English? A need? A Closer Examination of the Perceptions of Mechatronics Undergraduates at a Vocational University on the Need for English Language Skills for Academic Purposes

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Abstract

Due to the demands of the academic context and the workplace, two branches of ELT, English for General Purposes (EGP) and English for Specific Purposes (ESP) emerged. Over the years, EGP was famously practiced in the ELT classrooms, but of late, ESP has created an immense interest among ELT practitioners. At the University of Vocational Technology (Univotec) undergraduates are offered an English module titled "Communication Skills" to provide language assistance to undergraduates reading for the degrees offered in the English medium. However, this has not been successful and the number of students who dropout as they are incapable of continuing studies in the English medium is high. The current study was carried out on the evidence that the current English language module offered at Univotec fails to meet the academic language needs of its graduates, as a large portion of its content consists of EGP. The core of the study is a Needs Analysis (NA) carried out to critically explore the needs of the undergraduates of Univotec and to explore possibilities of redesigning the English language program in close alignment with the needs of the stakeholders in the field of Mechatronics. The sample comprised undergraduates reading for the Bachelor of Technology (B.Tech) in Mechatronics due to its popularity over other degree programs. The study explored the skills that the undergraduates consider important to reach their academic goals. The recurring themes that emerged from the data suggested that a curriculum with a blend of ESP and EGP would better suit the needs of the undergraduates. A strong recommendation could be made to revise the current curriculum to better suit the requirements of both the academic context and the target career. Incorporating basic grammar in the first year and advancing it as the years progress, and incorporating sub skills of the four language skills: reading, writing, speaking, and listening are recommended.

Keywords: English for Specific Purposes (ESP), English for General Purposes (EGP), Needs Analysis (NA), language skills, stakeholders, vocational studies

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Introduction

With the need to employ graduates who do not merely possess paper qualifications but are also equipped with skills needed for the workplace, the demand for Vocational Education seems to be on the rise. Vocational Education is an area which has not been under the spotlight of educational discourses and it came into light in the 1970s as a solution to the increase in youth unemployment. The evolution of The National Vocational Qualification framework (NVQ), has given the youth of Sri Lanka the opportunity to obtain internationally recognized qualifications that suit their skills and knowledge. The NVQ framework ranges from Levels 1 to 7. Levels 1 to 5 focus on Certificate and Diploma level programmes. The current study is concerned with NVQ Level 7, which refers to the Bachelor of Technology degree. This degree is awarded by the only vocational degree awarding body in Sri Lanka, the University of Vocational Technology (Univotec). The fact that this research was carried out in this university is one of its strengths.

Figure1: NVQ framework

Source: Tertiary and Vocational Education Commission
(https://slideplayer.com/slide/4229668/)

One of the key reasons for establishing the Univotec in 2009 was to provide a path to pursue higher education to students who have obtained Technical and Vocational Training. Diverting from the conventional university education system which focuses on academic qualifications, Univotec produces graduates with specific knowledge and skills needed for a particular profession. As the entrants to Univotec have diverted from the traditional education system, there are many who have completed their education only up to the 8th Grade or studied up to the GCE Ordinary Level examination but had not sat the examination. There is, however, a minority who had sat the GCE Advanced Level examination but had not gained entry to a state university. This heterogeneity in students has made English language teaching at Univotec a challenging task. It has also contributed to the undergraduates' inability to pursue a degree in the English medium which has resulted in them leaving the program prematurely. This was clearly seen in 2012 where only 7 out of 58 students registered for the B.Tech in Mechatronics graduated. The apparent mismatch between the skills the students are taught in the university and the skills needed to function in the industry prompted this needs analysis. Bachelor of Technology (B.Tech) in Mechatronics was chosen specially as it attracts a large number of applicants each year. However, the high dropout rate is not unique to this programme but is a common problem seen across all programs at the Univotec. The current study explores answers to the question: What are the academic communicative needs and expectations of mechatronics undergraduates of the vocational university?

Should "Communication Skills" be EGP or ESP?

To support the undergraduates to follow degree programmes conducted in the English medium, Univotec offers an English module titled "Communication Skills". Yet, this module seems to have little impact on improving students' academic English Language skills. The observations of the lecturers who teach "Communication Skills" is that it is primarily an English for General Purposes (EGP) course and not an English for Specific Purposes (ESP) course. This study was carried out to explore the views of the undergraduates of Univotec on if the inclusion of elements of ESP in the module would be more beneficial for students' academic performance.

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According to Hutchinson and Waters (1987), English Language Teaching (ELT) could be broadly divided into two branches: ESP and EGP. While EGP focusses on developing learners' competence in basic grammar and communication skills, ESP focusses on developing communicative skills in specific disciplines such as Accounting, Information Technology, and Business Management. Thus, students can apply the language skills gained from an ESP course to master the content of the field of study they are majoring in. Islam (2014), differentiating ESP from EGP states that the key focus of EGP is improving general English language skills whereas the focus of ESP is improving specific language skills based on a detailed analysis of learners' professional/academic needs. In drawing comparisons between EGP and ESP, Larouz and Kerouad (2016) highlight that the methodology used in ESP bears a lot of similarities to the methodology of EGP. Although ESP is said to prepare students for authentic situations of language use, both EGP and ESP incorporate the same concepts and approaches such as authenticity of materials. Some scholars such as Zohrabi (2013) view EGP as the foundation to any curriculum which paves the way for ESP. Mackay and Mountford (1978) state that the term "languages for special purposes" has been a key interest in relation to ELT. The purpose of "languages for special purposes" is used to refer to English for Professional Purposes and this definition applies to ESP as well. These definitions clarify the two terms EGP and ESP.
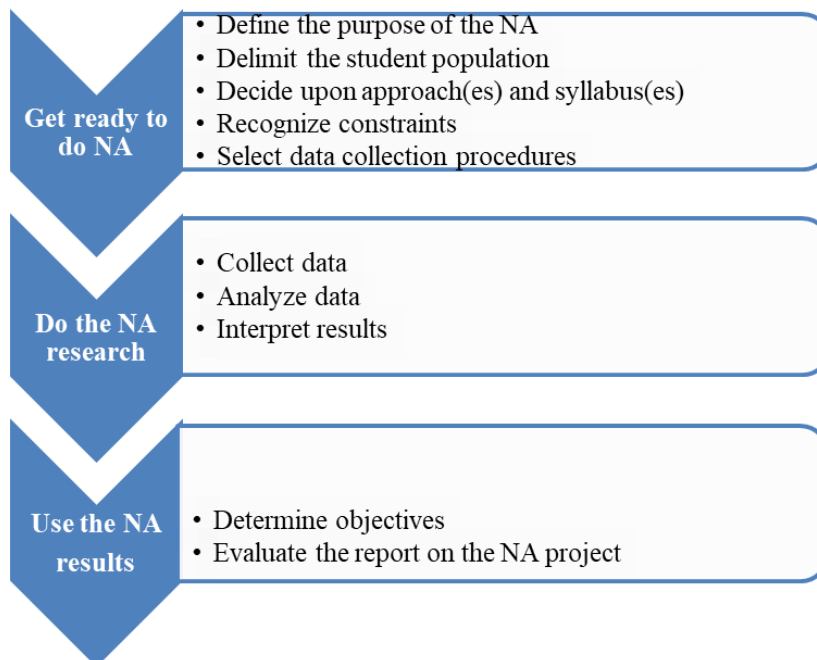
The aim of ESP, therefore, is to cater to the communicative needs demanded by the learners' workplace. ESP students generally possess fundamental language skills in English such as: listening, reading, speaking, and writing. They follow ESP in preparation for their future careers. For this reason, ESP concentrates less on grammar and basic language skills and focuses more on language in context. ESP is, thereby, an independent discipline which has gained global recognition for its utility value. It is largely offered at the level of tertiary education to students specializing in different fields. For example, a customer care officer could function confidently and efficiently by developing the specific language skills needed for his/her workplace. Through an English language course, such a student expects to learn technological jargon used in manuals instead of studying complex grammar structures. As seen above, the literature of the field highlights how ESP can address the language needs of the workplace, which are not fulfilled by General English. In short, ESP plays a vital role in the development of rhetorical functions of learners.

Methodology

This research is a Needs Analysis (NA) conducted at the Univotec with the undergraduates reading for the Bachelor of Technology in Mechatronics. The NA forms the basis to develop a curriculum that closely aligns with the needs of the students. Brown (2009) defines an NA as a systematic collection and analysis of all information that is necessary for defining a defensible curriculum. According to Ting (2010), an NA is the first stage in ESP curriculum design and precedes the design of the syllabus, course materials and teaching activities. Veena (2016), quoting Richards (2002) states that the first step in conducting an NA is to decide the exact purpose or purposes for carrying out the NA. The current study incorporated the NA model introduced by Brown (2009) as it is feasible and provides a step-by-step guidance.

The NA of this study was carried out in three stages which include: making basic decisions about the NA, gathering information, and using the information. These three stages consist of the 10 steps given in figure 2.

Figure 2: Needs Analysis process

Source: Adapted from Brown, 2009

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An NA was the most appropriate tool to explore the needs, lacks and shortcomings of the current "Communication Skills" module.

The next steps included identifying the constraints of carrying out the NA, deciding the means of data collection, and selecting the sample. The data was collected through questionnaires and interviews (following the procedures identified in Step 1) and was analyzed both thematically and descriptively. Next, the data was interpreted and reported. Finally, the report compiled from the NA was evaluated, followed by a discussion of the results, findings, and recommendations.

This study, therefore, consists of elements of qualitative and quantitative research approaches. They are meant to complement each other, following Richards' (2005) recommendation that "qualitative and quantitative data do not inhabit different worlds [but] are different ways of recording observations of the same world" (p. 36).

The study sample

Purposive sampling was used for the study as it employs a series of strategic choices about with whom, where and how a researcher carries out a research (Palys, 2008). A purposive sampling was appropriate as the participants, who were undergraduates reading for the B.Tech in Mechatronics, had to display interest in voicing their academic communicative needs and expectations.

Prior to carrying out the interviews, consent was obtained from the participants to record their responses. The sample consisted of both male and female participants whose L1 was either Sinhala or Tamil (L1). The Tamil and Sinhala L1 speakers were interviewed in English and in Sinhala, respectively. As the questions posed were simple, the Tamil L1 speakers understood them without difficulty.

Table 1: Sample size

Sample	Number of participants	
	Questionnaires	Semi-structured interviews
Undergraduates	40	10

Analysis

The interviews conducted in Sinhala were translated into English, and all the interviews were transcribed. The data was coded under two recurring themes as 'use of English in the academic context' and 'use of English at the workplace', for the purpose of making comparisons. Qualitative data was analyzed thematically and the quantitative data from the questionnaires were analyzed descriptively, and both were triangulated during the analysis.

Results and discussion

The data obtained from the NA were analyzed under the themes writing, reading, listening and speaking skills needed for academic purposes. The undergraduates displayed a range of views on the role of English in the academic context.

Undergraduate 1*: English is important as we do our main course modules in English. It is necessary to learn English.*

The above was a recurring response. The majority of the undergraduates expressed the need for "English" to perform well in both theory and practice-based sessions. In addition, certain statements highlighted that the majority of the Mechatronics text books, journal articles, and lecture notes are in English. Therefore, knowledge of English was essential and the statement by undergraduate 3 proves this further.

Undergraduate 3*: Yes, English is important as all subjects are taught in English. So many technical terms and most words are not common words. So guidance is needed in technical terms. Also I must mention that most of the books available for Mechatronics are in English medium and for this reason knowledge of English is vital.*

As Undergraduate 3 states, Mechatronics consists of a technical jargon and English is vital to understand them. Knowledge of jargon helped them score well at examinations, and the statement below explains this.

Undergraduate 3: *I think the reason why most students fail at the examinations is the fact that they are not even familiar with the Mechatronics terminology. They have the skill yet they lack the theoretical background.*

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Being familiar with technical jargon is a need that "Communication Skills" did not cater to, and this is seen in the statement of Undergraduate 5. Many students criticized having to learn General English in place of subject specific English.

Undergraduate 5: The *English module that is taught to us will be more effective if it consisted more of Mechatronics terminology*.

Many respondents stated that the existing English module comprised general vocabulary, whereas their need was to master mechatronics related, specific vocabulary. The students further stated that the English module gave priority to writing essays on general topics. Thus, without any practice, students had to write subject specific essays for assignments. Hence, they highlighted that there should be frequent sessions on writing subject specific essays. Many students stated that they needed good reading and writing skills to do well at examinations as seen in the statement below.

Undergraduate 6: මෙම Skills විභාග සඳහා ප්‍රයෝජනවත් වේ. (These skills are useful for exams)

The above response further highlights the importance of reading and writing skills to succeed at the exams. Most students stated that they scored well in practical components but failed to pass written exams. Their frustration at their inability to articulate their ideas in English is expressed as follows:
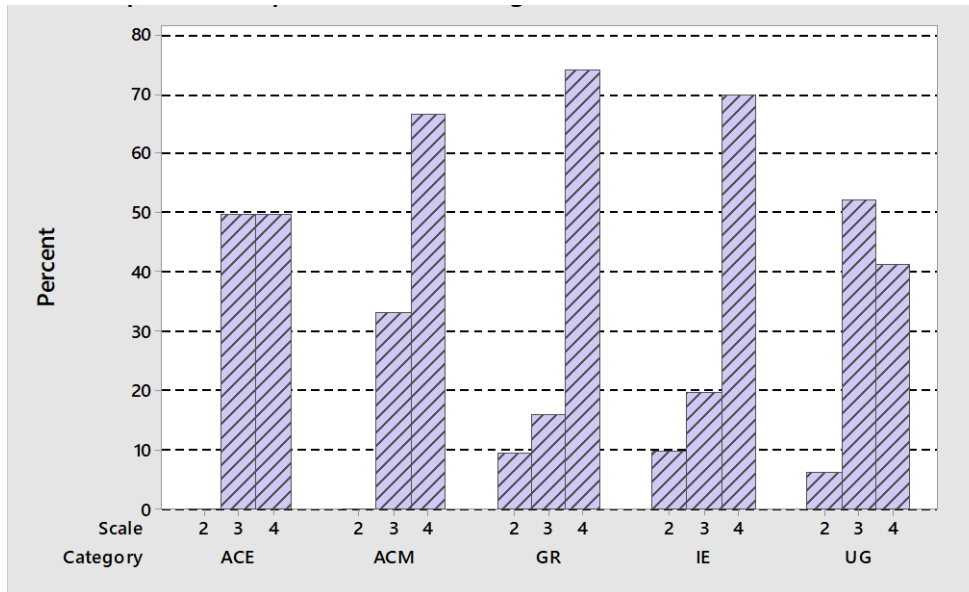
Undergraduate 4: අපිට *ideas* තියෙනවා *(we have ideas)* ඒත් ලියන්න බැහැ *(But cannot write)*

The respondent spoke in a sad tone and displayed an earnest wanting to improve.

Importance of the four language skills for academic purposes
a. Importance of writing skills
This section presents the views of various stakeholders on the importance of writing for academic purposes, followed by a discussion of the undergraduates' responses on the same.

Figure 3: Importance of writing for academic purposes

Table 2: Acronyms and ratings

Acronyms	Ratings
ACE: Academic Staff English	Very important: 4
ACM: Academic Staff Mechatronics	Quite Important: 3
GR: Graduates	Not very Important: 2
UG: Undergraduates	Not Important: 1
IE: Industrial Personnel	

The undergraduates, who are the focus of this study, stated that writing was important for them. More particularly, around 40% viewed it as very important, while 50% stated that it was quite important, and 5% stated that the writing skills was not very important. Thus, most of the undergraduates acknowledged writing to be of utmost use especially for examination purposes. They emphasized the importance of writing in order to succeed academically. However, the interviews revealed that although writing was practiced in class regularly, there was no practice given for writing accurately at exams. Further, most of the undergraduates stated that they lacked sufficient vocabulary which hindered accurate expression of ideas. Some students stated that the vocabulary taught in "Communication Skills" is of little use to improve academic writing skills. In sum, the existing course lacks

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emphasis on academic terminology and concentrates on General English that has little bearing on their academic work.

80% of the responses revealed that they spend time and effort on English at the cost of studying other subjects. It was visible from the demographic data obtained from the questionnaire that many who faced challenges of writing and facing examinations had either failed the GCE O/Level examination or had only passed the 8th Grade. They had had little to no language instruction at schools, and in general had very little exposure to English from their social contexts. This resulted in poor performance at examinations which, at times, led to them quitting the program. In addition, the students found it hard to follow lectures and to take down notes. This was caused by poor writing skills and listening skills.
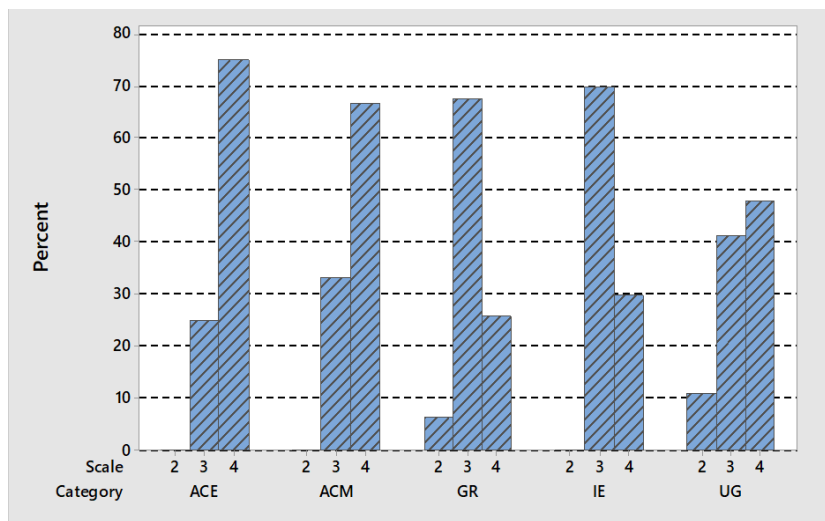
The interview responses show that the lack of good writing skills and a sound vocabulary hindered the undergraduates' ability to express their ideas at examinations, and when writing assignments and project reports. While some over emphasized the importance of reading and writing skills, a minority that comprised 20% of the interviewees stated that knowing the practical aspects of Mechatronics was sufficient to answer questions at examinations. The statement below supports this point further:

Undergraduate 6: මට Practical තේරුම් ගන්න පුළුවන්, ඒ නිසා මට, ඒ knowledge එක use කරලා exam pass වුණා (*I can understand practical session so with that knowledge I passed the exam.*)
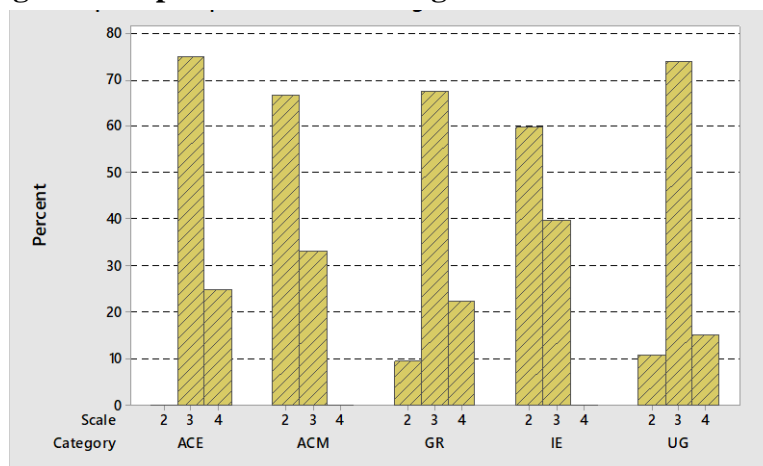
Although report writing is taught during the first year of their degree programme, students are required to write project reports only during the second and the third years, by which time many students had forgotten what they had learnt. The students need rigorous training in technical writing when they attend industrial training in the second year. Incidentally, this is also them time when students realize its importance of English to function in the professional setting.

b. Importance of reading skills

Reading and comprehending questions at exams was considered an important but tedious task. Figure 4 displays the undergraduates' assessment of the importance of reading skills.
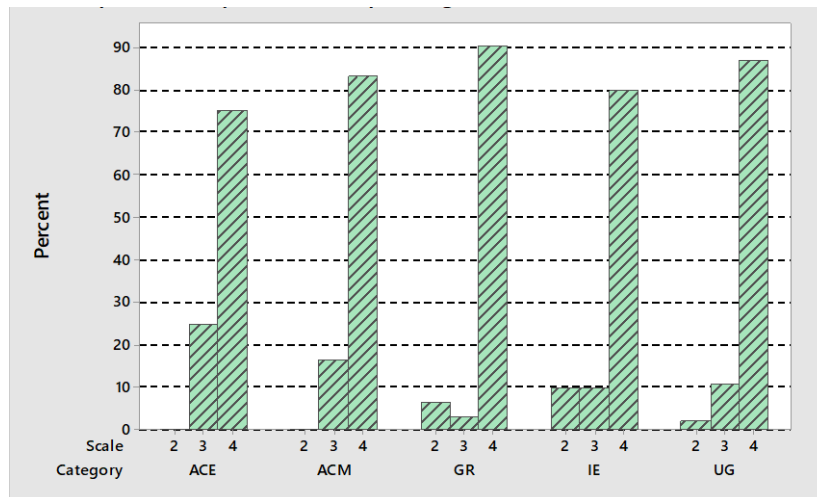
Figure 4: **Importance of reading skills for academic purpose**

c. Importance of listening skills

Although listening was not considered important by the majority, many viewed it as challenging specially when comprehending lectures. Although 75% of the questionnaire respondents viewed the skill as quite important, the interview data showed that around 80% did not pay much attention to listening. Except for one or two bilingual lecturers, all the other lecturers used English as the medium of instruction. The students were also taught by two foreign lecturers. Students could use their L1 when conversing with the Sri Lankan lecturers but were compelled to listen to and understand English when communicating with the foreign academics. Although many students stated that it was difficult, they considered it a valuable experience.

Figure 5: **Importance of Listening Skill for Academic Purposes**

d. Importance of speaking skills

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The study also revealed the undergraduates' perceptions towards the importance of speaking skills in the academic context (Figure 6). Out of the four language skills, speaking was acknowledged as one of the most needed skills in the academic context.

Figure 6: Importance of speaking for academic purposes

For many, presentation skills or speaking in English was a challenging skill, and 80% of the students found it difficult to express their opinions when conducting presentations. Although the current "Communication Skills" module concentrates on presentation skills during the first year, the undergraduates pay little attention to it as they are not required to practice it immediately. The responses also indicated that the time allocated for presentations was insufficient. In addition, as the presentation topics concerned general areas such as "poverty", the students considered them irrelevant to the industry and the presentations they were expected to make at work. Thus, the need for more subject related topics was strongly emphasized, as indicated below:

Undergraduate 6: *We always have to present about globalization but at the industry we get to speak on Mechatronics related matters not on these common topics.*

The above statement further emphasizes the need to improve speaking skills. One of the undergraduates currently in the final year stated:

Undergraduate 12: *We need to improve Presentation Skills because throughout the semesters we need to present subject related matters. We mostly present subject related matters.*

As the undergraduates face a viva-voce after their industrial training, being trained to speak on subject related topics was considered very useful. Their fear of doing presentations was expressed as follows:

Undergraduate2: *I always get nervous in front of a crowd and forget what I have to say and I think too much about grammar errors I would make.*

Many statements expressed fear of presenting and speaking during lectures. The students stated that they were reluctant to ask questions for fear of making mistakes.

Undergraduate 14: *It is a very passive environment during the lectures. The lecturer only speaks and we are scared to ask questions thinking that we make mistakes.*

One of the subskills of speaking that was identified as important through the discussion was asking question. However, it was noted that students were at ease with lecturers who used Sinhala as they could pose questions, ask for clarifications, and make requests for explanations in Sinhala. Another undergraduate highlighted that asking questions, despite being an essential skill, was not incorporated in the current "Communication Skills" module. These statements highlight that the current module does not have sufficient activities that create an active English-speaking environment.

The majority of the undergraduates supported the view that developing solid English language skills will contribute to reduce student dropout rates at Univotec. The undergraduates stated that the need for English was strongly felt during the second year after they were exposed to the industrial training, where they were expected to communicate in English with undergraduates of other universities and with the management of the company.

Also, a good command of English was essential as the content of the core Mechatronics modules got progressively more advanced. Understanding the content of the theory modules was crucial in succeeding in the practical modules as well. Poor English language proficiency affected undergraduates' grades which caused them to miss a batch or, in the

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worst case, to leave the programme. Another notable factor was that students' attendance for communication skills lectures was at an alarmingly low level, and the following statement gives an explanation for such unsatisfactory attendance.

Undergraduate 12: මට අවශ්‍ය *Communication Skills pass* එකක් *Degree* එක ගන්න

   (I only want to get a pass in "Communication Skills" just to get the degree.)

Conclusion

The study explored the needs, lacks and shortcomings of the current "Communication Skills" module. It revealed undergraduates' perceptions towards English language skills in relation to their academic context. The results of the current study produced recommendations useful to either improve the current "Communication Skills" module, or to develop a new English language module.

It was evident that "Communication Skills" consists primarily of EGP content, which does not cater to the undergraduates' English language requirements. The students need a course that used ESP to more effectively support their academic and industry related needs.

The undergraduates emphasized the need to incorporate more activities to practice the four skills. There was a recommendation to include more activity-based learning tasks such as role plays, individual and group presentations, and public speaking to enhance students' speaking skills. The content of the "Writing" component was criticized for being limited to essay writing and letter writing, which did not address the requirements of the industry. Thus, more task-oriented writing activities based on industrial needs such as writing reports, official and unofficial emails, filling forms and logs, memos, procurement documents, and writing lab reports were suggested. There was a suggestion to include more reading materials that would better prepare students for examinations. Also, the need to read materials related to the industry, such as manuals, e-mails, letters, and procurement related documents was emphasized. The absence of means of introducing students to technical jargon useful for academic tasks and for the industry is a drawback of the current module. A strong recommendation to incorporate technical terms can be made from the study. The findings show the importance of using authentic material specific to the field of

mechatronics in language teaching. This requires handouts to be based on Mechatronics related content. It would improve the undergraduates' investment in the lessons.

The study explored if the undergraduates preferred the content of the module to have an ESP or an EGP focus. The findings revealed that the existing module did little to improve students' academic language skills. Hence, the students' responses, unsurprisingly, favored a more ESP focused course. However, as students' current language proficiency levels vary drastically, an ESP curriculum alone would not be beneficial. As Zohrabi (2015) highlights, EGP provides the foundation that paves the way for ESP. Thus, the study's recommendation is to use a blend of EGP and ESP in the English language module offered to the undergraduates reading for the B.Teach in Mechatronics at the Univotec.

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