

A Needs Analysis of 'General English' Course from the Perspective of Science Students

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Abstract

The purpose of this study was to find the perceived needs of Iranian undergraduate Engineering students from their 'General English' course. To this end, a needs analysis questionnaire was administered to 148 undergraduate students to elicit information about their needs in English language at Noshirvani University of Technology. The results of data analysis revealed that among four language skills speaking was the highly needed skill followed by listening. It was also found that writing was viewed as the least important skill and it was the least practiced in the class. Additionally, majority of participants were dissatisfied with the current 'General English' courses. Findings point to the fact that 'General English' syllabus, teaching method and evaluation system require reconsideration by course designers.

Keywords: needs analysis, general English course, curriculum, engineering students

INTRODUCTION

Learners' satisfaction of educational processes indirectly affects those organizations performance (Hanssen & Solvoll, 2015) and negative perceptions of language learners can have unfavorable effects on the entire program (Wenden, 1987). Needs analysis is the stepping stone for the development of a comprehensive and effective curriculum and syllabus in a language course which promotes learners' fulfillment of their needs and preferences. According to Nunan and Lamb (1996) the two factors of setting goals and objectives can be based on needs analysis.

In the context of Iran and in the undergraduate program, students are required to take a 'General English' course, which is a three-credit obligatory course. It is a course for which no specific syllabus has been defined by the ministry of education, however, a myriad number of books carrying the title 'General English course for university students' abound the market. Due to lack of any supervision and monitoring in their publication, most of these materials suffer from dictation, grammatical and reading comprehension question problems.

Interestingly, almost all of these materials focus on vocabulary, grammar and reading comprehension and exclude other components and skills. This has also extensively affected teachers' methodological practices in class. It seems as if there is an unwritten consensus on what the 'needs' of undergraduate students are. In fact, these courses have

not been designed based on any systematic needs analysis, teacher education and course evaluation.

On the contrary, several studies (Nunan, 1988; Wright, 1990; Brown, 2001) regarding importance of learners in second and foreign language learning have promoted more learner-centered methods. As a result, learners' needs and preferences have been taken into curriculum and syllabus designers' consideration. This trend will inevitably initiate greater interest and motivation on the part of learners (Makarova, 1997).

Unfortunately, this trend is obviously absent in official English language learning programs in Iran as despite time, budget and energy is devoted, many of them have not been successful in achieving the specific goals and satisfying students' needs (Bagheri, 1994; Rahimi, 1996; Rashidi, 1996). Additionally, although studies on ESP for engineering students abound (e.g. Amirian & Tavakoli, 2009; Jafari Pazoki & Alemi, 2019), there is paucity of research on needs analysis of language learners in 'General English' course in the Iranian context. Based on literature, few studies were conducted in the area of 'General English' in the context of Iran (e.g. Noora, 2008; Mooinvaziri, 2014). This is while importance of this course have been highlighted by scholars in the field, for example, according to Atai and Tahririan (2003) General English has a key role in students' accomplishment in ESP which is another required course taken in undergraduate degree.

Therefore, this study sets out with the aim of exploring learners' preferences for language skills and components, their attitude towards teachers; role and methodology and their real language learning motivation and needs. Having these goals in mind, the present researcher tried to answer the following questions:

1. What are students' views about language skills and components?
2. What are students' views about teachers' role and methodology?
3. What are students' motivations for English language learning?

LITERATURE REVIEW

The first model of needs analysis was proposed by Richterich (1972) which defined the objectives and content of language instruction programs and then in EFL education and curriculum design. Another classification of learner needs is proposed by Hutchinson and Waters (1987) according to which two categories of target needs and learner needs each refer to 'what the learner needs to do in the target situations and 'what the learner needs to do in order to learn' (Nation and Macalister, 2010, p. 24). The former is further categorized into three individual parts: necessities, lacks and wants. Necessities are "the type of need determined by the demands of the target situation, that is, what the learner has to know in order to function effectively in the target situation" (Hutchinson & waters, 1987, p. 55), lacks are the necessities that the learners do not possess and wants are the learners' wishes and views toward what they need to learn.

Many studies have been conducted on learners' needs analysis in the EFL context of Iran. For example, Nemat Tabrizi and Mojoudi Renani (2016) studied perceptions of mechanical engineering students regarding their present and target situation academic language needs. They showed that participants had problems with most language skills

and sub-skills and their professional needs in target situations are not met. In a similar study, Moattarian and Tahririan (2014) studied ESP in tourism management field and the results indicated that participants preferred integration of all four skills in the textbook of this course. It was also found that neither students nor teachers believed that current ESP courses address their specific needs.

Similarly, Moslemi, Moinzadeh & Dabaghi (2011) conducted a survey needs analysis among postgraduate students of Biology, Psychology, Physical training, Accounting and West Philosophy in the context of Iran and reported dissatisfaction of students of existing ESP courses and demanded a revision in this program.

However, the number of studies in "General English' needs analysis is scarce. Noora (2008), for example, studied views of 192 non-English major undergraduates on their learning preferences in the 'General English' class. Data was collected through a 13-item questionnaire probing into three categories: preferred teaching method, the importance of the four basic language skills and students' motivational operations. Data was then analyzed by a Chi-square frequency analysis. Results showed that contrary to widespread belief, the importance of speaking skill was not the same for students of different majors. Also, the teaching material and methodology were not in line with learners' expectations from this course.

In a similar study, Moivaziri (2014) investigated perceptions of students regarding their needs, objectives, attitudes, learning habits and expectations in 'General English' course in Iran. 171 undergraduate students participated in this study through cluster sampling selection. A revised version of Sihong (2007) questionnaire was utilized to collect quantitative data. Students' responses were analyzed employing descriptive methods of analysis (frequency distribution and the mean) and the independent samples t-test. Obtained results indicated they considered vocabulary the most important component of language compared to grammar and pronunciation. The most problematic skill for them was speaking, especially pronunciation. However, it was found that they demanded more practice in vocabulary and reading. Also, the learners were not satisfied with what was taught by their teachers.

METHOD

Participants

A total number of 148 undergraduate students, 94 males and 54 females, from different cities and socio-economic backgrounds across Iran participated voluntarily in the needs analysis procedures in this study and oral consent was obtained from them. They were all majoring in engineering fields (Electrical, Mechanical and computer majors) in three faculties at Babol Noshirvani University of Technology. They aged between 18 and 22 years old and had studied English formally for six years in junior and senior high school. They were enrolled in 'General English' course class which has 3 credits and was held two sessions a week at their university.

Questionnaire

The questionnaire used in this study was a modified one developed by Sihong (2007), a 20-item Likert scale survey based on Hutchinson and Waters's (1987) model. Items 8, 9, 10 and 13 which examined some technical information dealing with stress, intonation and writing were excluded because participants of this study were from non-English major and could not probably answer them with their limited knowledge. The first part (3 questions) contains biographic data- age, sex and major of study at university. The second part (8 questions) contains nine sections which explore learners' perceptions of what they need to learn. The third section (6 questions) inquires students' learning styles and strategies and the fourth section (3 questions) examines learners' motivation, attitude and interest regarding learning English.

Because participants of the present study were not homogenous in terms of English language proficiency, ranging from low to high level of proficiency, the questionnaire was translated to Persian, their native language. Then at piloting stage, to examine the reliability of the translated questionnaire, it was administered among 31 engineering students, representative of the actual participants of the study, majoring in engineering at the same university. To ensure the validity of the questionnaire, it was first reviewed by two specialists to check appropriateness and comprehensibility of items. Therefore, the questionnaire depicted a high internal consistency. The reliability of the translated version was $\alpha=0.907$. Cronbach alpha is a measure that is commonly used for measuring the reliability of questionnaires.

Procedure

First, participants were briefed about what the research objectives were, how to answer the questionnaire and how much time was available to them. They were informed that participating in this study will not have any effect on their course mark. Then the questionnaires were distributed among them and the researcher was present during the administration to explain any probable question. They were told to take their time and assured that they were not required declaring their names on questionnaires. Once collected, students' responses were analyzed using descriptive methods of analysis (frequency distribution and percentage) to interpret students' preferences and attitudes.

RESULTS AND DISCUSSION

General and demographic information of participants is summarized in Table 1 below. As it can be seen, a majority of participants, over 60 percent, were males and students majoring in Electrical engineering outnumbered those studying in two other engineering fields (Mechanical and computer majors) with just below 50 percent. Almost three quarters of participants aged 18 and three other age groups comprised a quarter of all sample altogether.

Table 1. General and demographic information of participants

Demographics	Categories	Frequency count	Percent %
Gender	Male	94	63.51
	Female	54	36.48
Major	Electrical engineering	70	47.29
	Mechanical eng.	33	22.29
	Computer eng.	45	30.40
Age	18	107	72.29
	19	20	13.51
	21	18	12.16
	22	3	1.35

According to this table, most of learners (almost 75 percent) perceived that knowledge of vocabulary is of greatest importance to them during their language learning experience whereas they considered grammar and pronunciation of average importance. The same finding was reported by Moiiinvaziri (2014). Interestingly, the highest percentage of learners (36.80 percent) preferred to receive a medium amount of class instruction on vocabulary component of language. Just over half of them (55.40 percent) believed that most class instruction should focus on pronunciation teaching and practice.

Regarding responses to question 3 which explored the most problematic area, they mainly centered on vocabulary as the component with which a majority of learners (40.80 percent) experienced difficulty. This finding is not in line with Moiiinvaziri (2104). Participants of her study reported that grammar was their most problematic language component rather than vocabulary. None of three language components in this study were reported as highly problematic. Also, to learners participating in this study, all three language components-grammar, vocabulary and pronunciation- were identified as playing an important role in their language learning success (52.02 %, 66.89 % and 37.16 %) respectively, with vocabulary ranking first.

Table 2. Participants' views of components of language

Q1	Percentage of responses				
	Low	Moderate			High
	1	2	3	4	5
Grammar	25.	10.90	34.	9.50	25.
Vocabulary	7.43	7.80	4.15	6.29	74.32
Pronunciation	18	1.50	38.	5.09	37.1
Q2					
Grammar	18.24	5.16	8.70	23.30	44.59
Vocabulary	3.37	7.40	36.80	15.25	37.16
Pronunciation	10.81	9.70	15.20	8.88	55.40
Q3					
Grammar	18.24	7.40	35.10	5.47	33.78
Vocabulary	16.89	9.35	40.80	13.35	19.59
Pronunciation	10.81	7.84	7.84	28.90	44.59
Q4					
Grammar	18.24	8.90	5.82	15.	52.02
Vocabulary	8.10	3.50	3.20	18.30	66.89
Pronunciation	18.91	4.21	3.	36.70	37.16

Table 3. Learners' perceptions about language skills

Q5	Percentage of responses				
	Not sure	Never	Sometimes	Often	Always
Listening	1.34	5.41	30.40	44.59	18.24
Speaking	9.28	9.63	56.08	6.75	18.24
Reading	2.58	6.87	64.18	14.18	12.16
Writing	5.32	10.89	37.16	37.16	9.45
Q6	Low	Moderate			High
	1	2	3	4	5
Listening	33.78	23.90	32.18	8.55	10.13
Speaking	47.29	26.91	10.25	9.31	15.54
Reading	18.24	3.53	63.51	10.28	18.24
Writing	33.78	22.45	19.36	10.21	14.18
Q7	Never	Rarely	Sometimes	Often	Very often
Listening	9.45	6.75	21.62	25	37.16
Speaking	13.51	1.35	2.02	22.70	55.40
Reading	11.48	12.16	37.16	27.02	3.37
Writing	6.75	33.10	33.10	13.51	13.51

Based on findings for question 5 which asked learners' views on how frequent they do the four language skills represented in Table 3, the skill most frequently practiced by learners was listening with 44.59 percent. However, a large percentage of learners (64.18 %) 'some times' practiced reading skill. The lowest percentage belonged to writing skill with 37.16 percent of participants practicing it often.

For question 6, which asked about their self-reported level of proficiency in each of the four skills, they expressed receptive skills, listening and reading (32.18 % and 49.70 % respectively) were their most developed skills while speaking and writing, productive skills ranked third and fourth at 47.29 % and 33.78 % in turn.

As for responses for question 7, they were gravitated towards speaking skill by 55.40 percent of learners expecting it to be practiced in class very often. Listening was the next mostly favored skill of learners preferred to be given more time and attention in class instruction by 37.16 percent. In contrast, only 37.16 percent of learners liked to practice reading in the classroom and the least popular skill was writing at 33.10 percent of participants expressing it was only rarely and sometimes required practice. As Hayati and Mashhadi (2010) stated, "Iranian educational policy for English mostly centers on grammar and reading elements incommensurate with the ever-increasing demands of society." Dahmardeh (2009) also agreed, "Teaching communicative skill remains a neglected component in many foreign language classrooms."

Students' responses to question 8 revealed that their most problematic experience was number one: 'I cannot understand what my teacher and my classmates are talking about because I have limited vocabulary and grammar.' and number two: 'I find it hard to speak English because my pronunciation is poor.' with 47 percent and 49 percent reporting them as happening 'always'. The third problematic situation for them was the last item on the list, 'I do not understand the cultural information' by 38 percent of participants reporting it happened 'most often'

In response to question 9, exploring the benefits of learning English language, a majority of learners chose 'to help me complete my study.' and 'to get the golden key to become a world citizen' with 37 percent each. This tendency reveals their preference for using language for communicative purposes. This result justifies their previously stated preference for learning and expanding their speaking skill more than any other skill. This finding is in line with Noora (2008). She found that students majoring in science are typically more motivated to study abroad or attend international conferences. However, learners participating in Mooinvaziri (2014) study gave the most priority to reading skill and expected more practice in reading and listening.

The third section of the questionnaire (questions 10 to 17) dealt with learners' learning styles and strategies. Most of the activities participants preferred were communicative among which were 'talking to English speakers', 'talking to friends in English', listening to English music', and 'chatting through internet in English'. Interestingly, 'writing English diaries' and 'Writing English Emails' were reported as the least useful.

Regarding teachers' method of teaching strategies, a large number of respondents believed that learners should have more voice in the class, for example, 38 percent of participants reported 'the teacher should give time for student talk', 'The teacher should encourage students to ask questions', 'The teacher should pay attention to students' needs' and 'The teacher should create a harmonious and pleasant learning environments'. Interestingly, the highest percentage was reported for the last item on this list stating 'the teacher should teach the students' some learning strategies.' and almost none (only 2 percent) agreed that 'Textbooks should be the sole material in class instruction'. In keeping with the findings in the present study, Tabatabaei and Pourakbari (2012) showed that learners were not content with their teachers' performance as they did not use teaching aids and did not speak in English.

Participants' answers to question 3 in this section revealed that their preferred learning style is 'discussing with group members' with 44 percent and 'the teacher should give lectures and provide me with opportunities to practice (43 percent).

Learners' perceptions of standardized testing and evaluation were explored from questions 15 through 17. Just over half of learners believed current evaluation system is necessary but not necessarily useful. Almost the same percentage of participants (52.70 percent) preferred self-reflection as their method of progress assessment and teacher evaluation and test results comprised just below half of the responses (29.72 % and 17.56%, respectively). "once a month", which practically means four times during a semester, was the most frequent answer regarding the favorable frequency of test administration and the least favorite alternative was 'never'. It means that formal written tests are satisfying for language learners and they are considered as indispensable part of learning process.

Table.4 Students' perceptions of testing and evaluations

<i>Usefulness of standardized testing</i>	%
Useful and necessary	36.48
Necessary but not useful	56.75
Useful and unnecessary	8.10
<i>Methods to assess progress</i>	
Test scores	17.56
Teacher process-based evaluation	29.72
Self-reflection	52.72
<i>Frequency of taking a test</i>	
Once a week	10.81
Once a month	56.75
Twice a week	27.02
Never	5.40

Motivation, attitude and interest of language learners were examined in the last section of the questionnaire. Being a 'useful language' was the main motivating factor with 41 percent, followed by 'tendency to talk to foreigners' (38 percent), 'traveling abroad (24%), watching English movies (22%) and reading English books (21%). Generally, learning English was considered an enjoyable experience for over 63 percent of participants.

CONCLUSION

This study investigated the perceptions and expectations of undergraduate students of engineering major from teachers, teaching methodology and skills and components in 'General English' course.

This study was limited in scope so it is recommended future research on this topic is conducted with a larger population from a wider range of majors and among more Iranian universities. The results can be informative for General English course teachers to reconsider their methodological policies based on students' affectional and educational needs and priorities to ensure their fulfilled achievement from this course. The data obtained will also provide the basis for curriculum developers, syllabus designers and material writers to examine and update current practiced patterns for possible renewals adapted with research-based needs of university students.

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