

English for Engineering Students: A Survey of Pokhara University

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Abstract

This paper's main objective was to examine the perception of the English language needs of the engineering students at Pokhara University, Kaski, Nepal, as a part of a curriculum review. The study was carried out to identify the perceived notion of English among the students for their career development, assess if the current curriculum meets the standards, and identify the flaws in the curriculum concerning other universities in Nepal. Both quantitative and qualitative approaches were used as mixed methods. A cross-sectional survey questionnaire was administered among engineering students of Pokhara University in one constituent college and 14 affiliated colleges. By random sampling method, 326 responses were collected and analyzed through SPSS V.20 for quantitative data, and experts' opinions were sought from ten responses with purposive sampling for qualitative data. The study's findings showed that the English curriculum designed for engineering students in Pokhara University doesn't fulfill the professional needs of the engineering profession. The experts recommended various new topics to incorporate into the syllabus after carefully examining the differences among various curricula of other universities. In addition, teaching English without the effectiveness of labs and tutorials in three credit hours seems illogical. This report will be helpful to the Curriculum Development Center of Pokhara University, the subject committee of English language, planners, teachers, experts and other policymakers.

Keywords: Engineering students, English language needs, professional needs, perceived notion, curriculum, flaws

Introduction

English has become a global language. It is the current lingua franca of international business, technology, aviation, diplomacy, banking, computing, medicines, engineering and tourism. About one-fifth of people all over the world know more or less about English. Every language is the base and the instrument of objective knowledge (Martinez del Castillo, 2015). Similarly, Sandoval's research (1998) shows that it is spoken by 1.8 billion people globally, and the number is still increasing. Almost every single university in the world is conducting scientific studies in English. A total of 60% of radio programs are broadcast in English, and more than 70% of the content or address of mailing letters are written in English. Thus English plays an important role in the world, no doubt.

Most people in the world agree with what Sandoval claims in his essay, "The Importance of English" "English is becoming the world's language of the 21st century. Most of the world's population, about 70%, speak English or know it. And more than 80% of all stored

information in the world is written in English... where there are people.” Similarly, Kirsznner & Mandell (1998) asserted that English is the most widely spoken in the planet’s history, used by one out of every seven.

Thus, sound knowledge of the English language is mandatory for technical human resources. Engineers are supposed to be proficient in English because most engineering education in the world is conducted in the English medium. They have to meet the market demands worldwide. English is, after all, the predominant language in the field of science and technology. Since Nepalese students don’t get sufficient exposure to the use of English outside the academia, the educational institutions must equip students with essential communicative skills in English required for their profession.

Although the medium of instruction in engineering institutions in Nepal is English, Nepalese engineers do not seem to be very competent in the use of the English language. This may be partly due to a lack of opportunities to communicate in English in real life. On the other hand, it is necessary to assess whether the English language instruction we are providing them meets their communicative needs as they navigate the globe. Against this backdrop, this research attempts to survey the opinion of Engineering students and experts regarding the current English curriculum being used in Pokhara University for Bachelor in Engineering. This study also checks the English curriculum of engineering at Pokhara University with Tribhuvan University, Kathmandu University & Purbanchal University.

Statement of the Problem

The current English language curriculum of Pokhara University is not based on need analysis for engineering professionals. Numerous researches have been done in English, but it is under-researched.

Although the medium of instruction in Engineering institutions in Nepal is English, the researcher presumes Nepalese engineers do not seem to be very competent in English as they navigate jobs across the globe. Against this backdrop, this research attempts to survey the opinion of engineering students and experts regarding the current English curriculum being used at Pokhara University for a Bachelor’s degree in Engineering.

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Objectives of Study

Specifically, the study aims:

1. To assess the students’ perceived notions of English with their career development description on technical talks and others.
2. To assess the standard of the current English language curriculum of Pokhara University meets the needs of engineering through students’ and experts’ views.
3. To identify the drawbacks and flaws of Pokhara University concerning other universities such as Tribhuvan, Kathmandu and Purbanchal universities.

Significance of the Study

Any educational curriculum should be need-based. This research is justified because it attempts to assess and analyze whether the Engineering English syllabus of Pokhara

University (Curriculum & Syllabus for Engineering, Pdf) can meet students' needs and recommends possible improvements on the opinions of the concerned students and experts. Therefore, this will be a useful study for the Curriculum Development Center of Pokhara University, syllabus designers, language planners, experts and university teachers.

Methods

Both quantitative and qualitative data were collected and used in this study. So, it was mixed-method research. A cross-sectional survey questionnaire was administered among engineering students of P.U. in one constituent college and 14 affiliated colleges. By random sampling method, 326 responses were collected and analyzed through SPSS V.20 for quantitative data, and experts' opinions were sought from the respondents selected via purposive sampling for qualitative data.

Results and Discussion

The following subsections include the discussion of the data concerning the study's objectives.

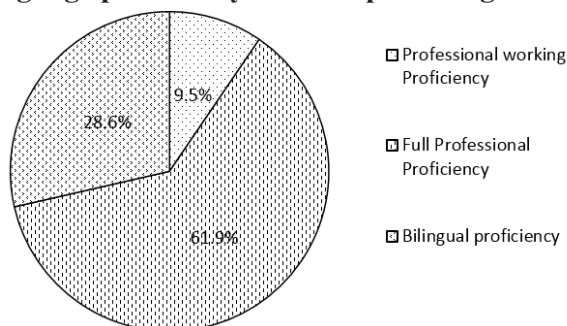
Table 1
Respondents' perceived notion of English language need in career

Variables	Total (n=336)	Percent
Level of Standard		
Below average (<20)	16	4.6
Average (20-25)	146	43.5
Above average (26-30)	174	51.9
Mean±sd	25±2.9	

Table 1 presents the data on the standard of English. It was the perceived notion of English language of engineering students when asked to the student respondents through the self-administered questions regarding the value of English that they value for their career. There were general questions, and the response was shown on three levels. The total data were 336, where the above-average was 51.9%, and the average was 43.5%, but the below-average was 4.6%. The mean value was 25±2.9. The numbers in small brackets indicated the range of frequency of the respondents.

Thus it showed that many students valued English for their careers. A very negligible number of students, who were less than 20, ignored the English language for their careers.

Figure 1
Overall language proficiency levels in percentage



The pie chart shows three different levels of language proficiency with varying percentages. It was condensed, and the results were derived based on four language skills: listening, reading, writing, and speaking. There were only 9.5% of students with professional working proficiency, whereas the students with full professional proficiency were about thrice the students with professional working. There was a remarkable number of students with the highest percentage of 61.9 regarding full professional proficiency, which was again more than two times as much as full professional proficiency level. Overall, it can be observed that there was the least number of students in professional working, a moderate number with bilingual proficiency, and there was a significant number of students found with full professional proficiency in Pokhara University.

Students' Satisfaction

The students were put forth the following self-administered questions to check their satisfaction. The collected responses were generalized and processed further through SPSS V.20 for the descriptive analysis. The students were asked the following questions:

- i. Sufficiency of English in a single semester
- ii. Availability of labs and tutorials in college
- iii. Role of teachers and students to improve English
- iv. New topics to be incorporated into the syllabus

Table 2
Sufficiency of English in Single Semester

	Frequency	Percent
Yes	79	23.0
No	257	7.0
Total	36	100.0

Table 3
English Lab/ Tutorial in College

	Frequency	Percent
Yes	75	22.0
No	261	78.0
Total	336	100.0

Table 2 shows the response to the first question of whether English is sufficient in a single semester of learning; a significant percentage of respondents, 77%, asserted that “no”, whereas only 23% yielded for it. Likewise, Table 2 shows that if the response if they have tutorials/labs, 78% of the informants answered “no” while only 22% said “yes” to the question. This showed that the tutorials and the labs were not set up or made effective. The university curriculum of Communication Technique clearly demands both tutorials and lab. About the appropriate semester for English learning, 29% responded that it is quite appropriate in the first semester.

Similarly, 24% asserted that English should be read in all semesters, and 17 per cent

confirmed their responses that at least it should be learnt in two semesters. However, some considered it is suitable to learn in the last semester, and they were 11% only; the rest of the informants viewed below 10%, considered for the nominal range.

Fig. 2

The role of teachers and students to improve the English language

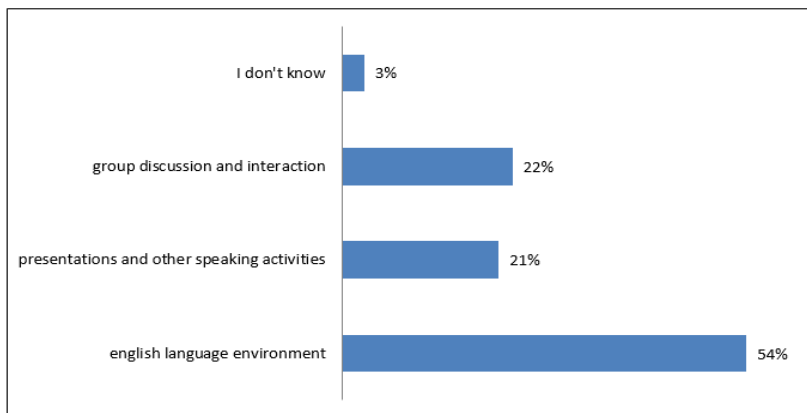


Figure 2 demonstrates the students’ opinion of both the teachers’ and students’ role as to improve the English language in the classroom context. When asked about the ways to improve English language from the side of teachers and students, the informants hit their saying with 54% that both the parties should develop an English language environment. The rare use of English in the English class could be one of the causes why the students’ language is not up to the mark. However, the need for group discussion and interaction with 22% is just under the percentage of presentation and other speaking activities at 21%. Interestingly, 3% of respondents didn’t know the question put forth.

Table 4

Things to be included in syllabus to meet engineering needs

	Frequency	Percent
Speaking and Writing activities	52	16.0
Reading and Listening activities	27	8.0
Grammar	87	26.0
Presentations	148	44.0
I don't know	22	60
Total	336	100.0

The respondents were asked a question to seek suggestions for the content to be incorporated. Table 4 shows that most of the students with 44% wanted the presentations to be emphasized. Likewise, grammar was another priority to them, with the frequency of 87 respondents out of 336. Reading and listening skills were half the percentage of speaking and writing activities with 8% and 16% respectively. Unfortunately, six per cent of the respondents gave up on the same question and said, “I don’t know”.

Discussion

The experts were asked if they thought that the existing curriculum fulfils the professional needs of engineering students and whether the current syllabus achieves the aim. The majority 7 out of 10 respondents in the expert interview asserted that the current curriculum only partially fulfils the needs of the engineering students. They reiterated the oral communication skills, presentations and other productive skills. They emphasized teaching English in at least two semesters, which would help them acquire competent communicative skills required to navigate their job across the globe. Compared to Tribhuvan University, Kathmandu University and Purbanchal University, the experts argued that Pokhara University should focus on productive skills, management of the English lab, and tutorials to appropriate its orientation of soft skills. As things are changing rapidly, they stressed the change of curriculum every five years.

Regarding the overall language proficiency of the student respondents, it can be observed that the least number of students in professional working, a moderate number with bilingual proficiency, and a significant number of students found with full professional proficiency in Pokhara University. Needs analysis, also interchangeably called needs assessment, is often taken as English as Second Language (E.S.L.) curriculum development and review. E.S.L. in Engineering focuses on what type of linguistic output the students require, often referred to as an end-means approach to curriculum design, following the Munby Model of curriculum design (Munby, 1978) that chiefly focuses on the specific speech acts necessary in a given situation the learner will encounter. The needs analysis in E.S.L. systematically began in the 1960s because language programs started emphasizing English for Specific Purposes (E.S.P.) instruction (Richards, 2001). The major focus was on gathering detailed language used for vocational or specific language needs in the academic context. Slowly the language needed to perform English medium course work in English speaking countries, such as the United States and England and then it started being institutionalized. Brindley (1984), in his article on curriculum development, further expanded the term needs for educational purposes, which is sometimes even used to refer to wants, desires, demands, expectations, motivations, lacks, constraints and requirements.

Before 1990, Japanese universities (Japan Times, 2009) focused on receptive skills in engineering English- Listening and Reading, but the result showed that they were incompetent to sell themselves to the global market due to the lack of productive skills- Speaking and Writing. The Japanese just focused on the latter, which eventually made the engineers globally competent enough. From (Foyewa, 2015), Japan is considered the most technologically advanced country globally, especially in the production of robotics, electronics, automobiles, metals, and earthquake engineering, and English is studied as a foreign language.

Conclusion

In conclusion, the current curriculum of Pokhara University only partially fulfils the professional needs of engineering students. Therefore, the curriculum has to be reviewed with various new topics. The experts urged updating the syllabus every five years, and teaching pedagogy and the content formats have to be discussed for the uniformity of evaluation. They suggested that communication skills have to be separated from technical English and the subject has to be taught in at least two semesters. Similarly, the students'

perceived notion of English shows that many students value English for their careers. A negligible number of students, who were less than 20 in number, ignored English language for their careers. Emphasis is given to engineering students' communication skills to be taught in more than one semester.

Pokhara University lacks important aspects such as oral presentation skills, communication lab visual reports, four-level application of reading a text and literary genres, which develop the critical tenets and techniques in communication. These productive skills should be included with priority in reviewing the English curriculum for engineering students

References

- Brindley, G. (1984). *Needs analysis and objective setting in the adult migrant education program*. Sydney: N.S.W Adult Migrant Education Service.
- Curriculum & Syllabus for Engineering (2012). Pokhara University: Pdf as retrieved from www.pu.edu.np, accessed on Jan. 6, 2016.
- Foyewa, R. A. (2015). English: *The international language of science and technology*. In *International Journal of English Language and Linguistics Research*. Vol.3 www.englishclub.com.
- Kirszner, L.G., & Mandell, R.S. (Eds. 1998). *Patterns for college writing: a rhetorical reading*. NY: Bedford. 181-185.
- Martinez del Castillo, J. (2015). Meaning, What is It. *International Journal of Language and Linguistics*, 3(6), 67. <https://doi.org/10.11648/j.ijll.s.2015030601.19>
- Munby, J.(1978). *Communicative syllabus design*. Cambridge: Cambridge University Press.
- Richards, J. (2001). *Curriculum development in language teaching*. Cambridge: Cambridge University Press.
- Sandoval, V. A. (2001). The Phyllis Schlafly Report: *The importance of our English Language*. Vol.34. No.10 as retrieved from www.eagleforum.org.
- The Japan Times* (Mon. Oct. 2009). p.3 as retrieved from www.google.com.