

## **Investigating English Literacy and English Needs of Engineering Undergraduates**

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### **Abstract**

English could be an exceptionally critical dialect since it is widely spoken all around the world additional it is the official dialect in many countries. As Sri Lankan engineering students whose mother tongue is not English, acing English is more vital, not limited to the fact that English is important only to students' scholarly life but also for their imminent careers. The main purpose of this study was to investigate the English literacy rate and the English needs of first-year engineering undergraduates at the University of Ruhuna. The research problem was to identify the level of English literacy of the students and to identify the English needs of the engineering undergraduates which would assist the curriculum developers for revision and to upgrade the curriculum. A sample of 100 undergraduates was selected through a random sampling method. Data was collected through quantitative and qualitative data collection methods. The results of the study stated that the undergraduates' English proficiency is at an average level. Most of the students are keen to learn English for academic purposes and for their future profession. Therefore the students are enthralled to improve in English language proficiency since it highly impacts their content subjects. Furthermore, the students look forward to improve their speaking abilities with more student-centered learning and practical use of English with modern language labs. Moreover, the time allotted for English classes ought to be incremented. Therefore the current English language course ought to cater to the students' needs so that students' can fulfill their English needs and achieve a high English literacy rate.

**Keywords-** English Literacy Rate, English Needs, English Language Proficiency, Academic Purposes, Student-Centered Learning

### **I. INTRODUCTION**

In the global world, the English language plays a dominant role in every aspect of the education field, especially in higher education. The main reason for this fact is that higher education is directly related to the job market. The products of higher education ought to fulfill the demands of the job market [1]. Otherwise ultimately would result in underemployment or unemployment.

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At this occurrence, English is indivisible with the current requests of imminent careers. Usually apparent within the expanded English educating hours and making English obligatory at diverse levels of instruction as discussed by Hikmat [2] Consequently, English dialect capability got to

be as imperative as the representative's major-related field when it comes to business openings as neighborhood and universal organizations incline to enlist workers with significant capability in English as discussed by Kim [3]. Besides, to keep side-by-side with the requests of work markets and higher instruction arrangement points, building resources allow significance to English as the dialect of science and innovation. As Sri Lankan engineering students whose mother tongue is not English, aching English is more critical, not only limited to students' academic life but also for the students' imminent career [4].

To ace the engineering knowledge and abilities of students better, engineering students ought to claim the English dialect competence. Most of the designing charts are stamped in English. Besides engineering, students should have the slightest knowledge of basic English to bargain with endless English lectures, instructional exercises, labs, ventures, and papers [5]. Nowadays, the corporate world demands that employees be sufficient knowledge of communications skills and soft skills [6]. Also, in consequence of globalization, engineers are required to communication skills (English) due to interacting with around the world [7]. The employability of engineers mainly depends on technical knowledge and communication skills (English). Since employment depends mainly on multinational companies [8], additionally, the engineering undergraduates must be known the technical knowledge, as well as the English language soundly for higher education such as post-graduate, doctoral and research works since the most of research contents, are published in English [9-10]. The most objective of the consideration was to discover the English proficiency level of the current Engineering students and distinguish their English needs.

## II. LITERATURE REVIEW

In this section, the related literature works are reviewed, focusing on the proficiency level and the need for English for engineering graduates.

Kim et.al [11] had proposed a study on how Korean students of engineering and science view Korean-medium instruction (KMI) and English-medium instruction (EMI). In their study, 174 undergraduate students participated; that study was conducted in Korean engineering and science school's KMI and EMI classes. For that study, they conducted interviews and questionnaire surveys and also compared course grades and English scores. They claimed that EMI classes help only 22% of students in both classes upgrade their English ability. Also, they claimed that the students' major supported the maintenance of the policy of EMI in school. Finally, they discussed the students' paradoxical attitude and implications.

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Deshpande, et. al [12] had carried out a study for engineering graduates to adopt the English language in practice. They had carried out the analysis based on a comprehensive questionnaire.

They claimed that English communication's issue could be easily overcome with teaching-learning in a systematic way for the graduates of engineering.

Patra et.al [13] had proposed the study of the significance of English for engineering students and evaluated the prevalent teaching and learning system of English in India. They claimed that English communication skills were necessary for engineering graduates because the corporate sector also wants engineers proficient in English to communicate effectively in the workplace. Also, they claimed that total revamping was needed in the process of teaching-learning of English for increasing employability.

Wijesinghe et.al [14] had proposed a qualitative study to communication skills perception of the Sri Lankan young engineers to perform well in Sri Lankan industrial sector as young engineers for increasing the communication skills in engineering undergraduate graduates. They conducted an analysis based on the opinions of young engineers about the need for communication. They claimed that young engineers' opinions belong to 3 main categories such as undergraduates on how to improve communication skills, the importance of communication skills when performing as professional engineers, and the engineering curricula' improvements.

John et.al [15] had studied the importance of LSRW (Listening, Speaking, Reading, and Writing) skills for an engineering student. They claimed that the LSRW skills should be given equal impetus during college days to the challenging task of establishing a lucrative career in promising multinational corporations.

**Shrestha et.al [16] explored the significance of English language proficiency age on the implementation of engineering jobs in the entire world, especially in Nepal. Then, they claimed that the engineers had the necessary, sufficient English communication skills to carried out engineering jobs successfully both inside and outside of Nepal.**

### III. METHODOLOGY

Data for the study was collected by both means of quantitative and qualitative research methods. Information was collected through surveys and interviews. To conduct the research, the 100 first-year college students were randomly selected from a population of 225 college students at Ruhuna University, where most students have Engineering first academic level. The ages of the participants were range between 18 to 20 years. After participants' entrance to the university, under the university's Development Program, the participants followed an English program for 10 weeks. Aftermath, the students follow a core English module, namely "Communication for Engineers", for three hours per week, in which fourteen weeks consist of a semester.

One hundred questionnaires were issued to collect quantitative data, and 10 students were interviewed to collect qualitative data. A question paper was also distributed along with the questionnaire to measure the language skills of the students. The students' knowledge of grammar, reading, writing skills were evaluated through a test paper, and speaking skills evaluated through interviews. The students were given 40 minutes to answer the paper under the supervision of the researcher. Data were analyzed through descriptive statistics and presented in the form of tables and charts.

**IV. RESULTS AND DISCUSSION**

***4.1 Students’ proficiency level***

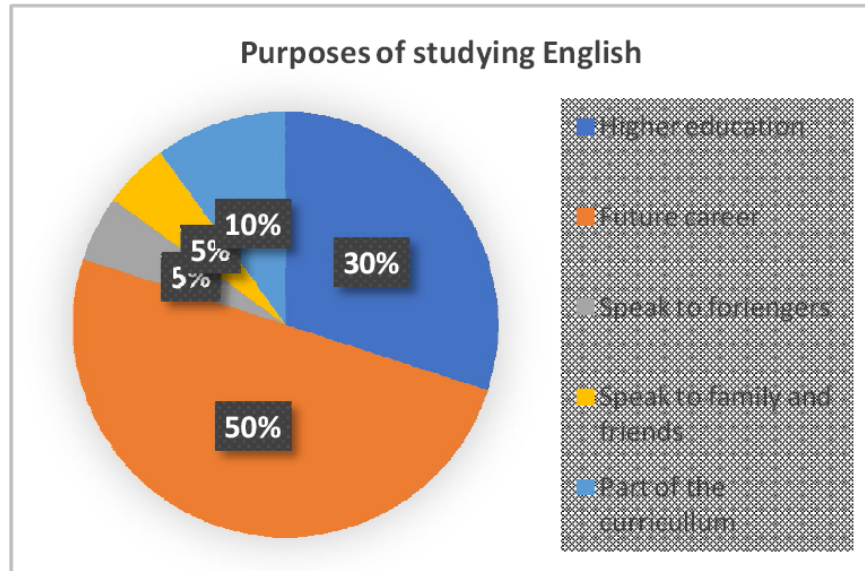
Table 1 displays the students' proficiency level. Table 01 illustrates the literacy level of the students is dissimilated at varied levels. Considering reading skills, most of the students, 57% of the students, are good at reading. This demarcates a positive factor, while 27% of the responses are average in reading. As engineering students, they have to read many books in their reading expertise; therefore, being good at reading is vital for them since they have to read and extract data and make summaries. Reading scientific journals and research papers are of vital importance to make themselves updated. About writing, listening, and speaking, the majority of the students have an average knowledge of these skills. Apart from language skills, students' knowledge of grammar was also tested. The scores achieved by the students portray that the majority of the students' knowledge in grammar was average. The outcome of this finding stated that the engineering students' literacy level is at a moderate level.

Table 1: Students’ English Literacy Level

Students' English Literacy level				
Category	Weak	Average	Good	Excellent
Reading	6%	27%	57%	10%
Writing	6%	56%	37%	1%
Listening	27%	57%	10%	6%
Speaking	40%	43%	14%	3%
Grammar	43%	50%	7%	0%

***4.2 Students’ English needs***

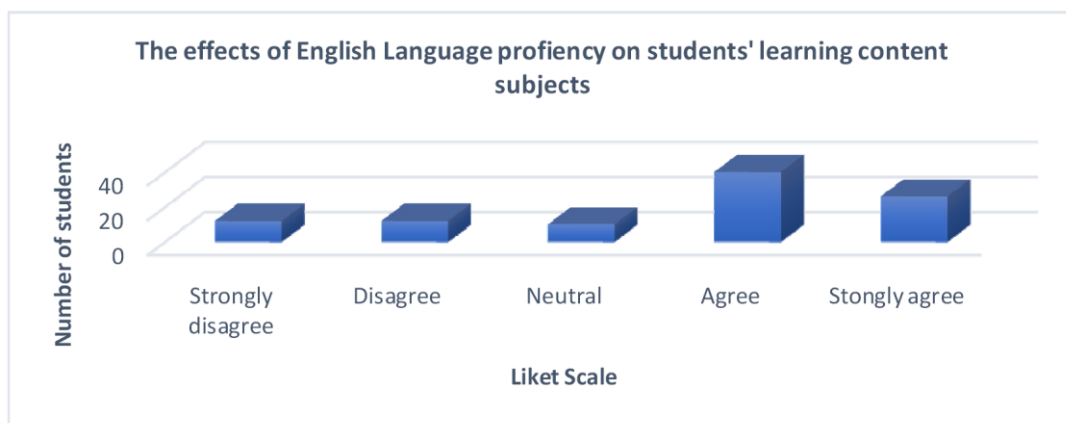
Figure 1 displays the students’ English needs. The purpose of studying English was categorized as, for higher education, for a future career, to speak to foreigners, to speak to family and friends. The results show that majority of the students, that is, 50%, use English for academic purposes and their studies. Moreover, 10% of the respondents use English for socializing purposes. Less number of students use English at home.



**Figure 1: Students' English needs**

**4.3 The effects of English Language proficiency on students' learning content subjects**

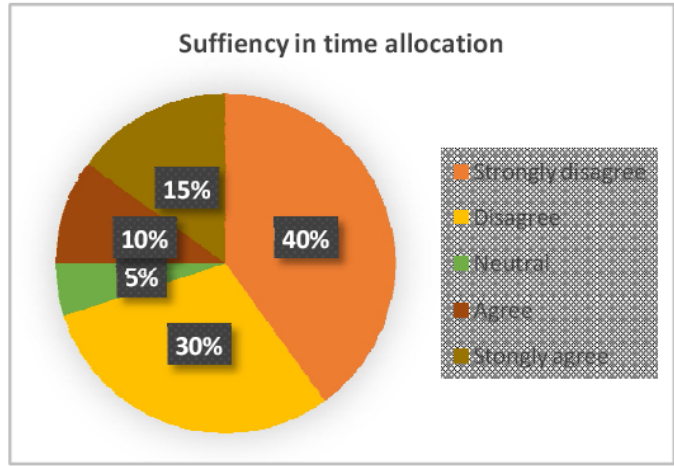
Figure 2 portrays the effects of Language proficiency of English in learning content subjects of students. The student's perceptions of the effects of Language proficiency of English in learning content subjects of students subject show the students' convictions for the affiliation of English dialect capacity and their execution in engineering substance subjects. Here 40% of the students concurred, and 26% of the respondents emphatically concurred that when the students' level of English capability is more, they will confront trouble in considering the substance subjects. In differentiation, as 12% of the understudies emphatically oppose this idea, and 12% of understudies oppose this idea, and 10% of them were impartial around the parts of English capability on understanding substance subjects in the engineering field.



**Figure 2: The impacts of language proficiency of English in learning content subjects of students**

**4.4 Satisfaction of time allocation for English Language**

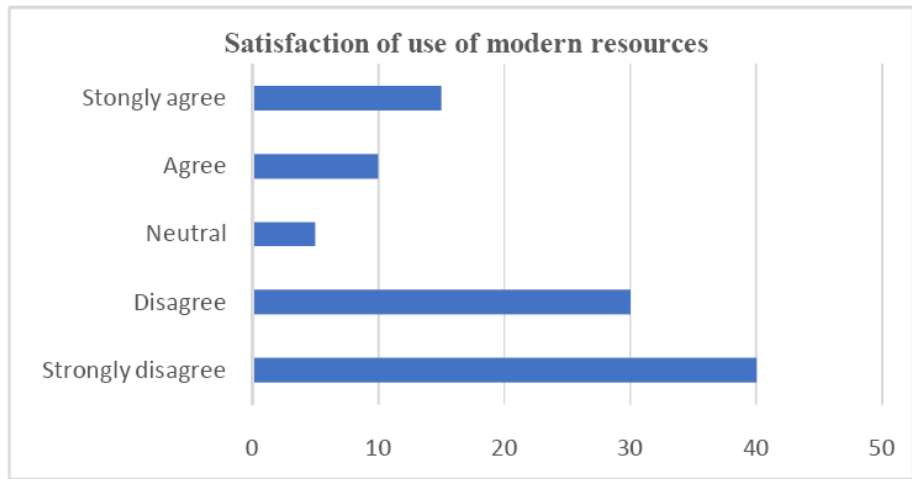
Figure 3 displays the satisfaction of time allocation for the English Language. According to the students' perceptions on the satisfaction of the allotted time for English language subject, the majority of the students are dissatisfied with the allocation of hours for learning the English Language, that is 40% of the participants strongly disagreed, and 30% of the students disagreed on this fact. In contrast, 15% strongly agreed, and 10% agreed with the statement. Moreover, 5% had a neutral response.



**Figure 3: Satisfaction of time allocation for English Language**

**4.5 Satisfaction of use of modern resources**

Figure 4 displays the satisfaction with the use of modern resources. Results on students' perceptions of current classroom resources (i.e. modern language equipment) stated that most of the students strongly disagreed that 40 participants and 30 participants disagreed that they were satisfied with the current classroom resources. In contrast, the minority stated that they are satisfied with the current classroom resources.



**Figure 4: Satisfaction of use of modern resources.**

**CONCLUSION AND RECOMMENDATION**

The study explored the students' English dialect capability, its significance in their related field, the current English dialect program's convenience, and the adequacy in time allotment. The discoveries uncovered that the capability level of students' English dialect was at a moderate level. However, the understudies had positive recognitions towards learning English and considered English for their scholastic reason and victory for a future career. In this manner, attention should be given to all four primary dialect aptitudes to form the understudies fit for their future careers. Relating to the students' perceptions around the impacts and value of the English dialect capability on their substance subjects, the study found that a larger part of the respondents recognized the impacts of English capability on their major field and their future careers. The discoveries moreover uncovered that the understudies feel that time allocated for the English classes is not adequate. Concerning the classroom assets, the discoveries uncovered that the classroom assets are not palatable. It is recommended that the mindful specialists consider the students' wants in designing an educational program in which the wants and level of English capability of the understudies are under consideration. Classrooms with cutting-edge instructive dialect innovation assets counting computers, web, sound system, and self-learning program, among others, ought to be given. Moreover, it is found that the foremost of the understudies favored having a course with parcels of exercises, i.e. pair/group works and ventures.

Based on the discoveries of the examination, the subsequent suggestions are recommended:

1. Students, English dialect capability and foundation of their information ought to be taken under consideration when course materials are designed
2. Classroom assets ought to be upgraded
3. Learner-centred sort of lesson should be managed with the intention to supply , more openings for the learners.
4. The time apportioned for English classes ought to be increased.

The current investigation has examined the English dialect needs of the Engineering Undergraduates at the University of Ruhuna. The discoveries of the consider would advantage the English dialect educates and specialists of the university in changing and planning English dialect educational programs for Engineering students.

**Conflicts of Interest**

The author declares that there is no conflict of interest regarding the publication of this paper.

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