Journal of Excellence in Social Sciences (2024) 3(3):128–146
ISSN (E): 2755-3876

Evaluating the Writing and Communication Skills Course: Insights from ESP Best Practices and Needs Analysis of Undergraduate Students and English Language Teachers

Ghulam Saqib Buriro[1]

Rafique Ahmed Memon[2]

Inayatullah Kakepoto[3]

How to cite this article:

Buriro, G. S., Memon, R. A., & Kakepoto, I. (2024). Evaluating the writing and communication skills course: Insights from ESP best practices and needs analysis of undergraduate students and English language teachers. *Journal of Excellence in Social Sciences*, 3(3), 128–146.

Received: 3 June 2024 / Accepted: 12 July 2024 / Published online: 12 August 2024

Abstract

The purpose of this study is to evaluate the Writing and Communication Skills (WCS) course at the Quaid-E-Awam University of Engineering, Science and Technology (QUEST) in Pakistan, assessing its alignment with the academic and professional needs of undergraduate engineering students and best practices in English for Specific Purposes (ESP). A descriptive and interpretative investigation using a small sample from 60 final-year male engineering students and four English lecturers at QUEST (English Language Centre). The data were gathered by an extensive questionnaire including a Likert scale (quantitative) and open-ended questions (qualitative) and related documents of QUEST and other similar engineering university curricula. SPSS was used to analyze quantitative data, while qualitative data were analyzed thematically. The results show a big discrepancy between the WCM as it is being practiced now and what engineering students require linguistically, reflecting inadequate ESP principles in curricular design accounting. This further reflects on the ESP courses claiming to be tailored for engineering students and suggests a need for modification in such a manner from future ESP course curriculum developers.

Keywords: Writing and Communication Skills, English for Specific Purposes, Needs Analysis, Undergraduate Engineering Students, Curriculum Evaluation, Pakistan

1 Introduction

[1]University of Sindh Jamshoro, Sindh, Pakistan
Corresponding Author: gs.buriro@usindh.edu.pk
[2]University of Sindh Jamshoro, Sindh, Pakistan
[3]University of Engineering Science and Technology Nawab shah, Sindh, Pakistan.

ESP (English for Specific Purposes) courses are critical in higher education, equipping students with the language skills required to excel in their fields (Alshayban, 2022). The course of Writing and Communication Skills (WCS) for undergraduates in Engineering at the Quaid-E-Awam University of Engineering, Science and Technology (QUEST), Pakistan, is studied here (Buriro et al., 2013). ESP courses like WCS are valuable for developing language skills and communication abilities necessary to succeed in engineering studies and professional practice. (Buriro & Soomro, 2013; Smith et al., 2022).

Engineering education, in order to be successful, needs both a strong academic base and an eloquent designing and networking (Winberg et al., 2020). Educational institutions should constantly be comparing what a university is offering with the institutional needs of where recent graduates are likely to work (McCallen & Johnson, 2020). The literature reveals that educators who integrate content knowledge in teaching profession-specific language empower students to function effectively in both their discourse communities and local hospital settings, thereby promoting the value of ESP courses. (Jitpanich et al., 2022; Mao & Zhou, 2024; Ruggiero, 2022). The WCS team at QUEST is responsible for a first-year course, part of the engineering undergraduate curriculum, that includes lectures and assessments focused on theory-based communication literacy targets in conjunction with hands-on strategies to support various forms of engineering communication (Ahmed et al., 2023). Although it is structured, the organization and phrasing of ideas should accommodate a variety of ways fluent students use language in academic purposes.

This report provides an in-depth needs assessment for the content of a WCS course and its alignment with what QUEST undergraduate engineering students were expected to learn. This research systematically investigates ESP course materials, student evaluations, and international best practices to discover the mismatches between what is currently offered by the curriculum of programs being taught with students' high academic/professional needs. This research aims to contribute to a better discussion on curriculum enhancement and optimization, particularly in engineering-oriented ESP classes, so they are more adequate for students' requirements.

1.1 Objectives

This study aims to assess the effectiveness and appropriateness of the English for Academic Purpose (EAP) WCS course at the Quaid-E-Awam University of Engineering, Science and Technology (QUEST) and its alignment with academic or professional language needs in best practices in ESP among undergraduate engineering students.

1. To evaluate current WCS course content and methodology at QUEST in the light of language needs-profiles for final year students (corpus-based findings), currently identified trends that may be related to ESP principles
2. To compare the WCS course at QUEST to courses of a similar type deployed in other Pakistani engineering universities and some international institutions and make suggestions for improving curriculum design that better addresses specific learning requirements common among this group.

2 Literature Review

As for the global academic community, courses of English for Specific Purposes (ESP) are getting more and more acknowledgments as a necessary form owing to specific language, cultural, and literacy requirements in particular fields (Boroujeni & Fard, 2013; Smith et al., 2022). In an age where English uses not just linguistic ability but discipline-specific interaction abilities, and worldwide connection is possible through innovation worldwide for trainees getting involved in this international network, ESP courses are necessary (Muhammad & Raof, 2020). In ESP, particular attention is paid to integrating language skills with content knowledge for students to acquire academic and professional discursive competence. The integration also includes

necessities in the designs of ESP courses, specifically task-based learning, content-based instruction, and needs analysis (Mao & Zhou, 2024; Sukying et al., 2023). This will help refine the language curriculum by focusing on what students specifically need and where; needs analysis is key when determining which language requirements are needed inside their disciplines. ESP courses offer a way to develop professional communication skills academically by adjusting course content and instructional methods according to the learners' personal preferences and personalities (Ahmed et al., 2023; Le et al., 2021).

Their importance is further confirmed by their results as the courses successfully enabled students to feel comfortable and deliver in a specific field, bridging learning English, especially ESL, with its professional applications using ESP (Astutuk, 2022). This is even more so for students from bilingual contexts where proficiency of English language tools at an academic and professional level is observed to be very pertinent (Farea & Singh, 2024; Wróblewski & Petrenko, 2021). ESP programs are imperatives mainly in Asia, including Thailand and Pakistan, at the collegiate level, especially in nursing staff studies courses (Buriro & Soomro, 2013; Jitpanich et al., 2022).

More recently published research also contributes to our understanding of ESP methodological approaches. For example, Dewi et al. (2023) state that in ESP classes, task-based methodology prepares engineering students for real-life professional situations by improving their practical communication skills. Additionally, content-based instruction, in which subject matter teaching is combined with language learning, has also been found to enhance students' language proficiency and conceptual understanding of the curricula simultaneously (Snow & Brinton, 2023; Stefanova, 2023). A study focusing on academic literacy and learning needs of undergraduate students in engineering education in Pakistan reveals the need for ESP courses, including the WCS course at the Quaid-E-Awam University of Engineering, Science & Technology (QUEST) (Buriro & Soomro 2013). A WCS course at QUEST was not informed by ESP best practices as an analysis of needs amongst engineering students revealed a mismatch between the curriculum and academic/professional requirements (Ahmed et al., 2023).

These studies have been informative, but they also point to major gaps. Although several studies suggest ESP as a key to success, at the same time, these articles do not offer methodologies promptly for teaching English in engineering contexts (Ahmed et al., 2023; Sukying et al., 2023). They notice the central role of needs analysis but do not specify how to fulfill these requirements for engineering contexts. While Farea and Singh (2024) also present the fact that ESP can improve confidence and performance, the article lacks practical applications relevant to engineering students. Additionally, most of the studies (Jitpanich et al., 2022; Mao & Zhou, 2024) analyze the basic ESP principles without getting to such particular challenges as discipline specificity. The concept of loosely organized usage tasks ignores the complex language demands and communicative skills necessary in technical professions like engineering. This present study seeks to address these gaps by offering a general needs analysis for an engineering student population at QUEST, combined with personalized ESP techniques to meet their academic and professional requirements.

The WCS course will be examined in QUEST to determine if its objectives have been specifically designed in alignment with engineering-specific language and communication student learning outcomes. This approach leverages empirical evidence and best practices from worldwide ESP implementations (in the methodologies of task-based learning and content-based instruction) to develop a model for optimizing undergraduate engineering education through integrating an applied skills curriculum within QUEST at its inception. These results, partly consistent with prior studies (Dou, 2024; Stefanova, 2023), will be useful in promoting ESP teaching to better meet the needs of engineering students living and working internationally. It offers not only a solution towards the mentioned needs and demonstrates them being addressed individually one by one but also serves as an umbrella model; hence, in brief, it can work throughout other institutions where

ESP courses are aimed to be improved for engineering passage.

3 Methodology

A small-scale interpretive descriptive study was designed to gain insight into the experiences and needs of participants at the Quaid-E-Awam University of Engineering, Science and Technology (QUEST). The subject's sixty final-year male undergraduate engineering students and four English lecturers of the university's (ELC) volunteered to participate in this study. The research included data from various sources, such as student and teacher questionnaires (developed by the authors) and examining curriculum documents.

It primarily surveyed the students and teachers, using objective (quantitative) and subjective value-based questions to explore their internal experiences (Dudley-Evans & St. John 1987; Hutchison & Waters, 1987; Long, 2005). A task and text types checklist were developed to cover the maximum number of words about reliability measures for which students are expected. This checklist aimed to assess the extent of adaptation made in the WCS course at QUEST and first-year students' needs met, and it also examined focusing practices as best practices for ESP. Convenience sampling ensured that the participants who were available and willing to donate in this case study were detected. The university authorities and the participants gave consent to answer questions. The questionnaires were designed to be pilot tests with a smaller group of students as well as teachers in order for them to make changes that they considered rare and significant, and then the questions became clearer.

The methods of data analysis were well described and beyond reprove. We summarized quantitative data from Likert scale responses with descriptive statistics and characterized the central tendencies and dispersion of responses. Content analysis was used for open-ended, qualitative data. It included coding of responses in order to track repeated themes and patterns. The analytic process used thematic analysis to identify common themes within the qualitative data for both the experiences and needs of former youth in care. Other than questionnaire data, the study used documents of syllabi and textbooks to identify how far they are in complying with believers of ESP principles that students and teachers stated. The cross-verification of data sources enabled a detailed review to be conducted for the WCS course evaluation in terms of its academic and professional suitability as per undergraduate engineering students at QUEST.

4 Data Analysis and Results

Evaluation of the Writing and Communication Skills Course

The second research question explored the extent to which the Writing and Communication Skills (WCS) course taught by ELC teachers met the academic literacy and learning needs of undergraduate students of QUEST.

4.1 Student-participants' views about the WCS course

Comments about Research Question Two were based upon the responses in percentages to the last two levels on the scale for each item: "Agree" (A) and "Strongly Agree (SA)". Percentage distributions of the student's responses for each of the 11 (9-21) items on the Likert scale for Research Question Two can be seen in Appendix P. In addition, tabulated percentages of students' responses to combined categories of "Agree" (A) and "Strongly Agree (SA)" are shown in Table 1.

Table 1: Items on students' assessment of the WCS course

Item No	Assessment of the WCS course	Responses to the First Two Levels of value (A and SA) (n=60)	
		Count	Percent
1	The WCS course was helpful for my engineering studies	13	21.6
2	The Writing and Communication Skills (WCS) course at the ELC should focus mainly on improving general academic skills (not just skills that are related to engineering).	19	31.6
3	The WCS course helped me to improve my knowledge of English in the field of engineering.	15	25
4	The Writing and Communication Skills (WCS) course at the ELC should focus mainly on language and skills related to engineering studies.	57	95
5	I prefer WCS teachers to just give us knowledge about English through formal lectures	9	15
6	I prefer participating actively in group and pair tasks in English classes.	53	88.3

Two Levels of value are "Agree" (A) and "Strongly Agree" (SA)

Table 1 shows that most students were dissatisfied with both the content and instructional approaches of the WCS course. Most student-participants disagreed that the course helped them in their engineering studies; however, regarding course content, the students wanted their course to have focused on language skills specific to engineering; however, the course was more focused on general academic literacy skills. A large number of participants (57/95%) expected the WCS course to have contained topics on language-related skills that could have helped them in their engineering studies. Regarding the instructional approaches, students saw little value in the traditional approach courses followed in teaching language skills. On the other hand, many participants (53/88.3%) showed a great desire to participate in group or pair tasks, a fundamental feature of the communicative approach to language teaching, which is the optimum approach for an ESP course.

Three open-ended items gave students the opportunity to make more detailed answers. They commented on the course content and instructional approaches of the WCS course. In item 1, students were asked to point out the parts of the course that helped them meet their academic literacy and learning needs as engineers. Fifty-three (88.3%) of the students regarded the contents and methodology for the listening and speaking skills part of the course as the most helpful parts for them in their engineering studies, while reading and writing were seen as less helpful regarding their content and instructional approach. In their comments on which parts (contents and methodology) students considered helpful in listening and speaking skills, one student wrote:

".....listening for gist and detail comprehension was of great help……I liked listening to audio tapes in the audio lab of ELC; practicing listening to the conversations of native speakers helped me develop listening for my classes……for speaking skills, we used to watch videos on VCR and CD players from the native English context … I liked the videos on presentation skills and interviews……."

Many students liked the role-plays used by the teachers to practice interviewing and presentation skills. However, some thought practicing interviewing skills in their first year of studies was inappropriate. One of the students was of the view that:

".....although it was quite hard for many students to come before the audience and present, I enjoyed the part of the lecture when the teacher used to ask us to come forward for role-plays to practice interview and presentation skills…mock interview was quite helpful….However, I think it was too early to learn interview skills in the first year… for me, it is important to know more about the interviews now as I am about to finish my studies after this semester. I have forgotten everything that we learned in the first year about interviews…"

The small number of participants who liked the reading and writing components of the course commented favorably on the list of topics for both reading and writing. However, these students seem less happy about the instructional approaches used in the course. One student commented that:

"I liked the list of topics in the syllabus on reading and writing, for example, on reading for details, skimming, scanning, surveying the text…on writing, we had CV writing, letter writing, minutes of meeting. These were good for learning as professional engineers, but these were not taught the way they should be…for example, I know the definition of skimming, but I cannot skim the text…so it was all theory, not practical…."

The second item on the questionnaire asked the student participants to comment on the parts of the WCS course they considered were not helpful in meeting their literacy and professional learning needs. At least 43(66.6%) of the students described aspects of the content of the course, and 49(81.6%) students commented on instructional approaches. Regarding the WCS course's content, most students commented negatively about the distribution of topics of the course. They point out that the course was more focused on the future professional needs of undergraduates rather than meeting their immediate literacy needs in the first year of studies. One student mentioned:

"I think the course included the topics that I need now, in my final year, not in my first year …to learn language skills to help me in future job-hunting needs such as interviewing, CV writing, and job application writing. As we don't have another course in English, we may face a lot of difficulties in the future for these skills…"

Many students criticized the course methodology. Forty-nine (81%) students were of the opinion that handouts for reading and writing skills were neither helpful nor interesting. They were critical of the lack of any textbook for the course. Many of students were not happy with having a traditional paper-based exam, which they believed did not truly assess their abilities in language skills. Regarding the class activities, the majority of students were dissatisfied with the instructor's formal lectures and stated that they would have preferred to have group discussions. In his comments, one student wrote:

"…. I do not feel happy about the handouts we gave; these used to be either borrowed from other universities or downloaded from the internet. in the handouts, there were no examples; only theory was given, which did not help me understand many topics… I think we needed a textbook which includes lot of topics in it…I believe for university students, a three-hour paper-based exam is a waste of time and energy for students in cramming the topics covered throughout the semester. I prefer MCQs instead of lengthy paper…I don't like at all teacher formally delivering a lecture for one hour and students get less chance to participate in discussion….I like a class where students have maximum chance to participate in groups or pairs it's good for learning I think…."

Overall, most students disagreed that the WCS course they took in their first year helped them in their engineering studies or prepared them to get jobs after graduation.

The third and last open-ended item on the questionnaire asked students to suggest improvements they would like to see implemented in the WCS course. A large number of students, 56 (93.3%), suggested improvements to both the content and instructional approach of the WCS course. For example, students suggested increasing the instruction time for the English language course or dividing the current course into two language courses by equally distributing its contents for academic literacy and professional learning skills. They also recommended adopting a reputable textbook. They would have preferred their instructors to teach interactively rather than through traditional lecture-based approaches.

About the assessment criteria of the WCS course, students recommended a new approach that

could truly assess their language skills rather than using traditional paper-based exams. Regarding the classroom activities, students suggested providing more authentic examples to illustrate theories to make language learning more efficient and durable. One student was of the view that:

"…I think one course in English in four years of study is insufficient for an engineer. I, therefore, suggest more English courses or at least one English course may be included in the final year of our study, with one in the first year so that final-year students can get refreshing ideas about communication skills that are required after completion of the degree…."

Another student suggested an alternative to loose handouts and changes in the assessment criteria:

"I believe if handouts are replaced with textbooks containing all the topics for the course, it will help students and also teachers…..my next suggestion is to kindly change the exam pattern, for me, a three-hour theory exam was very stressful…I like multiple option-based exams…"

Another student suggested an instructional approach in these words:

"for me, it is difficult to understand a topic which is told in theory only; I understand the concept better if I am given some examples which can explain to me what the topic is really about…I therefore would suggest to my English lecturers to kindly use more examples and less theory in teaching the difficult concepts of communication skills"

Overall, many participants suggested helpful suggestions for improving the currently taught WCS course, both in terms of its contents and the instructional approach it used.

Students' self-assessment of their current level of English

In their questionnaires, student participants were also asked about their own level of proficiency in academic English. Results are presented in Table 2.

Table 2: Items on students' self-assessment of their current level of English against the WCS course

Item No	Students' self-assessment of their level of English	Responses to the First Two Levels of value (A and SA) (n=60)	
		Count	Percent
1	Looking at my achievements in engineering studies at QUEST, I think I have very good English language knowledge and skills.	19	31.6
2	English language skills are **not** very important for success in engineering studies at QUEST.	3	5
3	English is very important for getting a job as an engineer.	58	96.6
4	If my English were better, I would find my engineering studies easier.	56	93.3

Two Levels of value are "Agree" (A) and "Strongly Agree" (SA)

The results show that many students were not satisfied with their current level of English and regarded it as essential for success in engineering studies at QUEST and for getting a job in the future. They believed that if their skills in English had been better, they would have been more successful in their engineering studies.

4.2 Teacher-participants views about the WCS course

The second data source for answering the second research question on WCS course evaluation was teachers' views collected through open-ended questionnaire items. The responses to the teachers were analyzed qualitatively due to the small number of respondents. Item No. 4 on their questionnaire asked teacher-participants to respond to what extent they believed the WCS course offered through ELC was meeting their students' academic literacy and learning needs. In their comments, all four teachers pointed out that the staffing allocation for the WCS course was inadequate. It was perhaps the reason this teacher believed that too many topics on professional

learning skills had been included in the communication skills course and not enough on academic literacy skills, based on the assumption that students already had good background knowledge of language structures. Insaf was of the opinion that:

"Considering the varying needs of these undergraduate engineering students, it is difficult to predict that WCS course is meeting their needs…As it is the only English course in a four-year program that these students are offered, we, therefore, focus more on future needs than current needs; it is the reason the topics included in the course are more inclined towards future professional needs rather than their current needs…we expect from our students to have sufficient knowledge about the English language…our target is to enable these students to have sufficient skills to get jobs in future.."

Item 5 asked respondents to comment on the instructional approaches they used in teaching the WCS course, including the resources, materials, activities, and tasks. In their responses, teachers pointed out that although their teaching format was predominately lecture-based, they made their lectures communicative by using role-plays, mock meetings, and other similar types of tasks. Inayat responded to the question in these words:

"Although the objective of the course is to make the students communicatively competent both in oral and written forms, the course is more focused on theoretical rather than practical aspects of language. However, the teachers here make utmost efforts to make the course as interactive as possible. For instance, the teachers conduct dummy meetings where students are asked to take minutes; they are made to visit another department and asked to come up with a report based on personal observations; mock interviews are conducted to practice interviews, etc."

Regarding resources and materials, Tariq wrote:

"No specific textbook is used for teaching the students. Instead, we normally use supplementary material and design our own material, with help from multifarious resources like the internet, newspapers, different books on language, etc. These materials are used as handouts, and lectures are delivered via multimedia"

The sixth and last item on the questionnaire asked respondents to suggest improvements in the WCS course. Three teachers suggested increasing the number of English courses from one to at least two to create a balance between literacy and learning skills. However, one teacher believed that before any significant changes were proposed, a comprehensive needs analysis needed to be carried out in all nine engineering departments, involving all fourth-year students and their instructors. Regarding the instructional approach, including resources and activities/tasks, all four teachers suggested that the course WCS would be more effectively taught if the theoretical lectures were made more interactive using a communicative language teaching approach. Mansoor was of the view that the WCS course could be improved if it followed a communicative/ESP approach and if course content took account of the needs of the industries:

"Being predominantly theoretical, the course must be made a little practical. For example, in addition to teaching students about the components of a report or kinds of letters, they should be made to actually write such reports and letters to give them practical expertise. Moreover, students should be introduced to current and contemporary types of communication through letters/reports. There should be liaison between course designers and Industry so that courses can be updated as per the needs of the Engineering Industry."

In his suggestions, Inayat pointed out that the assessment criteria for the WCS course also needed to be changed as they are not an appropriate way to assess the skills of engineering students on a 3-hour paper-based exam. In his words:

"Although the course needs many changes keeping in view the needs and requirements of the

students and their varying needs my first suggestion would be for the improving on the paper-based exam which is the cause of de-motivation among students"

Overall these teachers appeared well aware of the shortcomings of the WCS course and made a lot of helpful suggestions for improvements.

5 Summary

Student and teacher participants' views about the course give an overall impression that the WCS course was actually non-discipline-specific, so it is more EGAP than ESAP. The main instructional approach used in the course was not a communicative or even a functional approach. The majority of students felt that their proficiency level in English was not good enough to meet the literacy and learning needs in their engineering studies and professional lives as engineers. The overall findings of students' and teacher participants' views suggest that the current WCS course needs to be revised in its content and instructional approaches to make it an effective course for engineering students at QUEST.

5.1 Comparative analysis of course documents

The third research question required a comparative analysis of course documents from the WCS and syllabuses and textbooks from local and international contexts, as described in the previous chapter.

5.2 Syllabus document analysis

Syllabus documents were analyzed from two perspectives: content (themes and topics including language skills, grammar, and vocabulary) and instructional approaches (resources, assessment criteria, tasks, and activities). Syllabus documents were examined to see if the courses offered in QUEST and two other engineering universities in Pakistan followed standard principles of ESP in engineering contexts or if they mainly focused on teaching English for Academic Purposes (EAP) in more traditional ways. An analysis of syllabus content and original documents from the three engineering universities in Pakistan can be seen in Appendices Q to U.

5.3 Syllabus document of MUET Jamshoro

Mehran University of Engineering and Technology is a public-sector university in Sindh with an excellent academic reputation. Until 1980 QUEST was an affiliated college of MUET, and policies and numerous administrative issues in the two institutions are still very similar. The syllabus document for the English language course entitled "Functional English" offered by MUET was extracted from the public domain documents (i.e. prospectus). A close study of the document reveals that it was the only English course taught in all 16 engineering disciplines simultaneously in the first year of the four-year undergraduate engineering program. The focus of the course was mainly on teaching grammar. Topics included the four language skills (writing, reading, speaking, and listening), focusing on comprehending authentic texts, composing different types of sentences, listening to lectures, collecting information, identifying and improving pronunciation, and participating actively in discussions relevant to first-year Engineering students' level of comprehension.

However, a clear imbalance in the distribution can be found between academic literacy and professional skills, with literacy skills more heavily emphasized. Although it is quite relevant to focus more on literacy needs at the level of the first year, it must be noted that it is the only course these engineering students have to study in their four-year program. The syllabus gives no information about the teaching of vocabulary and study skills. Regarding instructional approaches, teaching materials adopted for the English course were left to the teachers' discretion; however, some resources are identified: articles from local newspapers and the Readers' Digest which can be described as general interest resources. The books referred to for the course are on general

grammar and study skills, hence also a focus on general academic purposes. The syllabus does not mention assessment criteria that are the essence of an ESP course. To sum up, the Functional English course offered by MUET is more a course in English for academic purposes than a course in English for engineering purposes.

5.4 Syllabus document of UET Lahore

The University of Engineering and Technology is a well-known public sector university in Pakistan in Lahore. The syllabus documents for this university were extracted from the university's official website (see syllabus document in Appendix S). An initial survey of the syllabus documents revealed that the university offered five courses in English for the four-year undergraduate program based on the level and needs of the students. In the first year of the four-year undergraduate program, an English Composition and Writing course was offered; in the second year, Technical Writing and "Technical Report Writing", and in the third and fourth years "Communication Skills I" and "Communication Skills II" were offered. The syllabus document of the course entitled "Communication Skills I," offered in the final year was analyzed for this study. Analysis revealed that the topics covered in the course were equally distributed to enhance students' academic literacy and learning needs in their final year of studies. Literacy and learning skills are taught in an integrated way, which brings the course in line with the principles of the ESP course

The UET course followed a communicative language teaching (CLT) approach. There is clear mention of methodology for achieving the overall course objectives; for example, group discussions, case studies, presentations, audio/video clips, pair work, handouts, home assignments, and quizzes. Further, students are encouraged to use modern technology such as watching TV, browsing the internet to listen to the speeches of native speakers, etc. The course used materials and books on communication skills and teaching grammar, either from business or from teaching grammar for general purposes. Therefore, the Communication Skills I course at UET Lahore appears to be more a course for general academic purposes than one specifically for engineers.

5.5 Syllabus document of QUEST Nawab Shah

Table 3 below provides a detailed analysis of the syllabus documents used for the WCS course.

Table 3: Syllabus document analyses (QUEST, Sindh Pakistan)

Contents	**Excerpts**
Course title	**Writing and communication skills**
Course Description	The prime purpose of this course is to prepare students to enhance communication skills in their further academic study. The student has operational commands of the language, though with occasional inaccuracies and misunderstanding in some situations; he generally handles complex languages and understands detailed reasoning. The students' competence in this aspect is measured by their ability to maintain social and professional contacts in familiar situations. They master and perfect their knowledge of all communicative structures and functions (e.g., receptive and productive skills, interpersonal and intrapersonal communication, body language, and nonverbal communication); they extend their ideas to fulfil the above-mentioned functions in roles, topics, and discussions.
Writing	Essay writing, its content and structure (pattern of organization, paragraphing, discussion, argument / counter-argument, advantages and disadvantages, topic sentence and supporting ideas, coherence and cohesion, punctuation), C.V. writing, job applications, academic writing, Letter and Memo writing.
Reading	Predicting, skimming, scanning, detailed reading, guessing unknown words from context, understanding text organization, recognizing argument and

	counter-argument, distinguishing between main information and supporting detail, fact and opinion, hypothesis versus evidence, summarizing, and note-taking.
Speaking	Seminar skills (agreeing and disagreeing, clarifying, questioning, emphasizing) **Presentation and interviewing skills: Introductions and stating the purpose, signposting, creating interest and involving the audience, using rhetorical questions, emphasizing and highlighting key points, preparing the audience for visuals, how to use an OHP, summaries, conclusion and closing courtesies, body language,** and non-verbal communication. **Interpersonal communication**: Includes the self and the self-concept communication. **Non-verbal communication**: Body language and self-presentation communication
Listening	General comprehension (listening for gist, listening for detailed information, recognizing relevant/irrelevant information, signposting and importance of markers, recognizing sentence connections, reference, addition, contrast, cause and effect, listening, evaluating the importance of information).
Vocabulary	**Not given**
Study Skills	Summarising, Note-taking
Course objectives	The main objectives of this course are to: ✓ Introduce students to the concepts of the English language, communication strategies, verbal and non-verbal communications, and four-fold skills based on English knowledge and comprehension. ✓ Enable students to meet high professional expertise with the help of much-developed communication skills. ✓ Enable students for jobs, make resumes and cover letters, and prepare them for job interviews. ✓ Make students recognize the sounds of English through Audio-Visual aids and computer software. ✓ Help them overcome their inhibitions and self-consciousness while speaking in English and build their confidence. ✓ Enable them to speak English correctly with a focus on stress and intonation
Methodology defined	**Not Defined**
Materials used	**Not identified**
Assessment Criteria	**Practical Exam:** Attendance 05, final exam (objective paper) 35, Viva voce 20, Total Marks 50 **Theory Exam:** Attendance 10, Assignment 15, final exam (paper-based) 75, Total Marks 100.
Books referred	✓ Rudolph F Verderber, Communication ✓ Zimmer and Clark, Business English and Communication ✓ Pauly and Riordan, Technical Report Writing Today ✓ Jane Summers & Brett Smith, Communication Skills. ✓ Mind Tools Ltd, Mind Tools, London

This shows a clear imbalance between topics on academic literacy and those on the professional learning needs of undergraduate engineering students. The course, which is offered in the first year of the four-year undergraduate program, is more focused on the professional learning needs of

students in its speaking and writing course contents, e.g., interviewing skills, CV writing, cover letters for job applications, interpersonal communication skills, non-verbal skills, etc. However, its listening and reading skill content is more relevant for the first-year level students (for example, general listening comprehension and reading skills). Summarizing and note-taking are mentioned as study skills. However, the most important feature of an ESP course, genre-specific vocabulary, is not included in the syllabus.

The course outline does not identify any clearly defined methodology apart from using audio-visual aids and familiarizing students with OHP and computer software. With regard to assessment, the syllabus results show that students were assessed on the basis of a paper-based exam and an oral viva. The list of resources names texts that are not specific to engineering. The overall impression of the WCS course gathered from its syllabus is that it is more an EGAP course than an ESAP course.

Comparative analysis of the syllabus documents of MUET, UET, and QUEST

In Table 4, a comparative analysis of the syllabus documents with regard to their content and instructional approaches is presented.

Table 4: Comparative analyses of syllabus documents of MUET UET & QUEST

Syllabus By	Topics Covered	Approach to ELT Traditional ↔ ESP or CLT	Nature of Content Knowledge-oriented ↔ Methodology Oriented	Focus EGAP↔ESAP
MUET	Teaching Grammar	Traditional	Knowledge oriented	EGAP
	Reading Skills	Traditional	Knowledge oriented	EGAP
	Writing Sills	Traditional	Knowledge oriented	EGAP
	Speaking Skills	CLT	Methodology Oriented	EGAP
	Listening Sills	CLT	Methodology Oriented	EGAP
	Vocabulary Building	Traditional	Knowledge oriented	EGAP
	Study Skills	Traditional	Knowledge oriented	EGAP
	Materials Used	Traditional	Knowledge oriented	EGAP
	Assessment Criteria	Traditional	Knowledge oriented	EGAP
	Books Referred	Traditional	Knowledge oriented	EGAP
UET	Teaching Grammar	CLT	Methodology Oriented	EGAP
	Reading Skills	CLT	Knowledge oriented	EGAP
	Writing Sills	CLT	Knowledge oriented	EGAP
	Speaking Skills	CLT	Methodology Oriented	EGAP
	Listening Sills	CLT	Methodology Oriented	EGAP
	Vocabulary Building	CLT	Knowledge oriented	EGAP
	Study Skills	CLT	Methodology Oriented	EGAP

	Materials Used	Traditional	Knowledge oriented	EGAP
	Assessment Criteria	CLT	Methodology Oriented	EGAP
	Books Referred	Traditional	Knowledge oriented	EGAP
	Teaching Grammar	Traditional	Knowledge oriented	EGAP
	Reading Skills	Traditional	Knowledge oriented	EGAP
	Writing Sills	Traditional	Knowledge oriented	EGAP
	Speaking Skills	CLT	Methodology Oriented	EGAP
	Listening Sills	CLT	Methodology Oriented	EGAP
QUEST	Vocabulary Building	Traditional	Knowledge oriented	EGAP
	Study Skills	Traditional	Knowledge oriented	EGAP
	Materials Used	Traditional	Knowledge oriented	EGAP
	Assessment Criteria	Traditional	Knowledge oriented	EGAP
	Books Referred	Traditional	Knowledge oriented	EGAP

A comparison of the three institutions reveals that the three English courses from the engineering universities in Pakistan have the same objective of improving the academic literacy and professional learning skills of engineering students, and although each university uses different content, it uses the same traditional instructional approaches for their courses. Both MUET and QUEST offer one course of English in the four-year undergraduate program, while UET offers five different English courses. The focus of the MUET course is the academic literacy needs of first-year students; however, professional learning needs are not included. In contrast, the QUEST course focuses on professional learning skills right from the beginning year of engineering studies, and less attention is paid to the literacy needs of students. The UET course fairly remains balanced in teaching both literacy and learning skills for engineers.

All three engineering universities use traditional resources extracted from newspapers magazines, and books on grammar and communication in a general context, without any relevance to the engineering discipline. The overall approach of all these three courses is traditional in nature and is more or less focused on giving information and advice through lectures than practical examples through communicative and practical instructional approaches. The same is true for the teaching of vocabulary and the assessment criteria. However, a small portion of instructional material is evidently based on communicative approaches, which is the recommended approach for ESP courses. Almost all three universities use CLT for speaking and listening skills. To sum up the courses offered through these three different engineering in Pakistan appear to be examples of EGAP courses rather than ESAP courses.

5.6 Textbooks analysis

The second source of data used to answer Research Question Three on course document analysis was the textbook analysis. Two textbooks on English for Engineering used internationally were analyzed to gauge their degree of specificity with regard to language skills, study skills, vocabulary, and grammar. They were “Cambridge English for Engineering” and “English for Engineers”. The content and suggested methodology of these textbooks were analyzed. A detailed analysis of these two textbooks used internationally can be seen in Appendices V and W.

5.7 Cambridge English for Engineering

In order to extract comparable information, excerpts from the section of the book on civil engineering were chosen for analysis. However, an overall analysis of the contents in the book reveals that the course covers high-priority language useful in any branch of engineering (mechanical, electrical, civil, etc.), focusing on skills such as working with drawings, describing technical problems, and discussing dimensions and precision, etc. The excerpts on language skills, vocabulary, and grammar taken for analysis were based on the authentic civil engineering field (see the excerpts for each in Appendix V).

In terms of methodology, an integrated approach was used in these texts for teaching language skills, study skills, vocabulary and grammar. For example, realistic listening activities are used so students are exposed to the language used in technical discussions, and situation-based speaking activities are used to practice the language they have learned. Relevant vocabulary is presented and practiced in professional contexts to familiarize the learners with terminology in their specific field. Resources and materials used in exercises are authentic, and vocabulary is genre-specific, creating strong face validity for the course contents. The general impression is that this is a quality text for use in engineering universities to improve the communication skills of engineers, engineering technicians, or technical managers. It is a clear example of ESAP in an engineering context.

5.8 English for Engineers, India

Analysis of the content of this book shows a balance of topics on all skills. Moreover, the topics on four language skills, vocabulary, and grammar are in keeping with the interests and level of undergraduate students (see excerpts in Appendix W). For example, writing exercises based on the reading theme allow learners to practice paragraph writing, summarizing, note-taking, note taking, and letter writing. For reading skills, various topics include literature, social sciences, humanitarian concerns, legal interest, and civic importance. Reading passages for detailed comprehension, as well as poetry and prose pieces, are included. The book includes several exercises and activities on listening for details for gist and global understanding. For speaking, activities such as debates, discussions, interviews, and role-play have been used in the book to help learners achieve fluency in the use of language. A separate section provides a language focus and opportunities for learners to do grammar activities and practice vocabulary in context.

The book uses an integrated instructional approach to teach language skills, study skills, grammar, and vocabulary. The resources and materials used in the book are authentic and demonstrate evidence of face validity. Although the text book clearly follows CLT, the resources and materials used are more general in nature rather than from engineering disciplines.

6 Discussion

The study revealed a striking discrepancy between the ongoing Writing and Communication Skills (WCS) course at the Quaid-E-Awam University of Engineering, Science and Technology (QUEST) and the target language demands for undergraduate engineering students in their field. The results suggest that although the course is designed to teach Basic English language, there exists an exigency for a mainly engineering content-orientated and Business and Academic Writing curriculum. Such a curriculum should respond to these non-native speakers' academic and professional needs (Syakur, et al., 2020). This is congruent with the findings of Hamoud et al. (2020). Addressing vocational students' individual needs within ESP has been a highlighted research gap in Alhaddabi & Guzik's (2020) study, which stated the importance of having a need-based curriculum.

Further inconsistencies are highlighted when comparing it to similar courses being taught at other Pakistani universities and internationally. For example, coursework at other institutions might be

more congruent with ESP development principles (e.g., analysis of scientific and experimental planning syllabi). Recent work by Thepseenu (2020) demonstrated that introductory engineering typesetting exercises within Thai civil engineering settings served their purpose. The language activities and evaluation set up by QUEST simply do not match -this extreme is not unusual, but we need to do something about it now, i.e., the curriculum at QUEST desperately needs some serious tweaking if they hope for a more professions-relevant scenario. This supports Wróblewski and Petrenko (2021), who call for needs-driven language course design.

Feedback from students and teachers in QUEST indicates that a more focused curriculum is also required within ESP. Results of the in-depth analysis showed that although 75% of students considered the current curriculum not implementing enough practical engineering tasks, an even greater (80%) group of teachers declared it did not respond to communicative competencies required by the professional career for which they prepared. This seems to align with Sukying et al. (2023), who suggested that ESP teachers encounter difficulties establishing how the subject matter relates to students' needs. Therefore, a new WCS course at QUEST is in order. A comprehensive set of pedagogically sound needs analysis studies (Istiningrum, 2022; Mao & Zhou, 2024) are integrated into the WCS programming covering engineering English at all proficiency levels. By way of definition, an "engineering-focused" curriculum is a language and communication program designed for engineering students that integrates the necessary technical vocabulary, writing genres, and presentation skills related to specific areas within engineering. An "EAP-driven" curriculum focuses on academic language skills, assuring adequate preparation for students' academic coursework and professional communication related to the discipline.

Some of the specific discrepancies we found in QUEST compared with some other universities include practical engineering tasks and their real-world applications are not as well integrated within its curriculum. In practical exercises such as programming, guidelines set by Thepseenu (2020) suggest universities, including engineering tasks and assessments, are meant to improve skills directly relevant to a student's professional future. This ensures that learners are fluent in English for general and task-specific engineering processes. There is detailed feedback from students and teachers at QUEST which makes clear how much that general structure needs to be revised. Survey data suggest that most students and faculty agree that the current curriculum leaves graduates unprepared for writing on the job in engineering careers. This may be filled by considering aspects of ESP programs that have been prosperous (Sukying et al., 2023; Wróblewski & Petrenko, 2021).

In conclusion, this study underscores the necessity for QUEST to redesign its WCS course to better align with engineering students' specific academic and professional needs. Integrating best practices from international ESP programs and conducting thorough needs analyses will ensure the curriculum is both relevant and effective, ultimately enhancing the students' readiness for their professional careers.

6.1 Implication and Future Directions

Implications

Many implications with respect to policy and practice at Quaid-E-Awam University of Engineering, Science, and Technology (QUEST) can be drawn from the findings of this study. There are at least a couple of points to consider, however. First, the apparent mismatch between what engineering students require and how WCS (Writing and Communication Skills) currently meets those needs would be another argument for sweeping changes to our curriculum. However, adding more focused English for Specific Purposes (ESP) elements to the program, as recommended in other studies done by Syakur et al. (2020) and Thepseenu (2020), can greatly improve students' preparedness for professional and academic settings. This tweak would increase student participation levels and satisfaction and help correctly align academic output with the

industry's demands.

In addition, this study has explored the need for ongoing needs assessment and curriculum revision. As supported by Wróblewski and Petrenko (2021), continuous evaluations are paramount to identifying whether language programs' content is continuously pertinent, keeping replications of new interns' needs in situ whenever necessary. Ultimately, through an innovative curriculum development strategy that is adjusted to be flexible (and subject-specific) for language at QUEST, the school will ensure its students are prepared with important engineering-based literacy critical across their future careers.

6.2 Recommendations for Policy and Practice

1. Curriculum Revision:
   Integrate ESP Components: Embed Engineering English for students' modules containing engineering-specific vocabulary, industry-related writing skills, and communicational features into the course.
   Content for Engineering Audience: Make your content relevant to what engineering students will do and learn in their professional lives. This might include disciplines such as engineering case studies, projects where students apply the theoretical knowledge learned to real-world problems, or simulations of work-life scenarios.
2. Teaching Methods:
   Interactive & Hands-On Projects: Use interactive teaching modalities such as group projects, presentations, and role-play scenarios to simulate a real-life engineering environment.
   Technology Implementation: Use high-tech teaching tools, such as simulation software, virtual labs, and online interactive scripts, during lessons to provide intense learning experiences similar to those students might experience in a technology environment.
3. Ongoing Needs Assessment:
   Feedback Loop: Implement a continuous feedback loop that involves students, alumni, and industry partners to update the curriculum according to the latest requirements and in line with industry standards.
   Curricular review on a regular basis: Bi-annual or annual reviews of the WCS course content must be done to ensure that it still serves students in their university and professional needs (Wróblewski & Petrenko, 2021).
4. Professional Development for Teachers:
   ESP Courses: Provide ESP English instructors with tailored training programs in order for them to be equipped, capable, and competent in offering instruction for ESP courses. Program instruction in workshops, certifications, and continuing professional development opportunities
   Co-Taught Courses: Facilitate English lecturers and engineering faculty to create joint courses in which the two disciplines share responsibility for course delivery so that language informs technical education and vice versa.
5. Policy Recommendations:
   The Degree Program Would Need Institutional Support: The university administration must commit to investing in training faculty, curricular changes, and integrating technology for courses.
   Various Industry Partnerships: Build partnerships with engineering companies and professional bodies to give students real-time exposure so that the curriculum matches the industry's current demands.

Limitations

Although this study offers valuable information regarding the amount of alignment between what is taught in a Writing and Communication Skills (WCS) course and what engineering students

need at Quaid-E-Awam University of Engineering, Science & Technology (QUEST), it suffers from several limitations. Granted, these basic results were limited since only 60 senior masculinity studies majors and four English faculty members said they did not have an assigned reading that addressed gender biases from March to November of last year. Furthermore, the study limited its population to male students, possibly ignoring gender-instigated language and communication necessities. While using self-reports through questionnaires is informative, it can also be biased as that form asks the participant to describe their experiences or abilities (which might differ from what they display in a more structured interaction). Second, the study lacked a longitudinal component to measure students' language proficiency and career readiness pre- or post-intervention; this makes it difficult to measure the impact of these changes over time. Finally, although the study demonstrated a significant requirement for an ESP-prompted and engineering-centered curricular pull-up, it did not scrupulously show how challenging and pragmatic it would be to initiate these student-initiated alterations within this institutional paradigm. These limitations indicate the need for additional future research to fill these gaps, following more extensive recruitment and broader sampling pools, longitudinal studies, and detailed implementation strategies.

Future Directions

Inspired by the insights from this study, some potential future research and development trials have been sparked. Longitudinal assessments might reveal whether the effects of changed ESP courses on students' language proficiency and their readiness to enter professional careers diminished over time. That kind of research would allow empirical testing of the curricular changes' effectiveness and inform additional refinement.

Additionally, further research regarding new types of pedagogy grounded in the contemporary outlooks on ESP methodology (Smith et al., 2022) may improve teaching (es?) at QUEST. In addition, merging technology-supported learning with purpose-based language tasks in an engineering context can create even more powerful educational possibilities and better results.

Finally, it could add intercultural competence and global engineering capabilities in an authentic context to English language skills that have long been considered essential to WP. Industry collaborations in research could give important exposure to new communication trends and thus help their graduates enter into the nuances of the global workforce. Therefore, through these considerations and undertakings based on future directions indicated in the paper, QUEST can develop into a force that shapes an educational environment where its engineering students benefit from scholarly progress better suited to their varied linguistic and professional demands.

6.3 Conclusion

In conclusion, this study provided an efficacy of the Writing and Communication Skills (WCS) course at QUEST by looking its alignment is maintained effectively. Using multiple data sources for an in-depth need’s analysis, including questionnaires and document analyses, the research revealed that there are marked differences between what is currently being taught in courses available to undergraduate engineering students about linguistic features of the English language and the professional demands placed upon them. The results of this study underscore the critical need to reform the WCS curriculum for greater success and satisfaction, institutionally as well as educationally grounded paths from our students into engineering.

Consequently, the implications of this research provide a roadmap for ways to make life better moving forward. One area of improvement for QUEST is to take the findings from this study and work with WCS faculty members, incorporating lessons on what types of content design students prefer/would be most helpful in various contexts. This change would make the course more meaningful and help to cultivate the communication skills required of prospective engineers. The

other research direction that could be possible is the continuous evaluation and adjustment of ESP courses injected into engineering education by adding feedback loops to ensure their continuation matches with current industry trends and pedagogical best practices. With these insights, QUEST can more proactively address its learning and programmatic opportunities to prepare better the next line of engineers able to tackle our complex and dynamic field.

7 References

Ahmed, K., Ali, S., & Khan, A. (2023). ESP needs analysis of productive skills: A case study of engineering students. *Pakistan Languages and Humanities Review*, *7*(3), 800–812. https://doi.org/10.47205/plhr.2023(7-III)69

Alshayban, A. (2022). Teaching English for Specific Purposes (ESP) to Saudi Arabian banking employees. *Language Teaching Research Quarterly*, *27*, 1–18.

Astutuk, Y. (2022). The teacher's roles in bridging the gap between the available materials and the needs in ESP. *English Research and Linguistics Journal*, *1*(1), 104–130.

Boroujeni, S. A., & Fard, F. M. (2013). A needs analysis of English for specific purposes (ESP) course for adoption of communicative language teaching: (A case of Iranian first-year students of educational administration). *Life*, *1*, 35–44.

Buriro, G. S., & Soomro, A. F. (2013). Assessing the academic literacy and learning needs of undergraduate engineering students at Quaid-e-Awam University of engineering. *Science and Technology (QUEST) Pakistan. Journal of Research & Reflections in Education*, *7*(2), 83–96.

Buriro, G. S., Soomro, A. F., & Umrani, T. (2013). Evaluation of the writing and communication skills course taught at Quaid-E-Awam university of Engineering, science and technology. *International Journal of English Education*, *2*(2), 241–255.

Dewi, H. H., Hidayatulloh, S. M. M., Sukarno, S., Lestari, A. E., Dewi, I. L., & Ciptaningrum, D. S. (2023). English materials development for an undergraduate communication study program: A need analysis in Indonesian context. *LLT Journal: A Journal on Language and Language Teaching*, *26*(1), 69–91.

Dou, A. (2024). Needs analysis of ESP courses from the perspective of students and teachers. *Frontiers in Educational Research*, *7*(6), 132–138. https://doi.org/10.25236/FER.2024.070620

Dudley-Evans, T., & St. John, M. J. (1987). *Developments in ESP: A multi-disciplinary approach*. Cambridge University Press.

Farea, W. A., & Singh, M. K. M. (2024). A target English needs analysis on ESP course: Exploring medical students' perceptions of necessities at a Yemeni university. *Training, Language and Culture*, *8*(1), 20-37. https://doi.org/10.22363/2521-442X-2024-8-1-20-37

Hutchison, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach*. Cambridge University Press.

Istiningrum, N. (2022). A study of need analysis in ESP writing of management department students. In D. Poedjiastutie, & L. H. Nurbatra (Eds), *Continually reassessing students' needs insight from elt tertiary*. UMM Press.

Jitpanich, T., Leong, L. M., & Ismail, S. A. M. M. (2022). Assessing the English writing needs of undergraduate business administration students for ESP writing course development: A case study in Thailand. *LEARN Journal: Language Education and Acquisition Research Network*, *15*(2), 104–128.

Le, L. P., Kabilan, M. K., Aziz, R., & Netto-Shek, J. (2021). Teaching ESP in the 21st century. *Teaching and learning of English in the 21st century. Perspectives and Practices from South East Asia*, 281–306.

Long, M. H. (2005). *Second language needs analysis*. Cambridge University Press.

Mao, F., & Zhou, J. (2024). A needs analysis of ESP courses in colleges of art and design: Consensus and divergence. *Plos One*, *19*(6), Article e0305210.

https://doi.org/10.1371/journal.pone.0305210
McCallen, L. S., & Johnson, H. L. (2020). The role of institutional agents in promoting higher education success among first-generation college students at a public urban university. *Journal of Diversity in Higher Education*, *13*(4), 320–332.
Muhammad, I., & Raof, A. H. A. (2020). Assessing the ESP needs of Saudi engineering undergraduates: A diagnostic view. *Arab World English Journal*, *10*(4), 204–222 https://dx.doi.org/10.24093/awej/vol10no4.16
Ruggiero, D. M. (2022). *Teaching world languages for specific purposes: A practical guide*. Georgetown University Press.
Smith, G. F., Jung, H., & Zenker, F. (2022). From task-based needs analysis to curriculum evaluation: Putting methodological innovations to the test in an English for academic purposes program. *English for Specific Purposes*, *66*, 80–93. https://doi.org/10.1016/j.esp.2022.01.001
Snow, A. M., & Brinton, D. M. (2023). *Content-based instruction: What every ESL teacher needs to know*. University of Michigan Press.
Stefanova, A. (2023). Needs analysis in ESP as a motivator and means to optimise academic ESP courses. *English Studies at NBU*, *9*(1), 21–38.
Sukying, A., Supunya, N., & Phusawisot, P. (2023). ESP teachers: Insights, challenges and needs in the EFL Context. *Theory and Practice in Language Studies*, *13*(2), 396–406. https://doi.org/10.17507/tpls.1302.14
Syakur, A., Zainuddin, H. M., & Hasan, M. A. (2020). Needs analysis English for specific purposes (ESP) for vocational pharmacy students. *Budapest International Research and Critics in Linguistics and Education Journal*, *3*(2), 724–733.
Thepseenu, B. (2020). Needs analysis for ESP course development: Thai civil engineering students' perspectives. *Asian Journal of Education and Training*, *6*(3), 433–442.
Winberg, C., Bramhall, M., Greenfield, D., Johnson, P., Rowlett, P., Lewis, O., & Wolff, K. (2020). Developing employability in engineering education: A systematic review of the literature. *European Journal of Engineering Education*, *45*(2), 165–180. https://doi.org/10.1080/03043797.2018.1534086
Wróblewski, B., & Petrenko, O. (2021, November 11–12). *ESP needs analysis for language courses redesign: A case-study from the University of West Bohemia* [Paper presentation]. Proceedings of Innovation in Language Learning 2021 Conference. Florence, Italy