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The Transfer of Skills Acquired in Required English Courses to Engineering Courses: A Case Study of Students' Perceptions

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Abstract— This research study investigates the transfer of acquired communication skills to engineering programs in an English in a foreign language context. The exploratory survey research investigated 77 undergraduate engineering students' perceptions of the development of their communicative skill in their second or third language as a result of two required English courses at a private Lebanese university as well as whether or not those skills were being utilized and nurtured in the engineering courses. The main finding of the study is that these students perceived that the English courses did provide opportunity for skill development in English communication. However, the findings also revealed that a lack of communication is apparent between the School of Engineering and the Department of English impeding the process of communicative skill development in English which would enhance the employability of these students as well as effectively address the ABET standard for communication.

Keywords— engineering education; communication skill; English medium instruction

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1. Introduction

The multi-lingual country of Lebanon is part of the Levant region in the Middle East and is the second smallest country in Asia. After World War 1, the League of Nations mandated that Lebanon would be administered by France. Therefore, while Arabic is the official language of Lebanon, French became compulsory in schools as the education system was designed by the French. While the teaching of English in Lebanon dates back to the 19th century with the arrival of missionary schools (Nicolas & Annous, 2021), the supremacy of the French language in Lebanon went largely unchallenged for decades. English however, continued to permeate the Lebanese educational system, even being taught as a third language in French medium schools. With the integration of technology in day-to-day business along with the assertion of the English language on the global stage throughout the 20th century, Lebanon saw the rise of more and more English medium schools with at least 30 universities in the country using English as the language of instruction (Minkara, 2013). Since 1990 to the present day, 25 of the 28 new private universities in Lebanon have adopted English as the medium of instruction (Nicolas & Annous, 2021).

Throughout the Middle East as well as North Africa (MENA region), English is prevalently viewed as a prestigious language; a tool for success. In the MENA region it has become a symbol of modernity, technology, and education (Joseph, 2013). As a direct

consequence of this attitude toward English, some Francophone countries in the MENA region, such as Tunisia and Lebanon, introduced English as a compulsory language in the curriculum along with Arabic and French (Annous & Nicolas, 2014). The imperative for young Lebanese to learn English is augmented by the limited economic possibilities in the small country. The inadequate amount of economic opportunities for educated Lebanese youth has been further impacted by the economic collapse that was ignited in the fall of 2019. The World Bank has stated that the economic crisis Lebanon is currently suffering ranks "among the most severe crises globally since the mid-19th century" (Lebanon Economic Monitor, 2021 p.13). The disintegration of the country has led to an unprecedented migration of Lebanese talent as they move to seek opportunities on the international stage where English will be the language of communication.

2. A Review of The Relevant Literature

There are at least two categories of literature that have direct bearing on the topic of this research. The first to be discussed will be what the literature has to say about the link between skill in the English language and employability. The review of the relevant literature will also explore why engineering students should communicate effectively in English, no matter what context they study in.

A. Skill in the English language linked to employability

Literature supports the link between employability and communicative ability in the English Language (John et al., 2021; Roshid & Chowdhury, 2013; Kadam & Pusawale, 2023; Shinge et al., 2024; Vanaja Reddy et al., 2024). The Cambridge Employability Framework (CEF) itemizes the different skills university students need to develop. The CEF (2022) is based on employers' needs and includes eight areas of competencies that have been determined as necessary for initial employment and for sustaining a career over the years. The skill of communication is one of the eight essential skills in the CEF and is broken into components which include writing clearly and convincingly and adapting communication for different audiences and different purposes. Ideally, instructors should use the Cambridge Employability Framework as a reference to systematically integrate as many of the skills as possible into courses.

A quick search of career development websites will reveal that communication skills in English, and employability, are interrelated. With the global market advancing throughout more and more countries (Mali & Mandke, 2005), English has been solidified as the language in common among a diverse population of employees becoming the lingua franca of international business. The flow and mobility of labor linked to globalization has had a deep impact on the proliferation of the use of English. As Roshid and Chowdhury (2013) express, both "globalization and English language have enabled local actors to become part of global networks" (p. 69). Businesses seek foreign workers for several reasons. Obviously, foreign talent can often be acquired at a cheaper rate than talent from Anglophone countries but also because often talent from less developed countries come with other desirable attributes such as a hard work ethic, discipline, commitment to the company, and willingness to travel. This employment strategy necessitates a common language in the workplace which is English.

Within the broader Arab world particularly, there is some criticism of the lack of preparedness for university level English requirements, compromising the students' chances of becoming competitive in the area of English communication. Khan (2011) asserts that, generally speaking, students in the Arab world lack linguistic preparation for tertiary level work. Therefore, as Roshid and Chowdhury (2013) and Kamlun et al. (2020) assert, programs of study should enhance the development of English language skills to support increased employability.

Studies show that language proficiency in English is also linked to earning potential. Azad and Fahmida (2024) investigated the impact of English language proficiency on the wage returns of Kerala migrant workers in Gulf countries and discovered that English skills significantly contributed to higher average monthly wages. Additionally, Wu et al. (2023) concluded that both the verbal and non-verbal components of students' communication skills play a significant role in the employability of engineering students. The effects of English proficiency on the earnings of minority ethnic groups has been documented at least since the early 1980s. Tainer (1988) reports that among native born employees, the established earnings method is based on human capital as well as demographics and the same human capital framework is applied to foreign born employees to justify the discrepancy in pay. Tainer

(1988) continues, explaining that in the early to mid-1980s, English language proficiency became an important variable in the consideration of the human capital framework. Employers demanded that employees be able to communicate effectively with one another, and with customers. Failure to be able to communicate at that level would hinder productivity. "Thus, comparing two workers with otherwise identical skills, the worker who is deficient in the common language will pay for his training [(in this case learning the language)] by accepting a lower wage" (Tainer, 1988, p.109).

The proliferation of English to non-native English speaking countries as a result of globalization, has created a major challenge for young people in those countries and for higher education institutions in those countries (Lin & Lei, 2021). Students for whom English is not their first language, must not only learn it to a high level of fluency, but are obligated to learn STEM disciplines in English as well. In Lebanon, the practice of learning in a language other than the mother tongue has been institutionalized for decades making the practice commonplace and accepted as the right way to prepare for the future. Lebanese youth see their career futures outside of the country, making the learning of English imperative (Orr & Annous, 2018). Orr and Annous's (2018) study was conducted at the same university as the research reported on in this article, therefore their research sample was similar to this study's. Those students claimed that their career success required them to emigrate; that no meaningful jobs existed in Lebanon. In order to be prepared to emigrate and develop a career, the student participants believed they had to have a degree from an English medium university. The implication is that preparation during the pursuit of that degree would mean development of ability in English communication. It is important to note the publication date of Orr and Annous's (2018) study was prior to the current economic collapse (which began in the fall of 2019) and political conflict in the region, revealing that the need to emigrate and function in English is more imperative than ever.

B. Engineering students must communicate effectively

The Accreditation Board for Engineering and Technology (ABET) is a nongovernmental agency that accredits programs in engineering and technology in post-secondary educational institutions. The certification from ABET suggests program excellence and submits that the program meets the demands of the profession. The ABET Outcome 3g (communicate effectively) articulates a comprehensive approach to addressing academic literacy for engineering students. The outcome covers both written and oral competencies. Specifically, the outcome states that the student will be able to:

- critique writing samples and identify both strong points and points that could be improved in grammar, clarity, and organization.
- critique oral presentations and identify both strengths and areas for improvement.
- write an effective memo (or letter, abstract, executive summary, project report) or give an effective oral presentation... (insert specifications regarding the length and purpose of the communication and the intended audience)

Yet, as Felder and Brent (2003) report, an effective way of raising students' skill level in engineering courses and addressing the criteria ABET identifies, is elusive.

Communication is multi-faceted and includes listening, visual and graphics, and importantly for academic purposes, writing and speaking. The Composition and Rhetoric Sequence at this university is built on an English for Academic Purposes (EAP) model and therefore, the writing skill is strongly emphasized with the oral skill also given attention. Communication is also interdisciplinary and therein lies the missing link to achieving the most effective communication possible in any discipline, not just engineering. Studies have been conducted at this institution into other disciplines, namely Business and Cultural Studies, and a lack of interdisciplinary cooperation has been found in those studies (Annous & Nicolas, 2015; Nicolas & Annous, 2021). Ultimately, as a study conducted by Waluyo and Panmei (2021) suggests, the better the proficiency in English, the better the academic achievement will be.

It can be argued that engineers absolutely need to master the art of writing in order to communicate complex ideas and mathematical concepts in simpler terms, since the act of writing constructs knowledge rather than merely reflects on knowledge (Bazerman, 1988; Shinge et al., 2024). Conrad et al. (2015) implemented a project in a civil engineering program meant to bridge the gap between the university and the

industry. The project was collaborative involving industry practitioners, writing specialists and engineering professors. The project resulted in significant improvement in the students' writing skill and altered student perceptions about the role of writing in their program of study. The collaborative approach that created the relevant, integrated writing tasks that included a pragmatic element seems to have been the key. In the United Arab Emirates, Prescott et al. (2011) report on an English department technical writing course for engineers—a course developed in response to complaints from both employers and students who identified the level of intern and graduate communication skills as insufficient for the workplace, as well as to ABET recommendations for student engagement in group-based multidisciplinary engineering projects. Both of the previous examples illustrate that students need guidance in transferring the skills they are introduced to in their English classes, such as the idea of writing for particular audiences.

Other strategies have been studied that aim to enhance language learning or to assist students in overcoming any anxiety they may have about functioning in English as their second or third language. Shinge et al. (2024) report on the effectiveness of the imitation method for improving English. Those researchers strongly assert that allowing students to dismiss the development of their communication ability in English as they prioritize their major courses, ultimately compromises their success in their chosen field. Consequently, a variety of approaches should be explored to nurture communicative growth. In a similar vein, Vanaja Reddy et al. (2024) assert that digital media should be an integral part of English language learning for Engineering students. Digital pedagogy enhances student engagement through its role in the active learning process. Other research has also concluded that computer aided learning has many positive effects on students' language learning, particularly on their reading comprehension (Pawar et al., 2022).

Students additionally need guidance from discipline specific instructors as to what specific features may be required in terms of vocabulary and sentence structure etc. (Hyland, 2009). Expertise in discipline specific rhetoric would include the ability to speak persuasively about the discipline using jargon and code words. ABET stresses both forms of communication, written and oral, as a necessary part of a potential engineer's career. It has been asserted that a student's oral skill, including their presentation skills, is the best indicator of future career success (Rana & Shaikh, 2024). Riemer (2007) posits that experiential modes of oral communication work best in developing the speaking skills of budding engineers. Riemer (2007) gives the following examples as ways of integrating speaking development into engineering courses: "presentations, peer review, role-play, video of student presentations with individual feedback and up-to-date training in key software used in presentations by graduates in industry (e.g. PowerPoint, Word, Excel, etc.)" (p.92).

3. Context Of The Study

The university at the center of this inquiry is an English medium university operating in an English as a foreign language environment. The Department of English Language and Literature manages the Composition and Rhetoric (C&R) Sequence, which includes the two compulsory English courses, ENGL203 and the exit course. The C&R Sequence also includes five levels of remedial language courses that prepare students for the two compulsory courses. Applicants are placed in a course in the C&R Sequence based on an external language exam such as iELTS, TOEFL and the like.

English 203 is the highest level in which a student can potentially be placed. English 203 (ENGL203) is, accordingly, a multi-section course serving hundreds of students each semester. All sections of this course run the same syllabus with the same assessments. All assessments are subject to a process that normalizes the intended standard, with instructors confirming grades awarded to assessments in sections other than their own. The exit course runs differently given that more than one course is offered each semester to function as the exit course. The exit course was designed on a language integration and writing intensive foundation, based on the belief that the writing skill leads to improvement of all the skills in language learning as supported by Kadam and Pusawale (2023) in their study where they assert that writing is the stepping stone to effective oral communication as well. All courses serving in this capacity follow the same guidelines in terms of types of assessments: writing, including number of words, oral and research requirements. The norming process can happen across these courses as well. From this point on the exit English courses will be referred to as ENGL204 for simplicity given that there is more than

one code for each course.

4. Methodology

Given all the perspectives presented above that are linked to the study of engineering in a second or third language, the following research question emerged to guide the investigation:

- Do engineering students in this English as a foreign language context, perceive that the skill acquisition they achieve in their required English courses is relevant and transfers to their courses in engineering?

This research is an exploratory survey research. The target population was 77 engineering students enrolled in either of the two required English courses – ENGL203 or ENGL204. The population was roughly evenly divided with 39 students in ENGL203 and 38 in ENGL204. All engineering majors were represented with the largest number majoring in Mechanical Engineering, 28 in total. The survey consisted of eight different Likert scales each supplying 5 choices, either never – always or strongly disagree – strongly agree, as well as multiple choice questions. The constructs on which the survey was assembled included students' perceptions of their oral and written communication skills as well as types of assignments in major courses to reflect ABET requirements for communication skills. The survey was piloted with a group of students who had completed both ENGL203 and ENGL204 before being administered to the target population.

With the aim to describe the population under investigation, descriptive statistics were utilized to analyze the survey data. Descriptive statistics were chosen for their ability to succinctly present the perceptions of the engineering students surveyed. Given that the study aimed to explore the specific experiences of a defined group of students within ENGL203 and ENGL204, descriptive statistics were deemed appropriate to provide a clear summary of the findings (Hesse & Ofosu, 2017). By employing measures such as means, frequency distributions, and cross tabulations, the analysis effectively highlights the trends in these students' perceptions regarding their communication skills and the alignment with ABET requirements in their major courses.

5. Findings

The data generated by the survey revealed the overarching finding that students do feel that the required English courses develop their oral and writing skills, but those skills are not being enforced to a strong degree in their major courses. This finding raises several questions regarding the ineffectiveness of communication between the two disciplines: English and Engineering. Both disciplines should be working together to ensure the desired outcome in terms of student achievement.

The data revealed that a large majority of this population speak Arabic more than English or French, on a day-to-day basis (Fig. 1). Interestingly, Fig. 1 also reveals that despite 78% of the respondents reporting that they went to French medium schools prior to their university experience, only 2% of the population report speaking French and 10% report that English is the language they speak most.

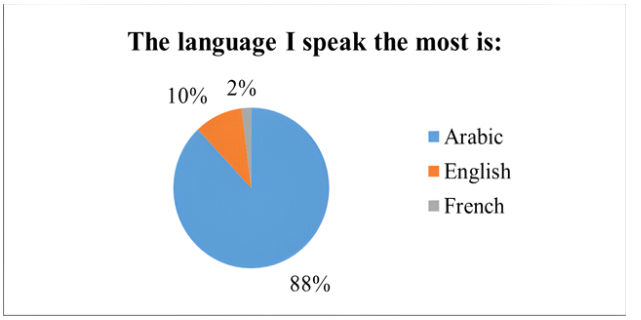

Fig. 1. Language Most Spoken by Participants

When asked which language they prefer to speak with their friends outside of the classroom, more of the ENGL203 level students report a preference for speaking Arabic with their friends whereas an equal majority of students in the more advanced class, ENGL204, report a preference for mixing English and Arabic when speaking with their peers outside of class (Fig. 2 below). This is an interesting finding to note as it could indicate that as students' progress through 203 and then 204, they develop more comfort and confidence in the English language. A conclusion can thus be drawn that the two university required English courses provide students with effective opportunities to develop their language skills in such a way that they recognize, both consciously and subconsciously, that their skills have improved and they therefore choose to use that language with more frequency than when they began their university journey.

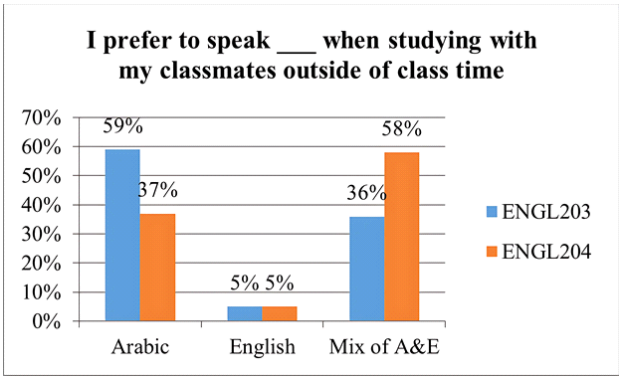

Fig. 2 : Language preference outside of class

Despite the preference of ENGL203 students speaking Arabic with their friends outside of class, more than half of them indicate that they choose to speak English with their professors (Fig. 3). Similar to the trend observed in Fig. 2, Fig. 3 reveals data that suggests that as these students gained maturity and increased knowledge in their engineering major, an increased majority prefer to speak English with their professors, see Fig. 3. An inference can be made that with maturity and increased awareness of the looming professional career, these engineering students elect to use the English language in their academic work with their professors. A noteworthy minority, 32.5% of the total population, prefer to mix Arabic and English when talking with their professors. Lebanon is well-known for creating a unique vernacular that juxtaposes the three widely spoken languages (Arabic, French, English) into one dialect. The famous expression that can even be found on merchandise is 'Hi, keefak? ca va?' (Hi, how are you? Good? Mixing all three languages). Therefore, the desire to mix Arabic and English is likely because that is the vernacular of the younger generation more than any insecurity in English that might be inaccurately inferred.

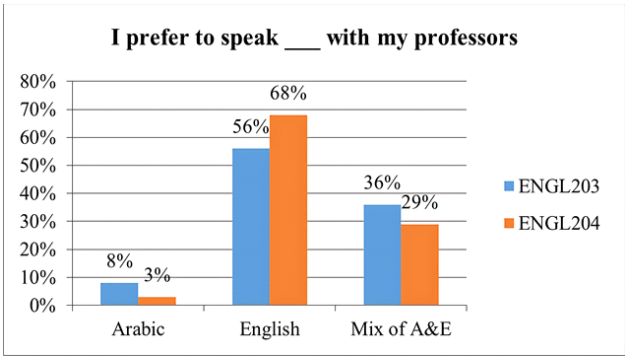

Fig. 3 : Preference of language used with professors

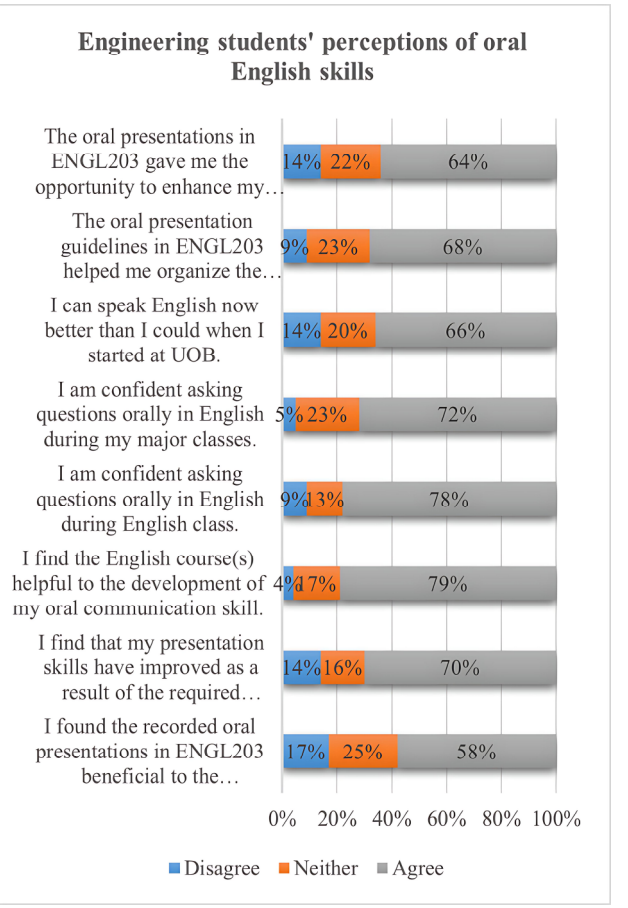

Fig. 4 : Students' Perceptions of Their Oral Language Skills

The majority of this cohort perceives that their English oral communication skills have improved as a result of the ENGL203 course (the first of the required 2 English courses). In addition, they have confidence in their oral ability in English. A notable majority credits ENGL203 with enhancing their oral communication skill with 79% agreeing to the statement (statement 6) stating that their oral communication ability has been developed in ENGL203 and 70% indicating that their presentation skills have improved as a result of this course (see Fig. 4). ABET includes oral communication in the standard that addresses the ability to communicate effectively as one of the soft skills all engineering students should cultivate.

Conversely, the data reveals that the use of the English language in the foundational engineering classes is a less focused concern (Fig. 5). That may seem logical given that engineering courses are not language oriented courses; however, in an English as a foreign language (EFL) context with students acquiring English as a second and even third language

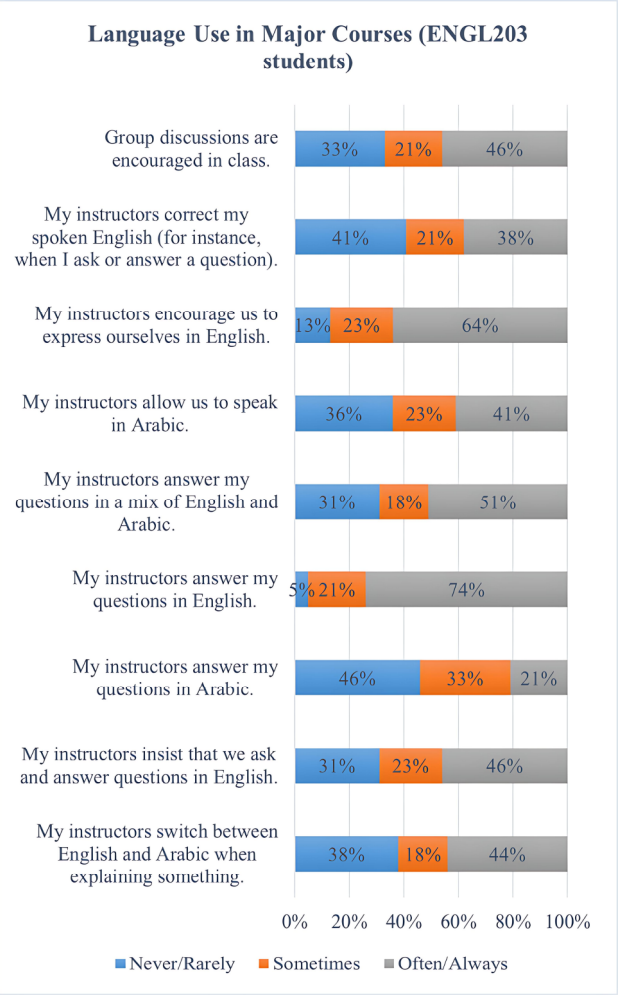

Fig. 5 : Language Use in Students' Major Courses Engl203 Students

(78% of this cohort is French educated), then the data needs to be viewed through a different lens. Given the ABET criterion of effective communication discussed above as well as the link between employability, as well as earning potential, and communicative ability in the English Language (Azad & Fahmida, 2024; Wu et al., 2023; Kamlun et al., 2020; Roshid & Chowdhury, 2013) also discussed above, it can be strongly argued that language acquisition needs to be a focal point in conjunction with content knowledge acquisition in these foundational engineering courses.

As depicted in Fig. 5, 41% answered 'often' to the statement 'My instructors allow us to speak in Arabic' (statement 4). That is a very large number of engineering instructors who have chosen not to focus on English language acquisition. That statement also generated 23% answering 'sometimes' bringing the incidence of Arabic being spoken in the engineering classrooms higher. The communicative mix of Arabic and English discussed above (Fig. 2) is present with 51% of the population reporting that their instructors use a mix of the two languages (Fig. 5). However, a large percentage, 74%, report that the instructors answer questions in English. Modeling the language, especially in the discipline, i.e. using code words and discipline specific jargon, is critical for young apprentices in the field to hear how certain vocabulary is used in their field of study (Hyland, 2009). It is noteworthy that well over half (64%) of the students surveyed report that their instructors in fact do encourage them to express themselves in English (statement 3). While it appears that there is an effort made by some instructors to encourage students to practice their oral English skills (as evidenced by the results of statement 3), the answers students provided to statement 2 reveals a potential hesitance on the part of instructors to correct any language errors their students make when speaking English in class.

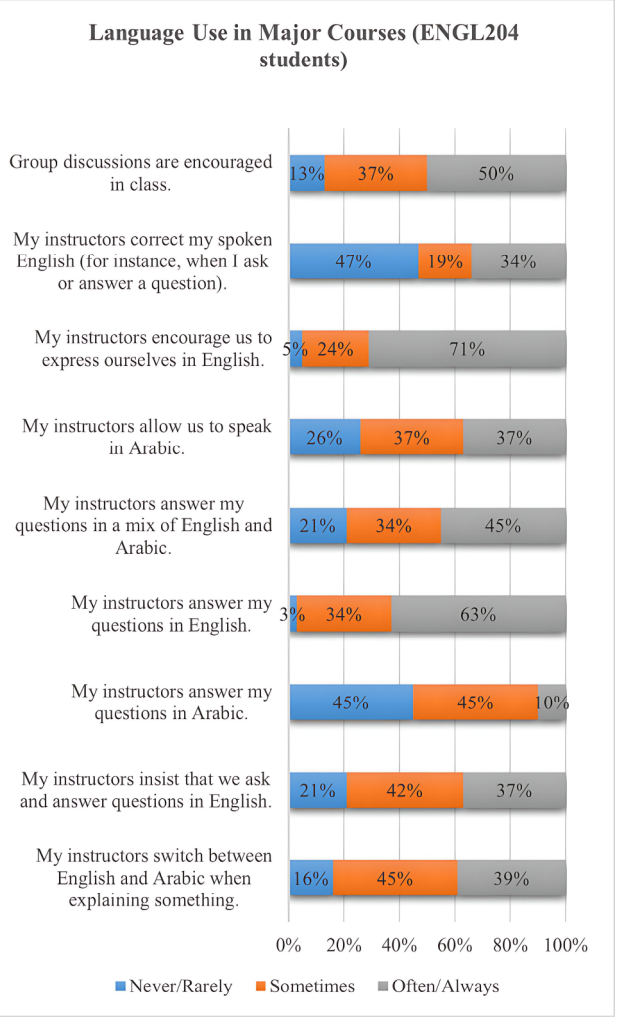

Fig. 6 : Language Usei in the Major Courses Engl204 Students

The students in the second required English course (ENGL204) answered this construct in a very similar way (see Fig. 6 below). For both cohorts (ENGL203 & ENGL204 students) the statements that received the highest percentage of often/always are: My instructors encourage us to express ourselves in English (statement 3) and My instructors answer my questions in English (statement 6). A conclusion that can be drawn is that even if language is not a focal point in these courses, English is being modeled in the engineering courses to the benefit of the engineering students for whom English is a second or even third language.

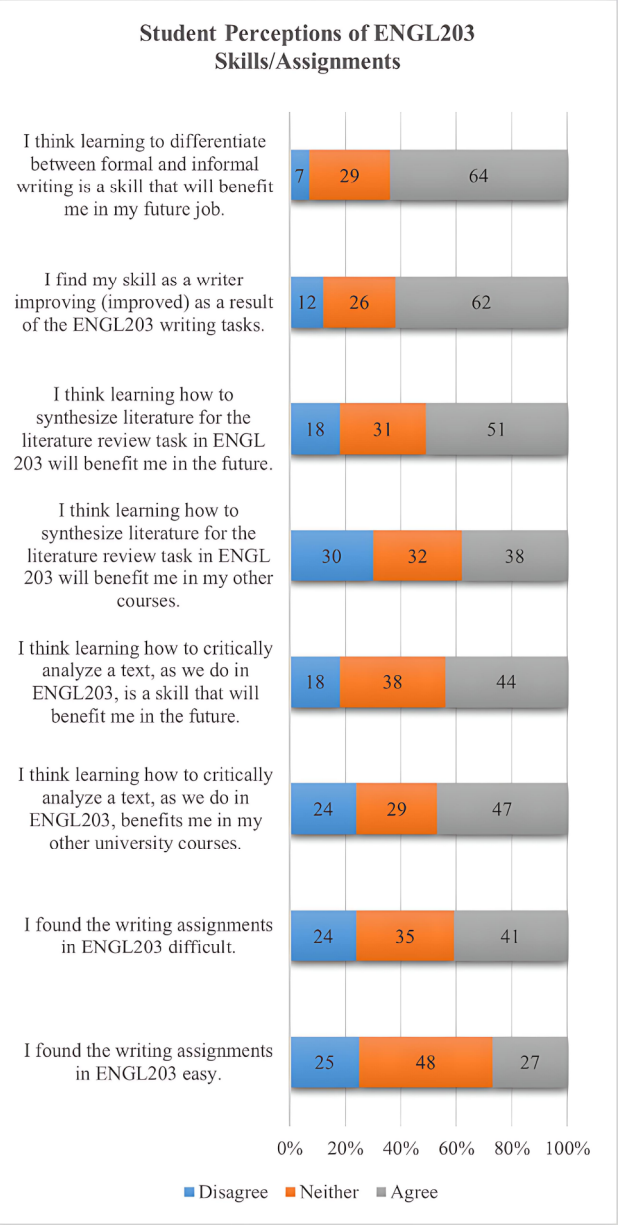

Fig. 7 : Entire Cohort's Perceptions of the Communication Tasks in Engl203

As we pointed out previously, the ENGL203 course is the pre-requisite for the second required English course (ENGL204) that these students take. On the survey, all participants from both courses were presented with a series of statements to respond to concerning ENGL203. The data from these statements are presented in Fig. 7 and an interpretation of the data is supplied below the Fig. 7.

The syllabus for ENGL203 focuses on the skills of analysis and synthesis and orients students to the idea of writing being different for different audiences and purposes. The study participants were asked to indicate their perceptions of the ENGL203 assignments and of the specific learning outcomes. A result of particular note is the percentage of students who are not sure if learning to analyze and synthesize, as well as the other skills fostered in this course, are beneficial to other courses they take or to their future profession. Approximately a third of the population answered in this uncertain category for all statements (Fig. 7). Students need help to transfer skills and knowledge from one situation to another. Unfortunately, the idea of academic tribes with a different knowledge territory (Becher & Trowler, 2001) is very entrenched at this institution (Annous & Nicolas, 2014). Consequently, the engineering professors are oblivious to the skills students are introduced to in the required English courses and even though ABET accreditation includes a communication outcome, the School of Engineering and the Department of English are not in communication concerning what skills are needed and what skills are introduced and practiced in the English courses. This reality is clearly reflected in the data displayed above.

Table 1 below presents the mean score for each of the statements presented in Figure 7. The three answer choices (Disagree, Neither, Agree) were coded as 1, 2, and 3 respectively. The score for the entire scale is 2.27, indicating an overall neutral perception on the part of the students regarding the various skills they learn in ENGL203 and the importance of those skills. However, as Table 1 shows, the first two statements have a score that indicates agreement from the majority of the entire cohort of students under investigation - 203 and 204 students. An inference that can be drawn from this finding is that the course objective of highlighting the different characteristics of writing for a particular intended audience has been achieved in the majority. It could also be deduced that the concept of formal versus informal communication

Table I :
Mean Scores of the Likert Scale Measuring Students' Perceptions of Engl203 Skill Importance

Statement	Mean Score
I think learning to differentiate between formal and informal writing is a skill that will benefit me in my future job.	2.57
I find my skill as a writer improving (improved) as a result of the ENGL203 writing tasks.	2.5
I think learning how to synthesize literature for the literature review task in ENGL 203 will benefit me in the future.	2.33
I think learning how to synthesize literature for the literature review task in ENGL 203 will benefit me in my other courses.	2.08
I think learning how to critically analyze a text, as we do in ENGL203, is a skill that will benefit me in the future.	2.26
I think learning how to critically analyze a text, as we do in ENGL203, benefits me in my other university courses.	2.23
I found the writing assignments in ENGL203 difficult.	2.17
I found the writing assignments in ENGL203 easy.	2.02
Mean score for the entire scale is 2.27	

is being reinforced in the engineering courses to some degree. Students' awareness of this key concept emphasized in the required English courses seemingly supports the point stressed throughout this paper that these students will likely be aiming for international employment.

The student participants were asked to indicate how frequently they were required to engage in or produce certain communication type activities or assignments. The list displayed in Fig. 8 below was compiled based on what ABET requires as well as assignments these students produce in the two required English courses. The first finding of note is the data generated from statements 3 and 4 – We are instructed to use major-specific vocabulary in our assignments and We learn vocabulary terms that are specific to our major. Only 11% of those surveyed say they "never/rarely" are taught vocabulary terms specific to their major. Therefore, we concluded that the engineering instructors do present their students with terms that are specific to their major. However, when it comes to being explicitly instructed to use those major-specific terms, the data reveals that guidance in the use of discipline specific vocabulary does not frequently occur. Without explicit instruction and guidance in how and when to use discipline

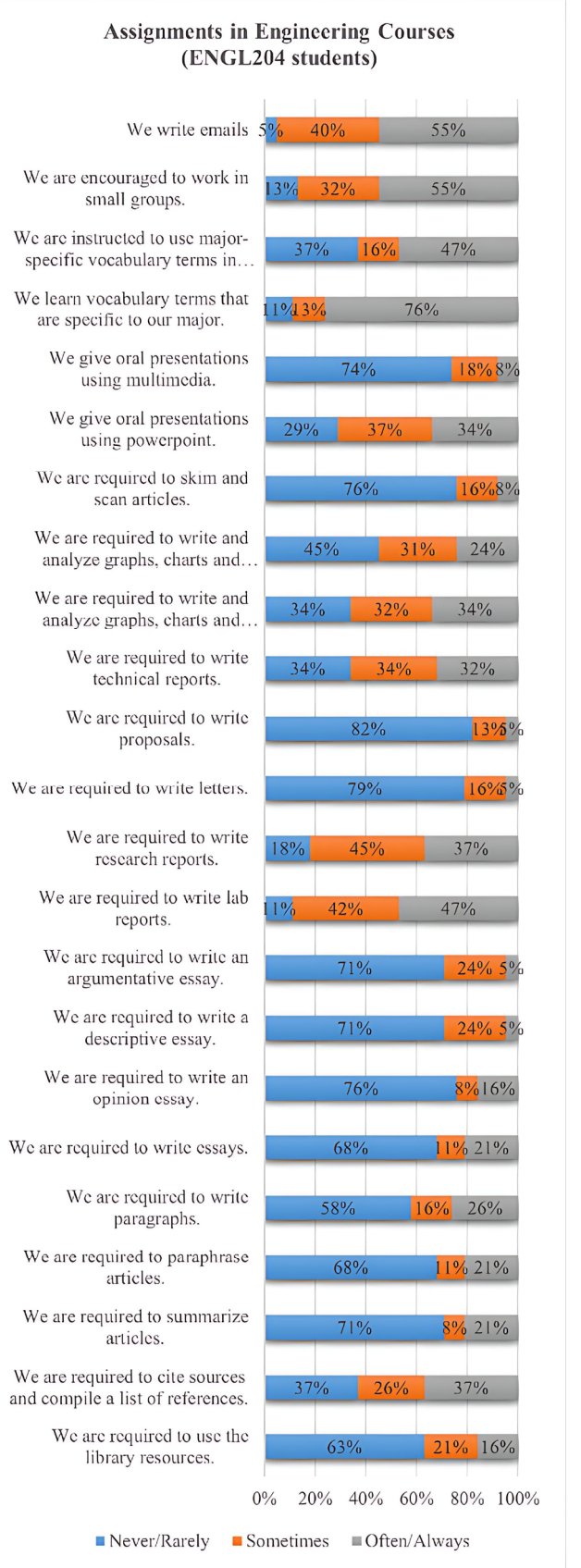

Fig. 8 : Assignments Requiring Communication

specific vocabulary that the various disciplines favor or require, such as the use of appropriate reporting verbs, for example (Hyland, 2009), engineering students in an English as a second or foreign language environment are at a disadvantage.

One of the student outcomes that ABET evaluates is whether or not programs foster effective communication in students learning the discipline of engineering. The communication outcome stresses effective communication in a variety of professional contexts. Any meaningful interpretation of that outcome would include written and oral communication. Therefore, the responses to statements 5 (We give oral presentations using multimedia) and 6 (We give oral presentations using PowerPoint) (Figure 8) reveal that there does not seem to be a focus on oral presentations in the engineering courses. Only 34% of the participants report that they often/always are required to prepare and present PowerPoint presentations in their engineering courses.

A strong majority (82%) of the surveyed engineering students report that they never/rarely are required to write proposals (statement 11); 13% indicate that sometimes this is required, and only 5%, representing just a few students, claim this is a requirement often/always. Students at this institution develop the skill of synthesis in ENGL203 as they are required to produce a literature review. Students are guided through the process of producing a literature review step by step, beginning with producing a synthesis matrix after analyzing five different articles on a topic. According to the curriculum map the C&R Sequence follows, the skill of synthesis is reinforced in the ENGL204 courses. Synthesis is a skill that would be used in proposal writing and proposal writing is a typical task an engineer in the field would need to be able to produce. Similarly, statements 20 (We are required to paraphrase articles) and 21 (We are required to summarize articles) express actions that students routinely participate in throughout the two required English courses. Engineering instructors would not have to "teach" their students how to paraphrase and summarize; they merely have to provide them with their field specific material and require that they continue to practice those skills. However, 68% (statement 20) and 71% (statement 21) of the students report that they are never/rarely required to paraphrase or summarize.

Statements 13 (We are required to write research reports) and 14 (We are required to write lab reports) were included as these types of assignments should be standard in engineering courses (Ronesi, 2017). The data reveals that students are required to produce this kind of work. However, in both cases, less than half of the participants (37% and 47%) report that they are often or always required to write research reports and lab reports; 45% and 42% indicate that these are sometimes required. These results appear to somewhat contradict the results referred to in the previous paragraph in which students reported overwhelmingly that they do not paraphrase and summarize articles. In order to write a research report, it would be necessary to have read, summarized, and paraphrased a number of articles. It could be that engineering instructors do not explicitly inform their students that they will be assessed on their ability to paraphrase and summarize effectively, thus, the students do not think these are skills that are being developed in their major courses.

Conclusion

The findings from this study suggest that engineering professors at this institution are modeling the English language, even at times encouraging students to ask questions and participate in discussions in English, but not assisting students in transferring higher order skills such as synthesis, summary, and paraphrasing which would be required during any kind of text analysis. Nor does there appear to be any importance placed on oral communication in the discipline in the form of presentations where students would need to use discipline specific jargon. This lack of explicit guidance in transferring communication skills introduced and practiced in the English courses, makes producing links between what goes on in English courses with what goes on in engineering courses implicit at best or left up to the more perceptive and studious students who may make the connections on their own.

The accrediting body of ABET makes communication in the discipline an outcome, implying their awareness of the critical link between the two disciplines. This implication places the onus on the subject specific instructor to introduce and reinforce discipline specific jargon to enhance students' communication skills. Further, the implication should encourage better communication between the School of Engineering and the Department of English. In addition to the ABET emphasis on communication, the literature also

stresses the need for enhancing the development of English language skills in the program of study to support increased employability (John, et al., 2021; Kamlun et al., 2020; Roshid & Chowdhury, 2013; Wu et al., 2023) as well as enhanced learning potential (Waluyo & Panmei, 2021) The literature also highlights an observation that students from the Arab world commonly lack linguistic preparation for tertiary work (Khan, 2011), much less for eventual employment. The findings from this study would corroborate the literature in these two regards.

What appears to be unawareness on the part of engineering professors concerning the communication skills students learn and develop in the required English courses, may actually be an issue of a lack of mechanisms at this institution that would facilitate interdisciplinary cooperation between discipline experts and composition and communication experts. This finding is further revealed in other research conducted at this institution (Annous & Nicolas, 2015; Nicolas & Annous, 2021). Interdisciplinary partnerships would create a more comprehensive and effective strategy to address not only ABET standards, but also to enhance the employability of these students. A generalization can be asserted from this data, - any institution that lacks interdisciplinary communication systems, will suffer from reduced student outcomes in key areas needed for employability as well as for career success.

The ultimate finding to emerge from this study is one that could be applicable to any English medium university, particularly one functioning in an English as a foreign language context. The lack of communication between the School of Engineering and the Department of English highlighted in the findings, results in serendipitous or implicit English language skill transfer. The need for explicit communication among and across disciplines is important learning for all English medium institutions. In order to meet accreditation bodies' criteria, disciplines need to work together. The advent of accreditation with its emphasis on multidisciplinarity should conclusively break down the traditional silos of knowledge once and for all (Becher & Trowler, 2001). Institutions that aspire to acquiring the medallion of accreditation need to heed the criteria for which the medallion represents. Equivalently, accrediting bodies need to highlight what specific criteria would serve as evidence that an objective is met – the communication objective in this case. The data from this study reveals that the majority of students perceive the two required English courses as being beneficial for their future aspirations as well as their academic careers. As articulated above, support structures and mechanisms that would facilitate communication across departments are not established at this institution. It is a paradoxical situation that a more complete acquisition of communication skills for engineering students is being hindered by a lack of communication between their home department and the department of English.

Limitations And Recommendations

While the learning from this study was certainly insightful for the target institution, the learning is incomplete without the voices of the professors and without observation of how language, and specifically writing skills, are used in the engineering courses. The researchers were not granted access to the Engineering school at the time this data was collected so these other modes of data gathering were not possible at the time. Nevertheless, the voices of the students are powerful and meaningful. Given this limitation, the most obvious recommendation to emerge from this study is that a follow-up study be conducted whereby the Engineering school is thoroughly investigated in order to make data informed decisions concerning the delivery of the programs, and how communication skills can be integrated into the course delivery, in this, and other, English medium institutions of higher learning functioning in an English as a foreign or second language context.

References

Annous, S., & Nicolas, M.O. (2015). Academic territorial borders: A look at the writing ethos in business courses in an environment in which English Is a foreign language. Journal of Business and Technical Communication, 29 (1), 93-111.

Azad, P.,& Fahmida, M.V., (2024). Impact of English Language Proficiency on the Wage Returns of Kerala Migrant Workers in Gulf Countries. Indian Journal of Labour Economics, https://doi.org/10.1007/s41027-024-00509-1

Bazerman, C. (1988). Shaping Written Knowledge: the genre and activity of the experimental article in science. Madison: University of Wisconsin Press.

Becher, T., & Trowler, P. R. (2001). Academic tribes and territories: Intellectual enquiry and the culture of disciplines (2nd ed). Buckingham, England: SRHE and Open University Press.

CEF (2022). Cambridge Employability Framework. Cambridge University Press & Assessment.The-Cambridge-Employability-Framework-_-gen.pdf

Felder, R.M., & Brent, R. (2003). Designing and teaching courses to satisfy the ABET Engineering criteria. Journal of Engineering Education, 92(1), 7–25.

Hesse, C.A., & Ofosu J.B. (2017). Statistical Methods for the Social Sciences, Akrong Publications. Available at https://www.jsscacs.edu.in/sites/default/files/Files/STATISTICAL_METHODS_FOR_THE_SOCIAL_Academia.pdf

Hyland, K. (2009). Writing in the disciplines: Research evidence for specificity. Taiwan International ESP Journal, 1, 5–22.

John, S., Gurario, S., & Halepota, J. A. (2021). The Role of English Language Skills in Career Growth: A Study of Perceptions and Strategies Used to Improve English Language Skills by Graduate and Undergraduate Students of Karachi, Pakistan. Global Social Sciences Review, VI(I), 346-355.

Joseph, J. (2013). Signs of belonging: Culture, identity and the English language. In Perspectives on English in the Middle East and North Africa (pp. 53–72). London, England: British Council.

Kamlun, K., Jawing, E., & Bin Abdullah Gansau, J. (2020). Exploring Graduate Employability in Relation to Their English Language Proficiency: A Preliminary Study. MANU Jurnal Pusat Penataran Ilmu Dan Bahasa (PPIB) 31 (2), 245-255.

Kadam, D. M., & Pusawale, S. N. (2023). Task Based Approach: An Approach to Develop Writing Skills in English of Engineering Students Leads to Effective Communication Skills. Journal of Engineering Education Transformations, 37(1), 62–69.

Khan, I.A. (2011). Challenges of teaching/learning English and Management. Global Journal of Human Social Science, 11(8) ONLINE SSN 2249-460X.

Lebanon Economic Monitor (2021). World Bank. Lebanon Economic Monitor (worldbank.org) Lin, T., & Lei, J. (2021). English-Medium Instruction and

Content Learning in Higher Education: Effects of Medium of Instruction, English Proficiency, and Academic Ability. Sage Open, 11(4). https://doi.org/10.1177/21582440211061533

Mali, M.S. & Mandke, V.V. (2005). Globalisation Link: Industry-Engineering Education-Research. Journal of Engineering Education Transformations, 19 (2) 47-49.

Minkara, H. (2013). English in our lives: A Lebanon perspective. In H. McIlwraith (Ed.), Perspectives on English in the Middle East and North Africa (pp. 91–124). London, England: British Council.

Nicolas, M.O., & Annous, S. (2021). The Realities of English Medium Instruction in Lebanon: Teachers' and Students' Perceptions of the Place of English Communication Skills in a Cultural Studies Program. Journal of English as an International Language, 16 (1), 10-24.

Orr, M. & Annous, S. (2018). There is No Alternative! Student Perceptions of Learning in a Second Language in Lebanon. Journal of Language and Education, 4(1), 79-91 DOI: https://doi.org/10.17323/2411-7390-2018-4-1-79-91

Pawar, P. N., Yadav, S. N., & Lohar, R. R. (2022). Computer-Aided Teaching and Assessment of Reading Skills in English as a Second Language. Journal of Engineering Education Transformations, 36(special issue 2), 380–384.

Prescott, D., El-Sakran, T., Albasha, L., Aloul, F., & Al-Assaf, Y. (2011). Engineering communication interface: An engineering multi-disciplinary project. US-China Education Review, A (7), 936–945.

Rana, S. & Shaikh, R. (2024). The Role of English Speaking- Skills in Career Progression: A Case Study among Sudanese Undergraduate EFL

Students. World Journal of English Language, 14 (2), 349-357.

Riemer, M.J. (2007). Communication Skills for the 21st Century Engineer. Global Journal of Engineering Education, 11, 1, 89-100.

Ronesi, L. (2017). The Engineering of a Writing Assignment: Optimizing the Research Paper in an Introductory Chemical Engineering Course in the United Arab Emirates. D. Bairaktarova, M. Eodice (eds.), Creative Ways of Knowing in Engineering, DOI 10.1007/978-3-319-49352-7_5 (121-150).

Roshid, M.M., & Chowdhury, R. (2013). English language proficiency and employment: A case study of Bangladeshi graduates in Australian employment market. Mevlana International Journal of Education (MIJE) 3(1) 68-81.

Shinge, J., Aigol, N., Olagundi, K., Rebello, C., & Maralappanavar, G. (2024). Inducing Imitation Technique as a skill to acquire English Language Proficiency of Engineering Students. Journal of Engineering Education Transformations, 37(Special Issue 2), 362–368.

Tainer, E. (1988). English language proficiency and the determination of earnings among foreign born men. The Journal of Human Resources, 23 (1), 108-122.

Vanaja Reddy, G., Nagamalla, L., & Kaur, G. (2024). Attuning digital pedagogy into English Language to empower graduating Engineers. Journal of Engineering Education Transformations, 37(Special Issue 2), 406–413.

Waluyo, B. & Panmei, B. (2021). English proficiency and academic achievement: Can students' grades in English courses predict their academic achievement, MEXTESOL Journal, 45 (4), 1-10.

Wu, Y., Xu, L., & Philbin, S.P. (2023). Evaluating the Role of the Communication Skills of Engineering Students on Employability According to the Outcome-Based Education (OBE) Theory. Sustainability, 15 (12), 9711 https://doi.org/10.3390/su15129711