quite Important	21	10.5	10.9
	Not Quite Important	10	5.0	5.2
	Not at all Important	3	1.5	1.6
	Total	193	96.5	100.0
Missing	System	7	3.5	
Total		200	100.0	

Table-1 Students' Perception Regarding English Courses

Majority of the students (93%) of the respondents consider English courses for their career important and useful. Table-1 shows 7% of the respondents do not consider the courses important for their career. The table shows that the students are aware of the importance of the English courses. The next question of the students' questionnaire was about their future use of English language.

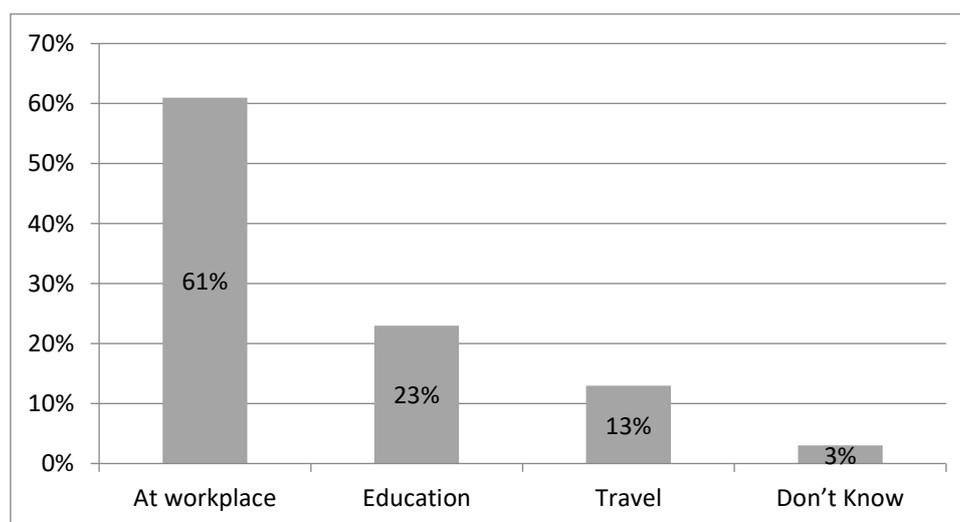


Figure 1. Expected Usage of English Language in Future

Most of the students (61%) foresee that in future they will use English language at workplace. Figure 4.4 shows 23% of the respondents think that in future the language is helpful for them in pursuance of education and they expect that in future they will use the language in education. It can be seen in the graph that 13% of the respondents think that they need English language during travelling. whereas, the figure reflects that 3% of the respondents are not sure about the expected use of English language in future.

Satisfaction of students about syllabi		Frequency	Percent	Valid Percent
Valid	Strongly Agree	14	7.0	7.0
	Agree	93	46.5	46.7
	Uncertain	36	18.0	18.1
	Disagree	38	19.0	19.1
	Strongly Disagree	18	9.0	9.0
	Total	199	99.5	100.0
Missing	System	1	.5	
Total		200	100.0	

Table-2 Students' Satisfaction about Syllabi

Satisfaction of the students regarding syllabus is a major cause of their motivation and interest in the subject. If the students think that the syllabus is not up to mark or not useful for them they do not take interest in the subject. Most of the respondents (54%) of the students are satisfied with the syllabus of English courses in engineering programme. Table-2 shows 28% of the respondents are not satisfied with the syllabus and 19% of the respondents do not show satisfaction or dissatisfaction about the syllabus. The result shows that there is a concern among the students about syllabus and they want improvement in their syllabus.

Students		Frequency	Percent	Valid Percent
Valid	Yes	130	65.0	66.0
	No	53	26.5	26.9
	Do not Know	14	7.0	7.1
	Total	197	98.5	100.0
Missing	System	3	1.5	
Total		200	100.0	
Teachers		Frequency	Percent	Valid Percent
Valid	No	3	30.0	30.0
	Yes	7	70.0	70.0
	Total	10	100.0	100.0

Table-3 Students and Teachers' View about Teaching of Grammar

Table-3 shows 65% of the students think that grammar should be taught in English courses, 27% of the students believe that grammar should not be taught at this level and 7% of the respondents are indecisive and do not know the answer of the question. It can be seen in the table 4.26 that 70% of the teachers believe that grammar should be taught at B.E. level. Teachers think that grammar is the area which should be addressed. While students think higher of their knowledge of grammar.

		Frequency	Percent	Valid Percent
Valid	Individually	53	26.5	27.2
	In pairs	42	21.0	21.5
	In a group	100	50.0	51.3
	Total	195	97.5	100.0
Missing	System	5	2.5	
Total		200	100.0	

Table-4 Students Choice about Working in Pairs/Group

This is the straight question about the learning style of the students. Most of the students (51%) of the respondents learn effectively in a group, 23% of the respondents

work efficiently in pairs and 27% of the respondents prefer to work individually. The result shows that the students work efficiently and with interest in a group. They also prefer to work with a partner. In this way the weak students get help from their partners and in some cases the brilliant students work and the weaker students do not share the work load. It is the responsibility of the teacher to evaluate the students in a way that weaker students compel to work efficiently in a group.

Students		Frequency	Percent	Valid Percent
Valid	Explicit	60	30.0	37.3
	Implicit	101	50.5	62.7
	Total	161	80.5	100.0
Missing	System	39	19.5	
Total		200	100.0	

Table-5 Students' views about Teaching Methodology for Grammar

Most of the students (63%) of the respondents feel that grammar should be taught to engineering students in their English courses and 37 % of the respondents think that approach should be implicit.

There could be many reasons behind their approach to learning grammar. Some students want a model explain clearly by the teacher and then follow the model. This approach is common in teaching of mathematics and in teaching of English through GTM at school level. The rest of the students work themselves to extract and infer the grammatical rules.

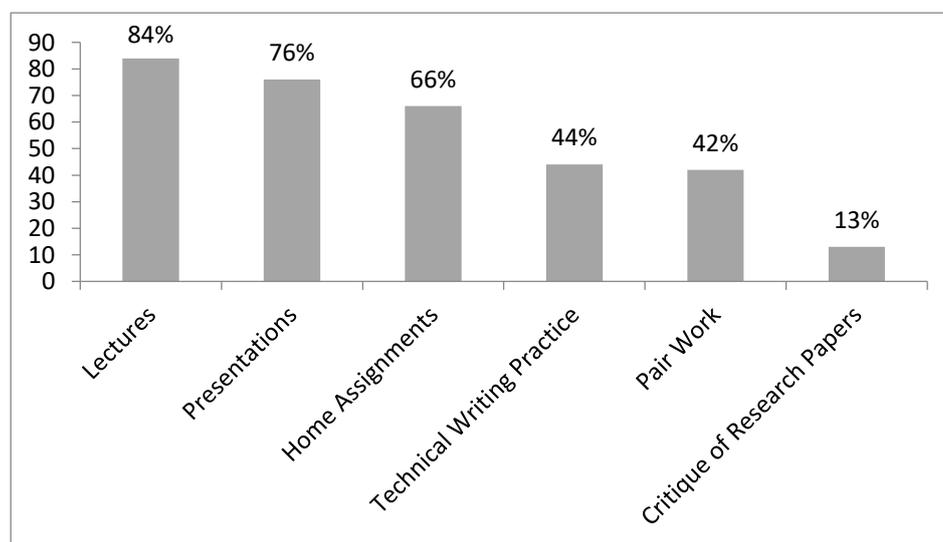


Figure-2 Methods Used in Teaching of English Courses

Teaching methodology is as important as syllabus of ESP courses. The syllabus describes what and methodology deals with how. Effective Teaching methodologies help learners to learn effectively. Teaching methodology should address diverged educational background and learning styles of the learners. Q. No.4,12,13 & 17 of the students questionnaire were about teaching methodology.

		Frequency	Percent	Valid Percent
Valid	Strongly Agree	21	10.5	10.8
	Agree	82	41.0	42.1
	Uncertain	35	17.5	17.9
	Disagree	43	21.5	22.1
	Strongly Disagree	14	7.0	7.2
	Total	195	97.5	100.0
Missing	System	5	2.5	
Total		200	100.0	

Table-6 Students Satisfaction Level about Teaching Methodology

Teaching methodology plays an important role to impart knowledge to the students. In learner-centered approach the satisfaction of the learners is the objective of the syllabus and methodology. Table 4.33 shows 53% of the students are satisfied from the teaching methodology of the English courses in engineering programme. It can be seen in the table that 29% of the respondents think other way. They think that still there is a lot of scope in improving teaching methodology. Table 4.33 reflects that 18% of the students are uncertain about the issues.

At the end of each questionnaire, two open-ended questions were set to get the suggestions from the respondents about the improvement in the syllabi and teaching methodology.

Students		Frequency	Percent	Valid Percent
Valid	Yes	126	63.0	63.0
	No	74	37.0	37.0
	Total	200	100.0	100.0
Engineers		Frequency	Percent	Valid Percent
Valid	Yes	2	13.3	13.3
	No	13	86.7	86.7
	Total	15	100.0	100.0
Teaahers		Frequency	Percent	Valid Percent
Valid	Yes	10	100.0	100.0

Table-7 Suggestions for the Improvement in Syllabi

Students		Frequency	Percent	Valid Percent
Valid	Yes	118	59.0	59.3

	No	81	40.5	40.7
	Total	199	99.5	100.0
Missing	System	1	.5	
Total		200	100.0	
Engineers		Frequency	Percent	Valid Percent
Valid	Checked	15	100.0	100.0
Teachers		Frequency	Percent	Valid Percent
Valid	Yes	10	100.0	100.0

Table-8 Suggestions for the Improvement of Teaching Methodology

Most of the students (63%) gave their opinion for the improvement in syllabi and 59% suggested measures to teaching methodology of the English courses. Table 4.38 shows 13% of the engineers give suggestions for the improvement of syllabi and 100% of them give suggestions for the improvement of methodology for the teaching of English courses.

All the teachers give their views for the improvement of syllabi and teaching methodology. They think that there is room for improvement in syllabi and teaching methodology.

Students	Frequency
Presentations by the students	57
Student centered Instructions	47
More time be given to Speaking Skills	33
Practical Real life projects	27
Group discussion	27
Good Instructor	25
Emphasis on Vocabulary	20
Writing Practice	19
More Assignments	18
Behaviour of the teacher	16
Use of Technology	14
English as medium of instruction	12
Research Paper Writing	11
Group Assignments	11
Grammar Teaching	10
Seminars	9
Listening Skills	9
Workshops	8
Reading Skills	8
Teacher should come well prepared	4

Table-9 Suggestions for the Improvement of Syllabi and Teaching Methodology

Class Observation

Class observation is one of the techniques to validate the quantitative data. The researcher observed the teaching learning situation in the engineering universities of Rawalpindi/Islamabad.

University 1

The researcher observed the class of Communication Skills. It was the 14th week of the semester. The class started with the announcement of the topic for the class. For the first hour the topic was CV writing and in the second hour the teacher taught cover letter for a job application. The students were in their second semester of computer engineering. The class was consisted of 38 students. A fair number (20%) of the students were Gentleman Cadets (Pakistan Army Sponsored engineering students and they will have to join Pakistan Military Academy after the completion of their B.E.).

Material for the Lesson

Teacher was well prepared for the class. But he has not distributed any material related to topic among the students. In the first hour of the lecture teacher had not distributed any handout related to the lesson. In the second hour the teacher distributed one page hand-out about the parts of Job application.

Relevance of Topic

The topic was relevant to the needs of the students. One of the students who was a Gentleman Cadet said “Sir, I don’t think that CV writing is important for me since I have already got a job and in future I want to continue this profession in the same organization.” Unfortunately, the teacher had no answer to this question. The teacher had no idea about the future needs and career planning in Army. He might have said that when you will undertake any government sponsored project you will have to submit your CV and even for selection as teacher in Army you need to write your CV.

The teacher was not aware of the future prospects of the students. The teacher replied “*If you are applying for the post of PRO (Public Relation Officer) then you.....*”. The teacher should understand that an engineer will never apply for the post of PRO in any circumstances. The academic qualification for PRO is Master degrees in Journalism, Mass Communication and English. The teacher should have knowledge about the potential job-placement of engineering students.

Interest-level of the students

The topic was interesting but unfortunately the students were not involved in the class. May be the topic was not challenging for them. Some of the students

responded to the questions asked by the teacher. Some of the students were busy with their mobiles and rest of them were chatting with one another. At one point the teachers could not control his anger and started shouting and two students were sent out of the class due to bad discipline. During informal discussion, the teacher showed his dissatisfaction on the performance and attitude of the Gentleman Cadets in the class. The teacher was of the view that they are expected to be more disciplined than civilian students but they are ill-disciplined students.

Teaching Method

The teacher used lecture method in the class. He has not designed a single activity for classroom practice. The teacher used white board as education aid. Multimedia projector was installed in the class but was not used by the teacher. The teacher did not manage the class by dividing into groups/ pairs. There was little understanding of the diverse learning style of the students. The topic falls in the area of writing skills. The teacher encouraged the students to participate in the class but the students were reluctant to participate.

University 2

The lesson started with the announcement of the lesson. The students were in second semester of Electrical Engineering and studying the subject of technical writing. The class consisted of 25 students. The topic for the lesson was report writing.

Material for the Lesson

The teacher was slightly confused about the topic. The teacher provided a handout to the students. The handout was consisted of a sample report. The teacher distributed the handout and then students read some text from the handouts.

Relevance of the Topic

The topic was relevant to the student's academic needs and future needs. The model used by the teacher for the class was taken from the area of social sciences. This misunderstanding on the part of teacher, create a sense of uncertainty about the importance of the topic, among the students. When the teacher asked the students to make a research question for survey, 100% of the students selected the topics from the area of social sciences. The teacher should know that survey method is not being used by the engineers in their research and it is useless to teach this type of data collection methods for writing a report. A relevant topic was made irrelevant by the teacher.

Teaching Method

The teacher used lecture method in the class. He explained the topic in the beginning of the lecture. The topic was difficult and the teacher tried to make it simple. The teacher did not explain the importance of the topic. She had designed two activities for classroom practice. The first was to think about a research question which could be surveyed. The second activity was writing of a statement of purpose. The teacher used white board as education aid. Over Head Projector (OHP) was available in the class but was not used by the teacher. The teacher divided the class into groups. The diverse learning style of the students were not kept in mind in planning the lesson. The emphasis was on writing skills but the teacher was interested in making groups and keeping students busy in activities which were not relevant to their area of knowledge. The teacher did not highlight the salient features of the technical writing. She was confused whether the report is being written in Present tense or Past tense. The teacher encouraged the students to participate in the classroom discussion.

Interest Level of the Students

The researcher observed that the students were not taking interest in the topic. The one reason, as mentioned by the students, was that the teacher was using the techniques/method which she never used in previous lectures. The students were not able to keep pace with the new teaching style of the teacher. The topic was difficult and the teacher had not taught them anything practical about technical writing. The students got bored with the lecture and one of the students was taking asleep in the class.

Conclusion and Recommendations

Data Analysis shows that after studying English courses most of the students consider themselves at intermediate level and some of them even at elementary level in reading and writing skills. The results show a positive attitude of the learner towards English language. Most of the students (93%) consider English courses important and useful for their career. They also think that good communication skills are essential for securing job. Majority of the students (61%) think that in future they will use English language at their workplace. On the other hand a fair number of students (23%) foresee the expected usage of English language during higher education.

Most of the teachers use lecture methods for teaching of the courses and do not use other teaching methods for teaching English courses (see Figure 4.9). Most of the students responded that teachers of English courses used PowerPoint presentation for teaching. During classroom observation, the researcher found that contrary to the data provided by the students, none of the teachers used multimedia for teaching.

Majority of the students (87%) learn effectively by giving presentation in the classroom and 82% of the respondents learn effectively by working in pairs and). Majority of the students and teachers think that grammar should be taught implicitly.

Most of the students are of the opinion that grammar should be taught as a part of English courses. Majority of the students and teachers think that grammar should be taught implicitly.

There is a serious concern in industry and academia related to communication skills of the recently graduated engineers. The industry gives weightage to good communication skills in their recruitment process of engineers. Due to globalization, industry needs engineers with good interpersonal skills. The managers at corporate sector are not satisfied with the present syllabi of English course at the engineering universities of Pakistan. They feel that the courses should be practical in nature and help the students to work effectively at their workplace.

The respondents gave many suggestions for the improvement of Syllabi and Teaching Methodology. Teaching should be student-centered. More time should be given to speaking skills as the students speak Urdu or regional languages outside the class. Group discussion is the favourite activity for most of the students. More weightage should be given to assignments and presentations while assessing the skills. Teacher should speak English language in the classroom. Listening Skills should be included in the subject of Communication Skills. The teachers should be friendly with the students.

Keeping in view the above mentioned findings, it is apparent that the present syllabi and teaching methodology of English courses needs to be improved to fulfil the future needs of the students.

The syllabi of English courses for engineering should be re-designed in accordance with the needs identified in the present study. There should be equal emphasis on four skills in the subject of Communication Skills. Topics such as Job interview, Term of Reference, Statement of Purpose and Research Paper Writing, and writing Lab Report be included in the syllabi. It is suggested that these topics should be taught in the subject of Technical Report Writing. Line of demarcation must be drawn between Communication Skills and Technical Report Writing. Communication Skills be taught in the subject of Communication Skills. Technical writing should not be taught in this subject.

Keeping in view the “wants” of the students’ speech contests, seminars, workshops should be arranged to develop the confidence of the students. The teachers should use teaching methodology that should be student-centered. To improve the listening skills of the students, language labs should be established. Material relevant to engineering discipline should be given to the students for the improvement of reading skills. Teachers of English should consult the engineering departments to make English courses more effective and useful for the engineering students.

As directed by the HEC, engineering universities should dedicate 9.0 credit hours for English courses. Functional English must be taught at engineering universities. The HEC should involve English language teachers and representatives from industry in curriculum committee for English courses for engineering students.

The teacher should have skills to use modern Audio Visual Aids and have potential to use innovative methods to increase the interest of the students in the subject. The teacher should be able to manage the class (by giving group and pair work to the students) for effective learning. The teachers should use English language while teaching English courses. The Teacher should take into consideration that the students from different educational backgrounds get engineering education and he/she should use different techniques to teach mixed ability class effectively.

The subject of Technical Report Writing should be made more practical. The Technical Report Writing should be practised by the students in the class. The students should be able to write technical reports and research papers at the end of the semester. Grammar should be implicitly taught and teacher should correct the grammatically mistake of each and every student in the classroom.

Most of the students get education from government schools. It is suggested that English should be treated as language not as a subject. The contents and teaching methodologies of English should be improved at the middle, Secondary School Certificate and Higher Secondary Certificate level.

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