

English for Biotechnology: A need analysis of first year under graduate students of Biotechnology at VNSG University, Surat, India.

By
Prashant M. Chauhan
Assistant Professor,
Government Engineering College, Palanpur

Introduction

The day to day revolutionary developments in the field of Science and Technology has made the world a global village and the English language has emerged as the lingua-franca for communication in the new world. Now English is the primary language of international community. In general, the need for English can be divided into two areas: the workplace and research. In the workplace, many Indian scientists (science scholars) and technicians now need good English to communicate with non-Indian workers, often while onsite in locations such as the USA, the UK, China, or other South-East Asian nations. For research, most technical and scientific research today is published in English, so ability to produce and understand high-quality presentations and scientific papers is necessary. The required English is what we call scientific English: mostly general English with a certain amount of special language functions and structures. This English can be specified more clearly and is closer to the usually meaning of ESP.

The present study focuses on the English language needs of the Biotechnology students studying in the VNSGU, Surat. Biotechnology uses the basic ingredients of life - living cells and materials produced by cells - to make new products: pharmaceutical, diagnostic, agricultural, environmental and other. Biotechnology also alters genetic information in animals and plants in order to improve them.¹

Biotechnology today is an increasing growth industry, with about 3000 companies currently in the world. The current boom can be traced to 1953 when Watson and Crick discovered the double-helix structure of DNA, enabling scientists to understand cell regeneration and

¹ accessexcellence.org

perpetuation. Ongoing discoveries in molecular biology have continued to increase our ability to control cell functioning.

A number of technically-sound students have not been successful in job interviews, just because of their lack of communication skills and there are cases of rank holders in professional and technical studies who cannot go for higher studies to the United States and other English speaking countries because of their lack of proficiency in English as they do not get score or band on their Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). In fact a number of engineers employed in several IT companies have been sacked because of their poor English communication skills. The urgent need to improve the students' communication skills has been emphasized by educationists as well as employers. Narayanan, vice chairman of Cognizant Technology Solutions and chairman of the NASSCOM, in an interview answered a question regarding the talent demand and supply gap and the role of the NASSCOM to help the industry bridge the gap:

The current situation is that, in terms of availability of talent, the numbers are good. The problem lies in the suitability of people. The industry has moved forward rapidly and technology also has changed but the educational institutions and the curriculum have not changed that rapidly. So, we have to bridge the gap by providing additional training to the people who are coming out of colleges so that they are industry-ready. (Warrier, 2007)

In the light of the problems stated above, it is important to evaluate the current syllabus of the English language which is taught at the Biotechnology colleges affiliated to Veer Narmad South Gujarat University, Surat.

To succeed in such a professional program, proficiency in writing and reading is of extreme importance. Since long it has been accepted that the nature of the language needs for the sciences must be different from that given to students of the social sciences. Students studying applied sciences must learn to employ the language in an objective, structured and precise way unlike the students of other faculties. The texts that these students study are also normally written in a very different style than the texts studied in other fields. Possibly this difference in the type of

language needs has caused the demand of the ESP course for the students of applied science like Biotechnology. It is, therefore, very important to develop a language syllabus that particularly focuses on the needs of students in the applied sciences.

As the range of employment for Biotechnology students expand in the 21st century, there is a need to teach multiple skills to the students. As they are required to communicate effectively in different situations, think creatively and critically, demonstrate good interpersonal relations and team spirit, and have a set of soft-skills as demanded by recruiters, the current course – *Foundation Course in English: Written and Spoken Communication* course should be modified based on the needs of students and expectations of recruiters.

Hypothesis

The hypothesis of the study is that if the present course – *Foundation Course in English: Written and Spoken Communication* offered during the first and second year in under graduate colleges affiliated to Veer Narmad South Gujarat University, Surat is modified based on the needs and requirements of the stakeholders then the course will achieve its goal by infusing confidence in the students and preparing them for higher education, placement and in turn to the workplace.

The present study shows the kind and degree of English language that the undergraduate students of Biotechnology need and endeavours to make a suitable course for the same. This model ESP syllabus is titled ‘English for Biotechnology’ as it is specially designed for the students of the Biotechnology based on their needs.

Aims and Objectives

The current research aims at evaluating *Foundation Course in English: Written and Spoken Communication* using both formative and summative (meaning ongoing and at the end of the course respectively) methods of evaluation in the light of the learner’s needs by carrying out a detailed needs analysis and suggesting changes to make the course more relevant and effective so that language skills are imparted successfully.

The objectives of the present study are to assess the students’ needs taking into account the specific purposes of the English language as used in study, jobs, field etc., evaluate the existing

course materials and redesign the course taking into consideration the suggestions given by the stakeholders.

Literature review

ESP has come a long way since its commencement. After the Second World War, scientific, economic and technical activity developed enormously. A lingua franca was needed, and English was accepted far and wide as the international language of technology and commerce. English is still the international language of technology and commerce, and is still the language most people in the world acquire as an additional language. To stay relevant to the ever-increasing market of new English learners, it is vital for universities and other places where languages are learnt to adapt to the needs of the learners. That is the primary goal of ESP.

For an ESP course to be fully responsive to students' needs, it also needs to take student preferences into account. Students generally have at least some idea of what they need and want to learn to be successful in their courses. An ESP curriculum should take such needs into account. One way of doing this could be by doing a needs analysis with the students at the beginning of a course, and to incorporate students' perceived needs with those shown by means of other measures into the curriculum.

Needs analysis is the process of establishing the “what” and “How” of a course. According to Iwai (1999) the term ‘needs analysis’ generally refers to the activities that are involved in collecting information that will serve as the basis for developing a curriculum that will meet the needs of a particular group of students. According to Hutchinson and Waters (1987), three important questions should be asked in the process of developing a syllabus for an ESP course: what do learners need (necessities), lack (according to others) and want (according to themselves)?

Research Methodology

English for Biotechnology course designed in consultation with the students and the teachers of core courses of Biotechnology is likely to be more effective than the one designed without consulting the stakeholders. In this context it is very essential to analyse the learners' needs first

and design the English for Biotechnology based on the findings of the needs analysis. The objectives of the present study are to assess the students' communicative needs, to evaluate the existing course, and to redesign the course taking into consideration the suggestions given by stakeholders. In the light of the above objectives various methodological techniques and approaches were used to collect and analyse data on the current course of English and to get actual picture of the students' needs. The research tools used for the analysis of students' needs and evaluation of the current course are:

Questionnaire: The questionnaire was designed for the students who were undergoing the existing course – *Foundation course in English: Written and Spoken Communication* to ascertain the effectiveness of the current course and the present and prospective communicative needs in the English. The questionnaire was formed on Google Doc. A web-link was sent to the students' email ids.

Interviews: Several casual interviews with the teachers of the core courses of the Biotechnology were conducted to collect the information of linguistic proficiency and abilities of the students studying under them. Interviews were also carried out to invite their suggestions on the same.

Result analysis

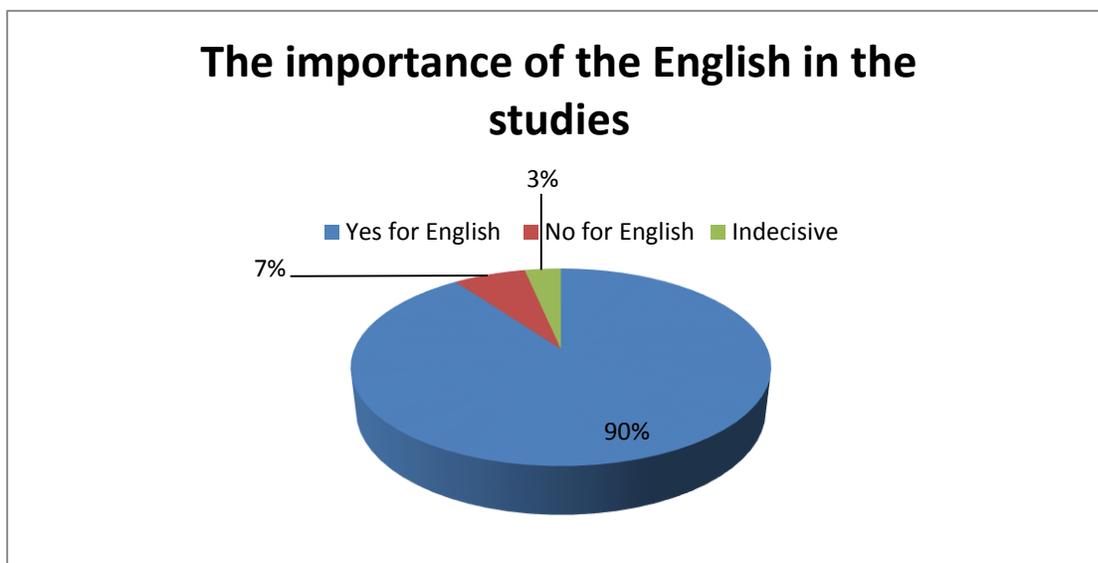
Here is a needs analysis of the data collected from the questionnaires submitted by the Biotechnology students.

The questionnaire covers 10 questions asking the students from the schooling medium to the linguistic needs of the higher education. Almost 30 students submitted the questionnaire filled in properly. The sample format of questionnaire and the responses of students gathered have been shown in the appendices. Through the inputs of these students I have tried to decipher the needs of English language in their studies and tried to design the activities as per their demands made at the end of the questionnaire. It was also compelling to discuss the inputs given by the students with their subject lecturers for confirmation. Therefore the suggestions from the subject teachers have also been accommodated to make the course. Following is the analysis of the questionnaire

submitted by the students.

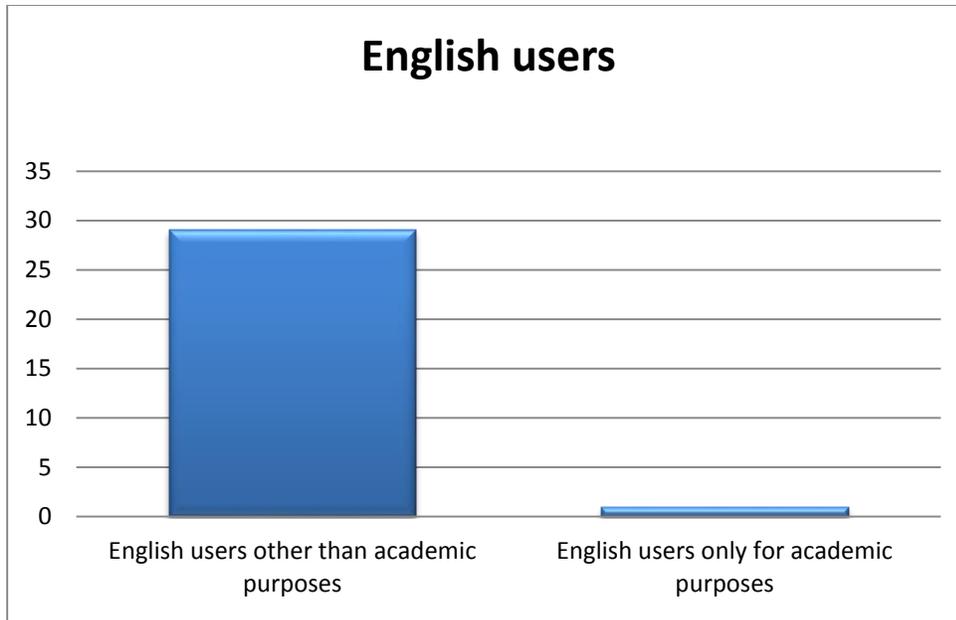
1. Do you consider the importance of the English language in your studies?

As many as 27 students nodded yes for the English, 2 students nodded no, and 1 was mute on either side. Almost all the students nodded yes for the question. Of course it is evident that the higher education in science is in English medium. That's really inevitable.



2. Do you use the English language other than your academic purpose?

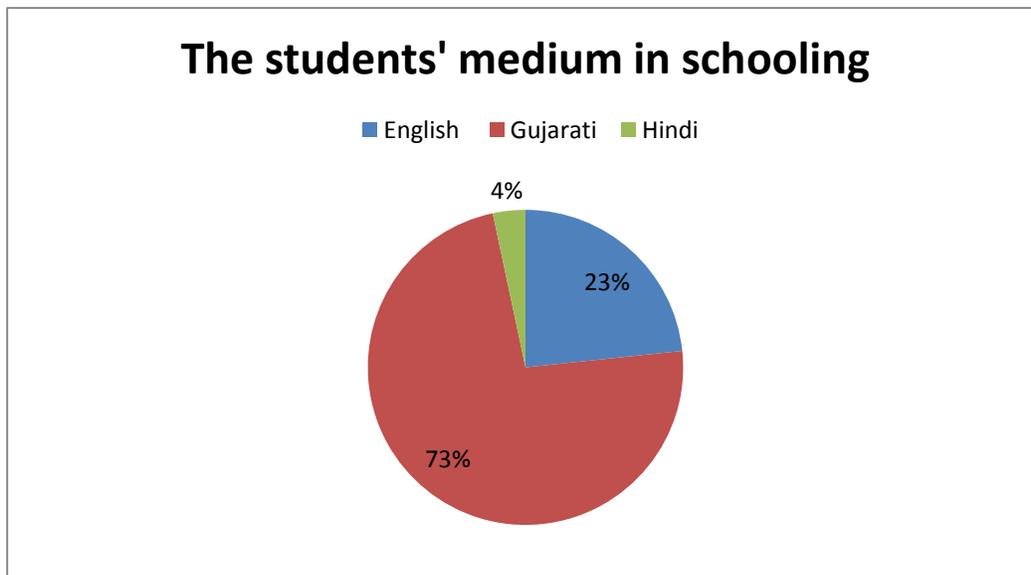
There were 29 students who replied yes. They specified that they use English language for internet in general and social media in particular. So they are users of the language for their personal purposes like this and more. Some of them use the English to watch English movies and sing English songs as they made it clear.



7

3. Was your schooling in English medium?

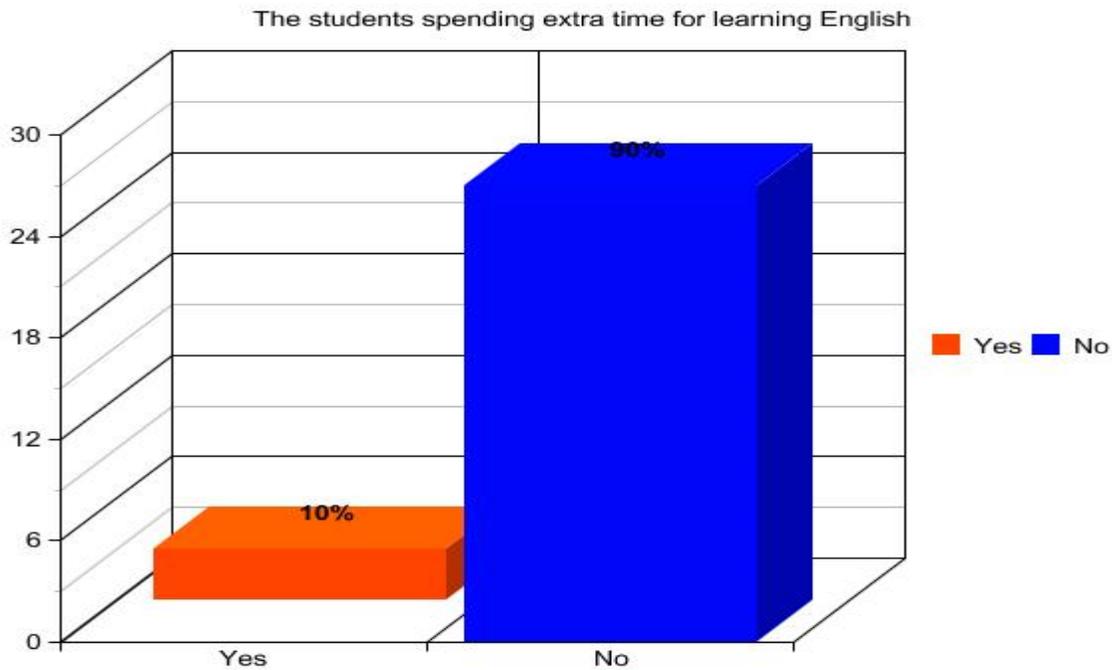
Only 7 students had their schooling in the English medium. These are the students who use more English language in their professional life.



4. Do you spend extra time for strengthening the English Language?

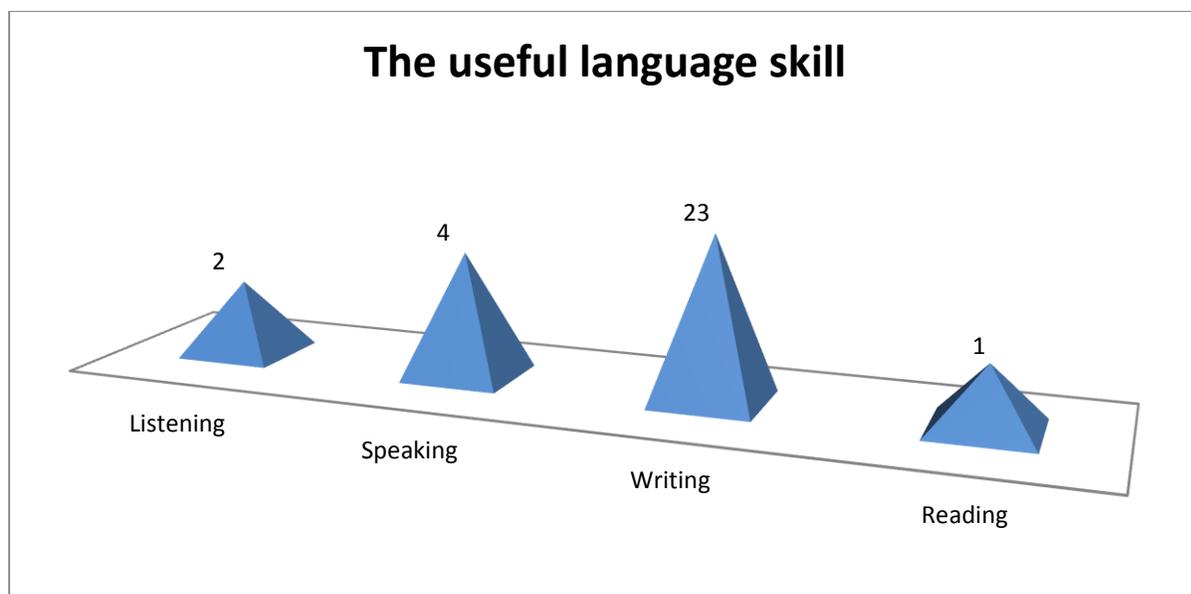
Very few students were there who made a tick to the yes. Students don't feel necessary that

extra time should be spent for the language learning.



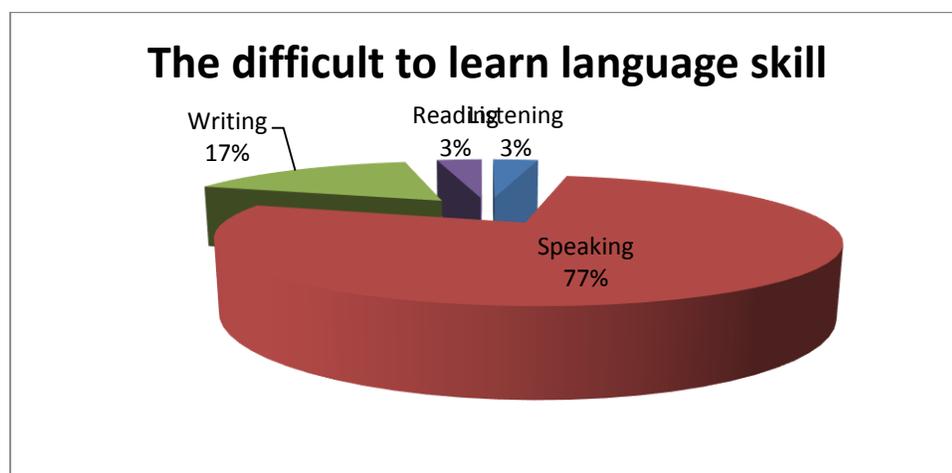
5. Which language skills you consider is the most useful in your Studies?

The following chart makes it clear that the majority of the students need Writing skills the most as almost all the academic activities they carry out is through writing skill like examinations, lab report writing, and assignment writing etc. Speaking skill was the second most useful as per the chart.



6. Which language skills you feel is the most difficult to learn?

It was obvious that the students who had not schooling in the English medium went for speaking skills. Yes, almost 77% students answered the same. There are some difficulties in learning speaking skill. But the faculties emphasized that all the students need to learn writing skill as well.



7. Specify your requirements that you wish to learn in the English class room.

Here is the list of items which the students demanded to learn in the English language for their studies

- Assignment writing
- Laboratory report writing

- Scientific description of objects
- Resume and job application writing
- Speaking English on telephone
- Proper pronunciation
- Presentation

The answers to the questions indicate that the students want to learn the English language as used in the scientific discourse and not just for general purpose. This questionnaire is just indicative to the demands made by the students. It directs the course designer to design the course of English language that can train them against the challenges faced by them in the English language in their studies. The conversations with the subject teachers were also very much useful and they also feel the students' linguistic skills should be sharpened as they can't teach the same in their class room.

The teachers of various core courses (subjects) were asked in casual interviews to give their views on the students' present and prospective language needs. The core course teachers gave information about the students' problems and needs with the target language and suggestions.

According to the teaching faculties, many of the students find it difficult to pursue lectures in English. During the lectures and experiments the students face problems in taking notes and some of them struggle in expressing their thoughts in both ways writing and speaking in English. Having problems with writing skills they do not write assignments on their own. They have to replicate from the books. While some students hesitate to take part in the activities like group discussion, open discussion and even hesitate to ask the teachers in the classroom. Many of them lack technical aspects of writing skills. These were the observations of the teachers of the core subjects. They also give some suggestions to overcome these problems.

The teachers were of the opinion that the needy students should be provided extra coaching in the English in order to motivate to participate in the language activities. They should be exposed to the texts related to the core course of biotechnology. They should be taught to analyze the scientific discourse of the texts critically. The English language teacher should make some extra efforts to develop the students' writing skills along with grammatical accuracy. The institute

authorities should make compulsory use of the English language in all the manners and parts at the institutes. The students should be given practice in making oral presentations in the classroom. The core subject teachers should be involved in selecting the reading texts for the design of any ESP course.

Conclusion

Taking in to account the demands and needs in the English language made by the students and suggested by their subject teachers, the present dissertation tries to design an ESP course for the Biotechnology students namely English for Biotechnology.

It is essential to collect data and views on the target needs of Biotechnology students from the students, core course teachers, to evaluate the existing *Foundation course in English: Written and Spoken* curriculum and to analyse the collected data and take effective actions to revamp the English curriculum which, in turn, will enhance the communication skills of the students. The second chapter presents the critical evaluation of the existing syllabus *Foundation course in English: Written and Spoken*.

Reference

- Chauhan, Prashant M. "English for Biotechnology: Designing an ESP syllabus for Biotechnology course at VNSG University, Surat." (2015). Print.
- Dudley-Evans, Tony, and St John Maggie Jo. *Developments in English for Specific Purposes: A Multi-disciplinary Approach*. Cambridge: Cambridge UP, 1998. Web.
- Dudley-Evans, Tony. "Common-core and Specific Approaches to the Teaching of Academic Writing." *Academic Writing in a Second Language: Essays on Research and Pedagogy*. By Diane Dewhurst Belcher and George Braine. Norwood, NJ: Ablex Pub., 1995. Print.
- Howatt, Anthony P. R. *A History of English Language Teaching*. Oxford: Oxford UP, 1984. Web.
- Iwai, Tomoko, Kimi Kondo, Dianne S.J. Lim, Hisaaki Shimizu, and James Dean Brown. "JAPANESE LANGUAGE NEEDS ANALYSIS." [Http://www.nflrc.hawaii.edu](http://www.nflrc.hawaii.edu). N.p.,

1998-1999. Web. 20 Oct. 2010.
<<http://www.nflrc.hawaii.edu/Networks/NW13/NW13.pdf>>.

Warrier, Shobha. "World Depends on India's Technical Skills: Nasscom Chairman." N.p., 4 June 2007. Web. 5 Oct. 2010. <<http://www.rediff.com/money/2007/jun/04inter1.htm>>.