

FROM CLASSROOM TO CAREER: IDENTIFYING ENGLISH LANGUAGE DEMANDS FOR FUTURE ARCHITECTS

Sartika Sari^{1*}, Nur Fitriah Qalbi¹, Tri Maulia R¹, Nur Jasmin Putri Aqidah¹, Nur Afiah Sari¹, Indah Fadhilah Rahman¹

¹English Education Department, Tarbiyah and Teacher Training Faculty, Universitas Islam Negeri Alauddin Makassar, Indonesia

*Email: ssari121220@gmail.com

Abstract

In an increasingly global professional practice, English proficiency is an important need to support the academic and professional activities of students in the field of Architectural Engineering at the Faculty of Science and Technology, UIN Alauddin Makassar. This study aims to identify the specific English language needs of Architectural Engineering students through the analysis of the needs of English for Specific Purposes (ESP). This study uses a descriptive quantitative research design with data collection through a questionnaire based on the Hutchinson and Waters (1987) framework, it analyzes the target needs (needs, shortcomings, and wants) and learning needs through questionnaires given to 9 Semester 3 Architectural Engineering students at the faculty of science and technology, UIN Alauddin Makassar. The results showed that the majority of students (66.7%) strongly agreed about the importance of English for future careers and technical vocabulary in architecture. However, the gap remains in practical skills, with 33.3% struggling to speak fluently and write reports. In addition, 55.6% prefer activity-based, simulation-based, and technology-supported learning. These findings point to the need for a more contextual and project-based English curriculum that is aligned with architectural studies.

Keywords: English for Specific Purposes (ESP); Needs Analysis; Architectural Engineering; Target Needs; Learning Needs

INTRODUCTION

English is a compulsory subject for Architecture Engineering students at UIN Alauddin Makassar, aimed at improving their academic and professional communication skills. In a global context, architects are required to understand international literature and keep up with developments in design technology, which are predominantly presented in English (Khamkhien, 2010). Therefore, needs analysis is essential to align learning objectives with relevant competencies. According to Richards (2001), needs analysis serves as a tool to determine “what” should be taught so that the curriculum remains practical and functional.

In the current era of globalization, architecture is no longer just a technical discipline limited to national boundaries, but has transformed into a highly dynamic global profession. English has cemented its position as the lingua franca in the international construction and design industry, connecting professionals from a variety of cultural backgrounds. For aspiring architects, English proficiency is no longer just an added value, but a fundamental necessity to survive in the global job market competition. The integration of foreign language skills in the architecture curriculum is crucial because most of the technical literature, the

latest design software, and international standards are published in English (Smith et al, 2023).

The transition from academia to the professional world often reveals a significant gap between the language skills taught in the classroom and the real needs in the field. In a university setting, students may be familiar with academic English for essay writing, but career demands proficiency in English for Specific Purposes (ESP). Future architects are expected to be able to explain complex design concepts verbally as well as in writing to clients who may not have a technical background. according to Chen (2022), emphasizing that failure to communicate effectively in English can hinder the process of project presentation and contract negotiation, ultimately affecting an architect's credibility in the eyes of international clients.

In addition, multidisciplinary collaboration in large-scale infrastructure projects involves intensive coordination with engineers, contractors, and developers from different countries. In this context, the ability to understand the specific terminology of architecture and construction becomes vital to avoid fatal technical errors. Research by Miller and Wang (2024) shows that miscommunication in English-language technical instruction is often the main cause of project delays and cost overruns in multinational architectural firms. Therefore, the identification of specific language demands should include an in-depth understanding of the contract documents, material specifications, and professional correspondence.

Most programming interfaces and the global technical support community operate in English, requiring architects to have both digital and language literacy. Lopez (2025) argues that future architects must be able to navigate this global digital ecosystem to remain relevant to industry 4.0 innovation. Without adequate English language skills, access to technology updates and cloud-based collaboration will be severely limited.

It is important for educational institutions to re-evaluate their curriculum to align learning outcomes with the needs of the architecture industry today. Identifying specific English language demands ranging from public presentation skills to technical writing is the first step to preparing a job-ready graduate. according to Al-Hassan (2024), architecture education must be able to bridge the artistic aspect with professional communication skills so that students can transition smoothly from the classroom to a successful international career. With accurate mapping of language needs, aspiring architects will have higher confidence in facing future professional challenges.

This study aims to identify what students need to know (necessities), their deficiencies (lacks), and what they want (wants) in the learning process. This analysis is expected to serve as a foundation for designing a student-centered and professionally effective course, in line with the principles of ESP curriculum development proposed by Hutchinson and Waters (1987).

METHOD

The study used a quantitative descriptive design to identify the English language needs of Architectural Engineering students. The quantitative descriptive approach is seen as appropriate because it allows researchers to collect and analyze numerical data to objectively identify students' tendencies, perceptions, and needs. methods that are considered effective for gaining an in-depth understanding of learners' needs (Gay et al.,

2012). In addition, quantitative descriptive research is effectively used to describe the characteristics of a group based on measured data (Creswell & Creswell, 2018).

The population of this study consists of nine students in the third semester of the Architectural Engineering Study Program, Faculty of Science and Technology, UIN Alauddin Makassar. The sampling technique used is total sampling, where all members of the population are used as research samples. By involving all available students, this research is expected to obtain a more representative picture of English language needs according to the context of the class being studied.

The data collection used in this study in the form of a structured questionnaire developed based on the English for Specific Purposes (ESP) needs analysis framework proposed by Hutchinson and Waters (1987) covers two main areas: target needs and learning needs. Target needs include the use of English in academic activities and future professional contexts, while learning needs include learning styles and technical barriers.

The data collected were analyzed descriptively to identify the frequency pattern of respondents' answers (Sugiyono, 2017). The use of questionnaires in needs analysis research is considered effective because it is able to collect data from respondents efficiently and consistently (Dörnyei, 2010). Questionnaire items were compiled using a five-point Likert scale to measure the tendency of respondents' opinions (Likert, 1932).

RESULTS AND DISCUSSION

This section presents the findings obtained from a questionnaire on the English language needs of Architectural Engineering students, Faculty of Science and Technology, Alauddin State Islamic University, Makassar. The results of this study are presented based on the needs analysis framework of Hutchinson and Waters (1987), which includes target needs (necessities, lacks, and current use) and learning needs. Data was obtained from questionnaires filled out by nine students in the third semester of Architectural Engineering. The presentation of results aims to provide a clear profile of the student's overall English language needs.

Table 1. Professional Information about Learners

No	Statement	1	2	3	4	5
1.	I often use English in my study activities or work.	33.3%	22.2%	22.2%	00.0%	22.2%
2.	I need English to read and understand professional or academic texts.	00.0%	11.1%	22.2%	11.1%	55.6%
3.	I need English to write reports, papers, or official correspondence.	22.2%	00.0%	33.3%	11.1%	33.3%
4.	I will use English regularly in my profession in the future.	11.1%	11.1%	00.0%	11.1%	66.7%
5.	The English I need should include my technical or field-specific vocabulary	00.0%	11.1%	00.0%	22.2%	66.7%

The results in Table 1 show that the use of English in students' academic activities is still relatively low, where 33.3% of respondents stated strongly disagree and 22.2% disagreed that they often use English in study or work activities. Nevertheless, the need for English for academic and professional purposes is seen to be quite high. 55.6% of respondents strongly agreed that English is needed to read and understand academic or professional texts, and 66.7% strongly agreed that English will be used regularly in their profession in the future. In addition, the need for technical or architecture-specific

vocabulary also stands out, with 66.7% of respondents strongly agreeing that this aspect needs to be part of English language learning.

These findings show that there is a gap between the frequency of current English use and the need for English in the future. Although awareness of the importance of English is quite high, the need for formal writing skills still shows mixed perceptions, with 33.3% of respondents being neutral and 33.3% strongly agreeing that they need English to write official reports, papers or correspondence. This gap indicates that general English learning has not fully addressed the academic and professional needs of Architectural Engineering students, so the application of an English for Specific Purposes (ESP) approach that is contextual and relevant to the field of architecture is indispensable.

Table 2. Personal Information about Learners

No	Statement	1	2	3	4	5
1.	I had a positive experience in learning English before.	00.0%	00.0%	44.4%	22.2%	33.3%
2.	My cultural background influenced the way I learned English.	11.1%	00.0%	33.3%	11.1%	44.4%
3.	I took this course to improve my English language skills in a field of study or work.	44.4%	00.0%	00.0%	22.2%	33.3%
4.	I hope this course helps me communicate better in my field.	11.1%	00.0%	00.0%	11.1%	77.8%
5.	I enjoy learning English and find it important.	00.0%	00.0%	11.1%	00.0%	88.9%
6.	I feel confident when I use English.	11.1%	11.1%	22.2%	22.3%	33.3%
7.	I prefer to learn through discussions or group work.	11.1%	11.1%	33.3%	11.1%	33.3%
8.	I often find it difficult to understand English grammar.	00.0%	00.0%	33.3%	11.1%	55.6%
9.	I want to learn more about the culture of English speakers.	00.0%	11.1%	22.2%	00.0%	66.7%
10.	I am motivated to master English for the sake of my future.	00.0%	00.0%	11.1%	11.1%	77.8%

The results in Table 2 show that the majority of students have a positive attitude towards learning English. A total of 33.3% of respondents strongly agreed and 22.2% agreed that they had a positive experience in learning English before, although 44.4% were neutral. Motivation to study is also relatively high, shown by 88.9% of respondents who strongly agree that they enjoy learning English and consider it important, and 77.8% who strongly agree that they are motivated to master English. In addition, 77.8% of respondents strongly agree that this course is expected to help them communicate better in their field of study, and 33.3% strongly agree that they take this course to improve their English language skills in an academic or professional context.

Although motivation and positive attitudes are quite dominant, the results of the study also show some challenges in learning. A total of 55.6% of respondents strongly agreed that they often have difficulty understanding English grammar, while the level of confidence in using English is still moderate, with only 33.3% of respondents feeling very confident. Learning preferences show a tendency towards collaborative learning, where 33.3% of respondents strongly agree and 33.3% are neutral that they prefer discussions or group work. In addition, cultural factors also play a role in the learning process, with 44.4% of respondents strongly agreeing that cultural background influences the way they learn English, and 66.7% strongly agree that they want to learn about the culture of English speakers. These findings indicate that English language learning needs to be designed

contextually, communicatively, and sensitive to students' cultural backgrounds in order to increase confidence and learning effectiveness.

Table 3. Information on Students' English Ability

No	Statement	1	2	3	4	5
1.	My speaking ability is good enough for everyday conversation.	22.2%	22.2%	33.3%	00.0%	22.2%
2.	I can understand lectures, presentations, or conversations in English.	11.1%	22.2%	55.6%	11.1%	11.1%
3.	I am able to read and understand academic or professional texts in English	22.2%	11.1%	55.6%	00.0%	11.1%
4.	I am able to write official reports, essays, or emails in English.	22.2%	22.2%	22.2%	22.2%	11.1%
5.	I have enough vocabulary in my field of study or work.	00.0%	33.3%	33.3%	00.0%	33.3%
6.	My English pronunciation is quite clear and easy to understand.	11.1%	22.2%	44.4%	00.0%	22.2%

Table 3 indicates that most students perceive their English proficiency at a moderate level across all language skills. In speaking for everyday conversation, the highest proportion of students selected scale 3 (33.3%), while lower levels (scales 1 and 2) together accounted for 44.4%. Similarly, listening comprehension shows that 55.6% of students rated themselves at scale 3, indicating a moderate ability to understand lectures, presentations, and conversations in English. Reading academic or professional texts also demonstrates a similar pattern, with 55.6% of respondents choosing scale 3, although 22.2% still reported low confidence (scale 1).

In contrast, writing skills display a more even distribution, with 22.2% of students selecting scales 1, 2, 3, and 4 respectively, and only 11.1% indicating high proficiency (scale 5). Regarding vocabulary in their field of study, responses are split evenly, with 33.3% choosing scale 2, 33.3% scale 3, and 33.3% scale 5, suggesting differing levels of vocabulary mastery. For pronunciation, 44.4% of students rated themselves at scale 3, while 22.2% selected scale 5. Overall, these findings suggest that students' English ability is generally moderate, highlighting the need for ESP instruction focusing on writing skills and field-specific vocabulary.

Table 4. Information on Students' English Lacks

No	Statement	1	2	3	4	5
1.	I have difficulty speaking English fluently in an academic or professional context.	00.0%	11.1%	33.3%	22.2%	33.3%
2.	I have a hard time understanding native English Speakers.	00.0%	00.0%	55.6%	11.1%	33.3%
3.	My writing skills are not enough to write reports or academic writing.	00.0%	00.0%	33.3%	33.3%	33.3%
4.	I need to improve my grammar and vocabulary to support my studies/work needs.	00.0%	00.0%	22.2%	22.2%	55.6%
5.	There is a big difference between my current English skills and the ones needed in my field.	00.0%	00.0%	55.6%	22.2%	22.2%

Table 4 illustrates learners' perceived lack of English proficiency in academic and professional contexts. In terms of speaking fluently, 33.3% of students selected scale 3 and

another 33.3% chose scale 5, indicating that a considerable number of learners experience difficulty expressing themselves fluently. Similarly, understanding native English speakers is a major challenge, as 55.6% of respondents rated their difficulty at scale 3 and 33.3% at scale 5, showing that most students struggle with listening comprehension at higher levels of language use.

Regarding writing ability, 33.3% of students selected scales 3, 4, and 5 respectively, suggesting that many learners believe their writing skills are insufficient for academic reporting or formal writing. The need to improve grammar and vocabulary is particularly prominent, with 55.6% of students selecting scale 5, indicating a strong perceived deficiency in this area. Furthermore, 55.6% of respondents rated scale 3 for the statement concerning the gap between their current English skills and those required in their field, highlighting a noticeable mismatch between existing competence and academic or professional demands. Overall, these findings confirm that students experience significant lacks, especially in speaking fluency, listening to native speakers, writing skills, and grammar and vocabulary mastery, reinforcing the necessity for targeted ESP instruction.

Table 5. Language Learning Information

No	Statement	1	2	3	4	5
1.	I learned better through discussions and group work.	11.1%	00.0%	55.6%	00.0%	33.3%
2.	I prefer to learn through real activities and simulations.	00.0%	00.0%	33.3%	11.1%	55.6%
3.	I often use videos, apps, or the internet to learn English.	00.0%	00.0%	33.3%	00.0%	66.7%
4.	I often review English lessons outside of class.	00.0%	00.0%	44.4%	22.2%	33.3%
5.	I hope that lecturers use interactive teaching methods	11.1%	00.0%	22.2%	22.2%	44.4%
6.	I understand the material better when the lecturer gives real examples.	00.0%	00.0%	11.1%	00.0%	88.9%
7.	I like it if learning activities involve hands-on practice.	00.0%	00.0%	11.1%	00.0%	88.9%

These results indicate that students tend to understand English material better when learning is linked to real-world practice and examples. This is reflected in 88.9% of respondents who strongly agreed that they understood the material better when lecturers provided real-world examples, and the same percentage (88.9%) who stated that they strongly preferred learning activities that involved hands-on practice. Meanwhile, preferences for discussion and group work showed more moderate results, with 33.3% of respondents strongly agreeing and 55.6% being neutral. Overall, these results suggest that English language learning for Architectural Engineering students needs to be designed interactively, activity-based, and integrated with real-world contexts to be more effective and relevant to their academic and professional needs.

Table 6. Professional Communication Information

No	Statement	1	2	3	4	5
1.	I need to learn how to communicate professionally in my field.	00.0%	00.0%	33.3%	22.2%	44.4%
2.	I need to understand how to write a report or formal document in English.	00.0%	00.0%	33.3%	00.0%	66.7%
3.	I need to use polite and formal English when talking to my boss or client.	00.0%	00.0%	33.3%	11.1%	55.6%

4.	I need to master the technical terms used in my field.	00.0%	00.0%	22.2%	22.2%	55.6%
5.	I need to understand how professionals in my field interact using English.	00.0%	00.0%	33.3%	00.0%	66.7%

The results in Table 6 show that some students are aware of the importance of professional communication skills in English to support the field of Architecture. A total of 44.4% of respondents strongly agreed and 22.2% agreed that they need to learn how to communicate professionally in their field, while 33.3% were in a neutral position. The need to understand the writing of reports or formal documents in English is also strong, with 66.7% of respondents strongly agreeing and 33.3% being neutral. In addition, 55.6% of respondents strongly agreed and 11.1% agreed that the use of polite and formal English when communicating with superiors or clients is an important skill.

Furthermore, these findings confirm that mastery of technical terminology and understanding of professional communication practices are the main needs of ESP students. As many as 55.6% of respondents strongly agree and 22.2% agree that they need to master technical terms used in the field of Architecture, while the other 22.2% are neutral. In addition, 66.7% of respondents strongly agreed that they need to understand how professionals in their field interact using English. Overall, these results show that students need ESP learning that focuses on professional communication, including the writing of formal documents, the use of appropriate language in the work context, as well as the mastery of technical terms relevant to the professional world of Architecture.

Table 7. Participant Needs of ESP Course

No	Statement	1	2	3	4	5
1.	I hope this course helps me communicate effectively in my field.	00.0%	00.0%	22.2%	00.0%	77.8%
2.	I want this course to focus on skills that are relevant to my studies/work.	00.0%	00.0%	33.3%	00.0%	66.7%
3.	I want material that is practical and appropriate for the world of work.	00.0%	00.0%	22.2%	11.1%	66.7%
4.	The topics in this course should be relevant to the real situation in my field.	00.0%	00.0%	33.3%	00.0%	66.7%
5.	I am sure this ESP course will be beneficial for my future career.	00.0%	00.0%	22.2%	00.0%	77.8%

Based on Table 7 (Participant Needs of ESP Course), the majority of respondents showed a strong need for ESP courses that are relevant to their field. A total of 77.8% of students strongly agreed that this course helps them communicate effectively in the field of architecture and is beneficial for their future careers, while 66.7% of respondents strongly agree that ESP material should focus on skills that are relevant to study/work and are practical and appropriate to the world of work.

In addition, 66.7% of respondents strongly agreed that learning topics need to reflect real-world situations in their field, indicating high expectations for the direct linkage between ESP material and professional practice. These findings confirm that students need ESP learning that is applicative, contextual, and oriented to the needs of the architectural world of work.

Table 8. Environmental Situation

No	Statement	1	2	3	4	5
1.	The classroom environment supports the English learning process well.	22.2%	11.1%	22.2%	00.0%	44.4%
2.	Learning facilities and resources (e.g. LCD, internet, books) are adequate.	22.2%	11.1%	22.2%	11.1%	33.3%
3.	The English lecture schedule is according to my study time.	11.1%	22.2%	22.2%	11.1%	33.3%
4.	The duration of each meeting is enough to understand the material.	00.0%	33.3%	22.2%	11.1%	33.3%
5.	I had the opportunity to practice English outside of the classroom.	11.1%	00.0%	33.3%	00.0%	55.6%

The final table (Environmental Situation) shows that the majority of students considered the learning environment to be sufficiently supportive of the English learning process. 44.4% of respondents strongly agreed that the classroom environment supported learning, and 33.3% strongly agreed that the available facilities and learning resources were adequate. Furthermore, 33.3% of respondents also strongly agreed that the English class schedule fit their study schedule.

However, regarding time and practice, the results showed varying perceptions. 33.3% of respondents strongly agreed that the duration of each session was sufficient to understand the material, while 55.6% strongly agreed that they had opportunities to practice English outside of class.

These findings indicate that although the learning environment is considered favorable, strengthening lesson duration and practice opportunities remains crucial to supporting effective ESP learning.

The study provides empirical evidence that supports and, in some respects, expands on existing theories in English for Special Purpose (ESP), in particular the needs analysis framework proposed by Hutchinson and Waters (1987). These findings confirm that Architectural Engineering students have a high level of awareness of the importance of English for their future professions, but their current proficiency and use of the language are still insufficient to meet professional demands. This discrepancy illustrates the classic ESP problem identified by Hutchinson and Waters, namely the gap between the target's needs (needs) and the analysis of the current situation (lack).

From a need's perspective, students strongly recognize the role of English in reading technical literature, understanding professional documents, and using architecture-specific terminology. This is in line with the view of Richards (2001) that the content of the curriculum must come from the real communicative needs of students, not from the generalized language goals. Similarly, Smith et al. (2023) emphasize that architecture students should engage with international design standards and software documentation, most of which are available in English. However, despite this recognition, college students report limited use of English in their current academic activities. This contradiction suggests that existing English teaching has not succeeded in translating the perceived importance of English into practical language engagement, highlighting weaknesses in curriculum implementation rather than learner motivation.

In terms of shortcomings, the study revealed that speaking fluency, native speakers' listening comprehension, writing skills, and grammatical accuracy were the most

problematic areas. These findings are aligned with Chen's (2022) argument that ESP learners often struggle with productive skills because traditional English courses emphasize receptive skills or general grammar knowledge rather than contextual, professional communication. Further, students' low confidence in writing formal reports and documents supports the claim of Miller and Wang (2024) that inadequate ESP training can result in miscommunication and inefficiencies in professional architectural practice. Critically, this suggests that current English courses may still reflect the General English (GE) orientation, which fails to equip students with the specialized discourse needed in architecture.

The analysis of learning needs further strengthens the argument for a paradigm shift in ESP teaching. A strong preference for hands-on practice, simulations, and real-world examples aligns with both task-based and project-based learning theories, which emphasize learning through the use of meaningful language (Ellis, 2003). Hutchinson and Waters (1987) argue that learning needs should be given equal weight to target needs, but many ESP programs continue to prioritize content over pedagogy. The study's findings challenge that practice, suggesting that without interactive and contextual learning methods, ESP teaching may not effectively bridge the gap between classroom learning and workplace communication.

Cultural and affective factors also emerge as important elements that influence English language learning. The desire of students to learn about English-speaking culture supports the statement of Al-Hassan (2024) that professional competence involves not only linguistic correctness but also pragmatic and intercultural awareness. In architectural practice, misinterpretation of communicative norms can damage professional relationships with international clients and collaborators. Therefore, ESP teaching that ignores the cultural dimension risks producing graduates who are linguistically competent but not pragmatically effective.

Another important issue highlighted by this study is the moderate level of learners' confidence despite high motivation. According to Dörnyei (2010), motivation alone does not guarantee language mastery unless learners are given sufficient opportunities for meaningful practice and feedback. The findings suggest that although learning environments and facilities are generally adequate, learning time and practice opportunities may not be optimally utilized. This implies that institutional support must be complemented by pedagogical innovations to maximize learning outcomes.

Overall, these findings reinforce the theoretical stance that ESP (English for Specific Purposes) courses should be learner-centered, need-driven, and context-specific. This study confirms the model of Hutchinson and Waters (1987) while emphasizing the urgency of aligning the ESP curriculum with the contemporary professional realities in the field of architecture. Failure to redesign English teaching based on systematic needs analysis can perpetuate the existing mismatch between students' language competencies and workplace expectations. Therefore, the ESP curriculum for Architectural Engineering students must integrate technical vocabulary, professional writing, oral presentation skills, intercultural communication, and project-based learning to ensure that graduates are linguistically and professionally prepared for the global architecture industry.

CONCLUSION

Given the findings of this study, it is concluded that English is not just an additional subject for UIN Alauddin Makassar Architectural Engineering students, but is a key skill that

directly supports their academic progress and professional careers in the future. Although students are well aware of the importance of English and show a strong motivation to master it, their current level of proficiency does not meet the demands of professional architectural communication. The findings show that college students primarily need English to understand technical texts, use architecture-specific vocabulary, and communicate professionally. However, many still struggle to speak fluently, understand spoken English, and produce formal written text.

In addition, this study also highlights the need for a more relevant and engaging approach to English language learning. Students clearly prefer learning activities that are practical, interactive, and closely related to real situations in the field of architecture. This suggests that English teaching must go beyond general language teaching and adopt an English for Specific Purposes (ESP) approach that integrates professional communication, hands-on practice, and intercultural awareness. By aligning English courses with students' actual academic and professional needs, universities can better prepare aspiring architects to participate confidently in the global architecture industry.

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