Research Article

NEEDS ANALYSIS OF ENGLISH FOR ARCHITECTURE ENGINEERING STUDENTS AT UIN ALAUDDIN MAKASSAR

Lesyia Nurfadila[1*], Mutnadia Ramadani H[1], Farida Fauziah Nurochim[1], Muh Fatir[1], Dela Amanda Putri[1]

[1]*English Education Department, Faculty of Tarbiyah and Teacher Training, Universitas Islam Negeri Alauddin Makassar, Gowa, Indonesia*

**Corresponding author: lesyianurfadhila@gmail.com*

Abstract

The growing significance of English for Specific Purposes (ESP) in higher education highlights the necessity of aligning English instruction with the specialised needs of learners. However, gaps often exist between theoretical frameworks and practical implementation in English courses for architecture students, where generalised content fails to address specific professional and academic requirements. This study investigated the English language needs of students in the Architecture Engineering Department at UIN Alauddin Makassar, with the aim of informing a more relevant and effective syllabus. Using a quantitative survey approach, data were collected through a needs analysis questionnaire completed by [[n]] fifth-semester architecture students and analysed descriptively using mean scores. The findings indicate that speaking and reading are the skills students consider most important for academic success and professional readiness, and that reading is the skill they use most often. Participants also rated technical vocabulary, accurate grammar and the comprehension of specialised texts as important, and reported lack of motivation, spelling errors, inadequate grammar and reliance on their first language as frequent learning problems. Design architecture was the most preferred topic, and small-group work and picture-based learning were the most preferred ways of learning. The findings suggest that an ESP syllabus addressing these needs, with an emphasis on speaking, reading, technical vocabulary and visually supported tasks, would be more relevant to these students than general English instruction. Because the data are students' self-reports from one cohort, they should be complemented by the views of lecturers and professionals.

Keywords: *Architecture Students; English for Specific Purposes; Needs Analysis; Syllabus Design*

Article History:
Submitted : 18 June 2026
Revised : 31 July 2026
Accepted : 19 August 2026
Published : 31 August 2026

How to cite this article:
Nurfadila, L., Ramadani H, M., Nurochim, F. F., Fatir, M., & Putri, D. A. (2025). Needs analysis of English for architecture engineering students at UIN Alauddin Makassar. *ELSTIC-IJ: English Language, Linguistics, and Culture International Journal, 5(*02), https://doi.org/10.24252/elstic-ij.v5i02.73671

Copyright © *2025 by the Authors. Published by ELSTIC-IJ, UPT Pusat Pengembangan Bahasa, Universitas Islam Negeri Alauddin Makassar. This is an open-access article distributed under the Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0): https://creativecommons.org/licenses/by-sa/4.0/.*

INTRODUCTION

The growing importance of English as a global language has made English for Specific Purposes (ESP) an essential approach in higher education. In technical fields such as

architecture, effective English communication is critical for academic success and professional competence. English proficiency equips students with the skills necessary to engage with international literature, collaborate with diverse teams and present ideas effectively in global contexts, and ESP courses are expected to base these skills on learners' specific needs (Hutchinson & Waters, 1987).

Despite the recognised importance of ESP, a gap persists between the theoretical frameworks of needs analysis and their practical implementation in curriculum design. Many architecture students face challenges because of generalised English instruction that fails to address their specific academic and professional needs (Kurnia & Sundayana, 2017; Ouarniki, 2022). For instance, students often lack exposure to technical vocabulary, relevant reading materials and communication tasks aligned with their field of study. This mismatch highlights the need for a systematic approach to understanding and addressing students' linguistic requirements. Earlier Indonesian studies examined architecture students at a private university in Bandung (Kurnia & Sundayana, 2017) and developed a syllabus matching architecture students' English skills with future jobs (Murtiningsih & Amelia, 2023). The present study adds evidence from a different context, an Islamic state university in eastern Indonesia where English is taught as a general course, and uses a questionnaire that covers target needs, present abilities and problems, and learning preferences in one instrument.

This study aims to investigate the English language needs of Architecture Engineering Department students at UIN Alauddin Makassar. By employing a needs analysis framework, it seeks to identify the specific language skills and competencies that these students require for their academic and professional growth. The findings are intended to inform the development of an ESP syllabus tailored to their needs, bridging the gap between theoretical insights and practical application, and to provide insights for educators and curriculum designers seeking to make ESP programmes in architecture education more relevant and effective. The study addressed the following research questions:

RQ1. What are the target needs (purposes, language components, topics and skills) of Architecture Engineering students in learning English?

RQ2. What are the students' present abilities and learning problems in English?

RQ3. What are the students' learning preferences and learning styles?

LITERATURE REVIEW

Needs Analysis in English for Specific Purposes

ESP is an approach to language teaching in which all decisions about content and method are based on the learner's reason for learning (Hutchinson & Waters, 1987). Needs analysis is therefore the starting point of ESP course and materials design. Hutchinson and Waters (1987) distinguish target needs, which comprise necessities, lacks and wants in the target situation, from learning needs, which concern how learners learn. In practice, needs analyses commonly combine target situation analysis, which identifies what learners must be able to do with English, present situation analysis, which identifies their current abilities and problems, and an analysis of learning needs and preferences. The results inform the selection of materials and tasks, which should reflect the language and activities of the learners' discipline (Fathi Bonabi, 2008; Ibragimova, 2021). Later models refine this framework. Long (2005) argues that needs analysis should identify the target tasks learners will perform and should draw on several sources and methods, and Basturkmen (2010) distinguishes objective needs, based on facts about learners and target situations, from subjective needs, based on learners' perceptions. In the present questionnaire, the target situation section (purposes, components, topics and skills) addresses necessities, the present situation section (ability and learning problems) addresses lacks, and the learning needs section (preferences and styles) addresses wants. Because all data come from students, the study captures subjective needs.

English Needs of Architecture Students

Several studies have examined the English needs of architecture and related engineering students. Kurnia and Sundayana (2017), who surveyed and interviewed architecture students, alumni, an English lecturer and the head of department at a private university in Bandung, found that reading and speaking were the skills most needed in the future workplace, and proposed an ESP syllabus on this basis. Murtiningsih and Amelia (2023) used questionnaires and interviews with 33 students, three lecturers and three architecture professionals to design an integrated English syllabus matching students' skills with future jobs. In Algeria, Ouarniki (2022) found through a questionnaire and focus group that master's students of architecture prioritised speaking and reading, and recommended a course with oral presentations, technical and semi-technical vocabulary, grammar activities and specialisation-related topics; Djebbari (n.d.) also assessed the needs of architecture students in Algeria. Arumugam et al. (2014) examined the importance of English skills for

trainee architects in the workplace, and Freddi and Tluková (2022) compared the academic writing needs of Czech and Italian architecture and civil engineering students. Other studies have addressed specific aspects of English for architecture, such as grammatical errors in architecture students' writing (Sari & Nurhidayah, 2022) and the use of English drama to develop critical thinking among architecture students (Ganiron, 2014). In related engineering fields, electrical engineering students needed specialised vocabulary, grammar, listening and reading comprehension (Sarwanti et al., 2023), and a systematic review of 26 needs analyses of engineering students from 2018 to 2023 found that speaking was the most emphasised skill (Musrina et al., 2024). Few studies, however, have examined the needs of architecture students at Islamic state universities in Indonesia, where English is taught as a general course across faculties. The present study addresses this context.

METHOD

Research Design

This study used a descriptive quantitative survey design. According to Mills and Gay (2016), survey research involves collecting data to test hypotheses or to answer questions about people's opinions on a problem or issue. A survey was considered suitable because the study aimed to describe the English needs of a group of students.

Participants

The research was conducted at the Department of Architecture Engineering, UIN Alauddin Makassar. The participants were 60 fifth-semester students of the department, in the 2024/2025 academic year. They were selected by purposive sampling because they had completed the general English course and were beginning specialised design studios.

Instrument

Data were collected with a needs analysis questionnaire. Questionnaires are an inexpensive way to gather data from a potentially large number of respondents and allow statistical analysis of the results. The questionnaire covered three areas: target situation analysis (purposes of learning English, language components, topics, language skills used most often, and aspects of writing, speaking, listening and reading), present situation analysis (level of ability and learning problems), and learning needs (learning preferences and learning styles). The questionnaire contained number items: number of items per section.

Most items were rated on a four-point scale (1–4) for importance, ability or frequency. State the format of the items on topics (Table 4), speaking aspects (Table 7) and learning preferences (Table 13), whose values fall outside the 1–4 range, e.g., ranking or the number of students selecting each option. The questionnaire was adapted from source and reviewed by the course lecturer before use; the internal consistency of the Likert sections was Cronbach's alpha. The questionnaire is provided in Appendix A.

Data Collection and Analysis

The questionnaire was distributed to the participants state how and when, e.g., online via Google Forms in … 2024 to obtain an overview of their English needs. The responses were then analysed descriptively. For each Likert item, the mean score and standard deviation were calculated add standard deviations to Tables 2, 3, 5, 6 and 8–12, and the means were interpreted using the criteria in Table 1. Items in each section were then ranked to identify the dominant needs. For the items in Tables 4, 7 and 13, which do not use the 1–4 scale, only the rank order of the options is interpreted.

Table 1. Criteria for interpreting mean scores

Mean score	Importance	Ability	Frequency of problems
1.00–1.75	Not important	Poor	Hardly ever
1.76–2.50	Less important	Fair	Seldom
2.51–3.50	Important	Good	Often
3.51–4.00	Very important	Excellent	Always

Note.

FINDINGS AND DISCUSSION

Target Situation Analysis

Purposes of learning English

The first question asked about the purposes for which Architecture Engineering students learn English. Table 2 presents the results.

Table 2. Purposes of learning English

No.	Purpose	Mean	Category
1.	Develop self-quality	3.59	Very important
2.	Future career	3.69	Very important
3.	To get a scholarship	3.69	Very important

All three purposes were rated very important. The highest scores were obtained for future career and getting a scholarship (both 3.69), followed by developing self-quality (3.59). These results indicate that Architecture Engineering students at UIN Alauddin Makassar learn English mainly for their future careers and further study opportunities, while personal development is also an important reason.

Language components

Table 3 presents students' ratings of the importance of language components.

Table 3. Importance of language components

No.	Language component	Mean	Category
1.	Listening	3.65	Very important
2.	Reading	3.71	Very important
3.	Vocabulary	3.61	Very important
4.	Pronunciation	3.67	Very important
5.	Grammar	3.38	Important
6.	Spelling	3.46	Important

The language component most prioritised by students was reading (3.71), followed by pronunciation (3.67), listening (3.65) and vocabulary (3.61), all of which fall into the very important category. Grammar (3.38) and spelling (3.46) received lower scores and fall into the important category. Overall, students prioritised components that support comprehension and oral communication, which reflects their need to understand academic texts and to communicate orally in English.

Topics

The next question asked which topics are important in learning English for Architecture Engineering students (Table 4).

Table 4. Importance of topics

No.	Topic	Mean
1.	Design architecture	5.00
2.	Architectural theory	2.80
3.	Art and aesthetics of buildings	2.40
4.	Architectural criticism theory	1.80
5.	Building structure and construction	1.80
6.	Architectural history	1.60
7.	Building technology	1.00
8.	Landscape	1.00
9.	Urban planning and design	1.00
10.	Urbanism	0.80
11.	Settlements	0.60

Note. Values are reported as in the original data. They fall outside the 1–4 range and are therefore interpreted only as a rank order.

Design architecture was ranked clearly first, followed by architectural theory and the art and aesthetics of buildings, while building technology, landscape, urban planning, urbanism and settlements were ranked lowest. These findings suggest that students want English materials that are closely linked to the design activities of their discipline.

Language skills used most often

Table 5 presents the language skills that students use most often.

Table 5. Language skills used most often

No.	Language skill	Mean
1.	Reading	3.58
2.	Writing	3.16
3.	Listening	3.09
4.	Speaking	3.09

Reading (3.58) was the skill used most frequently by the students, which is consistent with their academic need to understand scientific literature in English, such as journals, textbooks and other learning resources. Writing (3.16) came second; this skill is needed for academic tasks such as reports, essays and research. Listening and speaking were used equally often (3.09), especially for understanding instructions and taking part in class discussions. Compared with reading and writing, these skills need more reinforcement, given their lower frequency of use and the difficulties that students face.

Writing aspects

Table 6. Importance of writing aspects

No.	Writing aspect	Mean	Category
1.	Can write with the correct grammatical structure	3.68	Very important
2.	Can organise paragraphs appropriately	3.64	Very important
3.	Can write cohesive and coherent paragraphs	3.44	Important
4.	Free writing	3.26	Important

As Table 6 shows, writing with correct grammatical structure (3.68) received the highest score and was considered the top priority in writing, followed by organising paragraphs appropriately (3.64); both are very important. Cohesion and coherence (3.44) and free writing (3.26) were rated important. Learning approaches that emphasise grammar practice, paragraph structure and the logical organisation of ideas would therefore help students improve their writing.

Speaking aspects

Table 7. Importance of speaking aspects

No.	Speaking aspect	Mean
1.	Able to speak English with the correct grammatical structure	5.00
2.	Able to speak fluently	3.75
3.	Able to speak according to context	2.50
4.	Able to speak with the correct pronunciation	1.25
5.	Able to speak fluently with the correct pronunciation	1.00

Note. Values are reported as in the original data. They fall outside the 1–4 range and are therefore interpreted only as a rank order.

As Table 7 shows, the ability to speak English with the correct grammatical structure was ranked first, followed by the ability to speak fluently and to speak according to context, whereas the two pronunciation-related aspects were ranked lowest. These findings suggest that students value grammatical accuracy and fluency in speaking more than pronunciation, a pattern discussed below in relation to the high rating of pronunciation as a language component (Table 3).

Listening aspects

Table 8. Importance of listening aspects

No.	Listening aspect	Mean	Category
1.	Able to understand listening material in any context	3.75	Very important
2.	Able to identify the main ideas and specific information in various types of listening material	3.68	Very important
3.	Able to understand easy listening material	3.82	Very important
4.	Able to understand easy and difficult listening material	3.70	Very important

All listening aspects were rated very important (Table 8). The highest score was for understanding easy listening material (3.82), followed by understanding listening material in any context (3.75), understanding both easy and difficult material (3.70), and identifying main ideas and specific information (3.68). These findings show that students want to build their listening ability gradually, from accessible material towards material in a variety of contexts, so that they can take part in academic and professional settings.

Reading aspects

Table 9. Importance of reading aspects

No.	Reading aspect	Mean	Category
1.	Able to understand reading material	3.72	Very important
2.	Able to understand specific reading material	3.80	Very important
3.	Able to understand reading material in detail	3.65	Very important
4.	Able to understand reading material specifically and in detail, and understand its main ideas	3.58	Very important

All reading aspects were also rated very important (Table 9), with the highest priority given to understanding specific reading material (3.80), followed by understanding reading material in general (3.72) and in detail (3.65). This underscores the importance of comprehension of discipline-specific texts. Students should therefore be helped to extract and evaluate information from texts in their field to support their academic and professional performance.

Language skills

Table 10. Importance of language skills

No.	Language skill	Mean	Category
1.	Listening	3.70	Very important
2.	Speaking	3.75	Very important
3.	Writing	3.68	Very important
4.	Reading	3.73	Very important
5.	Vocabulary	3.71	Very important

Note. The original table also listed "Translation" without a value; please add the value or remove the item.

All language skills were perceived as very important (Table 10). The highest emphasis was on speaking (3.75), followed by reading (3.73), vocabulary (3.71), listening (3.70) and writing (3.68). The small differences between these values indicate that students want a balanced development of all language skills, with particular attention to speaking and reading, to succeed in academic, professional and social settings.

Present Situation Analysis

Level of ability

Table 11. Students' level of ability

No.	Skill	Mean
1.	Listening	3.70
2.	Speaking	3.75
3.	Writing	3.68
4.	Reading	3.73
5.	Vocabulary	3.71

Table 11 presents the students' mean scores across five English language skills and components: listening, speaking, writing, reading, and vocabulary. The results indicate that speaking received the highest mean score (3.75), followed by reading (3.73), vocabulary (3.71), listening (3.70), and writing (3.68). These findings suggest that students demonstrated relatively similar levels of ability across the five areas, with speaking emerging as the strongest area and writing as the weakest. However, the small differences among the mean scores indicate that the students' abilities were relatively consistent across the assessed skills and components. Further interpretation of their proficiency levels would require the rating scale and its corresponding classification criteria.

Learning problems

Table 12. Frequency of learning problems

No.	Learning problem	Mean	Category
1.	Lack of motivation	3.70	Always
2.	Lack of English learning strategies	3.31	Often
3.	Spelling errors	3.63	Always
4.	Inadequate mastery of grammar	3.62	Always
5.	Relying heavily on L1 structure	3.60	Always

The most frequent learning problem was lack of motivation (3.70, always), as shown in Table 12. Spelling errors (3.63), inadequate mastery of grammar (3.62) and reliance on L1 structure (3.60) were also reported as occurring always, while lack of English learning strategies (3.31) was reported as occurring often. These findings suggest that students need a more motivating learning approach, effective strategies for learning English, and support in developing grammar and other technical language abilities.

Learning Needs

Learning preferences

Table 13. Learning preferences

No.	Learning preference	Mean
1.	Learning individually	1.88
2.	Learning in pairs	1.50
3.	Learning in a small group	2.25
4.	Learning in a big group	1.00
5.	Learning through reading while taking notes	1.88
6.	Learning through role play	0.75

Note. Values are reported as in the original data. They fall outside the 1–4 range and are therefore interpreted only as a rank order.

Learning in a small group was ranked first, followed by learning individually and learning through reading while taking notes, as shown in Table 13. Learning in pairs, in a big group and through role play were ranked lowest. This indicates that collaborative learning in small groups is perceived as the most effective way of supporting the learning process.

Learning styles

Table 14. Learning styles

No.	Learning style	Mean	Category
1.	Learning through pictures	3.63	Very important
2.	Learning through video	2.25	Less important
3.	Learning through audio	2.00	Less important

The last question asked which learning style helps students learn English best (Table 14). The most helpful medium was pictures (3.63, very important), followed by video (2.25) and audio (2.00), both in the less important category. This highlights the importance of visual materials, such as drawings, plans and photographs, which are closely related to the visual nature of architecture.

Discussion

The students' emphasis on speaking and reading agrees with earlier needs analyses of architecture students. Kurnia and Sundayana (2017) and Ouarniki (2022) also found that speaking and reading were the skills architecture students needed most, and a review of engineering needs analyses identified speaking as the most emphasised skill (Musrina et al., 2024). Reading is central to the academic work of architecture students, who need to understand specialised texts, while speaking is needed for presenting and defending design ideas. The preference for design architecture as the main topic, and the low ranking of building technology, landscape and urban planning, suggest that students associate English mainly with design studio work. This pattern may also reflect the item format, for example if students could choose only a limited number of topics, and should be examined once the scoring of Table 4 is clarified.

The findings also contain apparent contradictions. Pronunciation was rated very important as a language component (Table 3), yet the two pronunciation-related speaking aspects were ranked lowest (Table 7). One explanation is that the two items measured different things: a general rating of a component on the 1–4 scale and a ranking among speaking aspects in which grammatical accuracy and fluency were preferred. Another is that students consider pronunciation important in principle but give priority to accuracy when they must choose. In addition, nearly all language skills and components were rated very important, and nearly all learning problems were reported as occurring often or always. This ceiling pattern suggests that the Likert items may not discriminate well between needs, or that students tended to agree with all statements. Ranking tasks, interviews with students and

lecturers, and a proficiency test would provide a clearer picture of priorities and actual abilities.

Students' preference for pictures as a learning medium and for small-group work fits the visual and collaborative nature of architectural education, in which students work with drawings, plans and models and discuss designs in studio groups. Like Murtiningsih and Amelia (2023), who matched architecture students' English skills with the demands of future jobs, the present findings point to an integrated syllabus in which speaking, reading and technical vocabulary are developed through design-related tasks. Table 15 outlines course content derived from the findings.

Table 15. Recommended course content derived from the findings

Focus	Content	Basis in the findings
Reading	Reading project descriptions, design briefs and short articles on architectural design and theory	Reading rated most important component and most used skill (Tables 3, 5, 9)
Speaking	Presenting and explaining a design using drawings, with attention to grammatical accuracy and fluency	Speaking rated most important skill; accuracy and fluency ranked first (Tables 7, 10)
Vocabulary	Technical vocabulary of design, structure and materials, learned with pictures and plans	Vocabulary rated very important; pictures most helpful medium (Tables 3, 14)
Writing	Writing short design descriptions and reports with correct grammar and paragraph organisation	Grammar and paragraph organisation rated very important (Table 6)
Listening	Listening to lectures and videos on architecture, from easier to more demanding material	Easy material ranked first, then material in any context (Table 8)
Learning mode	Small-group tasks, visual materials, and activities that support motivation and learning strategies	Small groups preferred; lack of motivation and strategies reported (Tables 12, 13)

Note. The outline is derived from students' self-reported needs and should be refined with input from lecturers and professionals.

CONCLUSION

The findings of this study emphasise the importance of developing tailored ESP programmes to address the specific linguistic and professional needs of Architecture Engineering students at UIN Alauddin Makassar. Students regard speaking and reading as the most important skills for academic success and career readiness, and reading is the skill they use most often, because it helps them comprehend technical literature such as journals, textbooks and other specialised resources. Speaking proficiency, especially grammatical accuracy and fluency, is also highly valued for effective communication in professional and academic settings.

Listening and writing are also considered very important, although they are slightly less emphasised than speaking and reading. Listening is needed for understanding instructions, discussions and diverse contexts, while writing is needed for reports, essays and academic projects. The study also highlights the importance of technical vocabulary and grammatical accuracy, which students consider foundational for language use in architecture-related contexts.

In terms of content, design architecture is the most preferred topic, followed by architectural theory and the art and aesthetics of buildings. These preferences reflect students' desire for English learning that is directly aligned with their field of study. The study also identifies key learning problems, including lack of motivation, spelling errors, inadequate mastery of grammar and reliance on the first language, which call for more engaging and interactive teaching methods. Students' preference for small-group work and picture-based learning suggests that collaborative and visually supported approaches would suit them best.

Overall, this study provides insights into the specific needs of Architecture Engineering students and emphasises the importance of aligning English instruction with their academic and professional goals. By addressing these needs through a well-designed ESP syllabus, educators and curriculum designers may be better able to equip students with the language skills necessary for their studies and future careers.

The study has several limitations. It involved one cohort in one department, and the data are students' self-reports; the views of lecturers, alumni and employers, which earlier studies included (Kurnia & Sundayana, 2017; Murtiningsih & Amelia, 2023), and objective proficiency data were not collected. The items on topics, speaking aspects and learning preferences were scored on a different basis from the four-point scale, and the ability ratings must be checked against the raw data. Nearly all items were rated in the highest categories, which limits their power to distinguish priorities. Future research should triangulate students' views with those of lecturers and professionals, use ranking tasks and interviews, and evaluate an ESP course based on the outline proposed here.

AI USE AND DISCLOSURE

The authors used ChatGPT (OpenAI) to check grammar, proofread the manuscript, improve clarity and consistency, and assist in identifying relevant references. All references suggested by the tool were verified against the original sources. The authors reviewed and edited all AI-assisted content and take full responsibility for the accuracy, integrity, and final content of the article.

ETHICAL STATEMENT AND INFORMED CONSENT

Permission to conduct the study was obtained from the Architecture Engineering Department. Participation was voluntary, and students were informed of the purpose of the study and provided informed consent before completing the questionnaire. All responses were collected anonymously to protect participants' privacy and confidentiality.

CRediT AUTHORSHIP CONTRIBUTION STATEMENT

- Lesyia Nurfadila: Conceptualization, Methodology, Writing – original draft;
- Mutnadia Ramadani H: Investigation, Data curation, Writing – original draft;
- Farida Fauziah Nurochim: Formal analysis, Validation, Writing – review & editing;
- Muh Fatir: Investigation, Resources, Data curation;
- Dela Amanda Putri: Visualization, Writing – review & editing, Project administration.

CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this article.

DATA AVAILABILITY

The questionnaire and the anonymised response data are available from the corresponding author on reasonable request.

REFERENCES

Arumugam, N., Perinpasingam, S., Thayalan, X., & Maniam, M. (2014). Needs analysis on the importance of English language skills for workplace: Trainee architects. *International Review of Basic and Applied Sciences, 3*(10).

Basturkmen, H. (2010). *Developing courses in English for specific purposes*. Palgrave Macmillan.

Djebbari, A. (2016). *Needs analysis of ESP students of science and technology: Case study of students of architecture and mathematics departments at Biskra University* [Unpublished master's dissertation]

Fathi Bonabi, V. (2008). The importance of materials design in ESP and EST. *The Journal of Applied Linguistics, 1*(3).

Freddi, M., & Tluková, J. (2022). Writing for architecture and civil engineering: Comparing Czech and Italian students' needs in ESP. *Journal of Academic Writing, 12*(1), 34–49. https://doi.org/10.18552/joaw.v12i1.815

Ganiron, T. U., Jr. (2014). Teaching styles of using English drama in critical thinking course for architecture students in Qassim University. *International Journal of Education and Learning, 3*(2), 11–22. https://doi.org/10.14257/ijel.2014.3.2.02

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

Ibragimova, D. S. (2021). English for specific purposes. *Journal of Contemporary Issues in Business and Government, 27*(5). https://doi.org/10.47750/cibg.2021.27.05.047

Kurnia, A., & Sundayana, W. (2017). English needs of architectural engineering students at a private university in Bandung. *Edusentris: Jurnal Ilmu Pendidikan dan Pengajaran, 4*(2), 59–63.

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

Mills, G. E., & Gay, L. R. (2016). *Educational research: Competencies for analysis and applications* (11th ed.). Pearson.

Murtiningsih, T., & Amelia, R. (2023). Designing an English syllabus for architecture students: Matching students' English skills and future jobs. *SALEE: Study of Applied Linguistics and English Education, 4*(1), 129–147. https://doi.org/10.35961/salee.v4i1.617

Musrina, Musdalifah, A., Bangsawan, I., & Astika, A. J. (2024). The trends in need analysis of ESP for engineering students: Systematic literature review. *Didaktika: Jurnal Kependidikan, 13*(1). https://doi.org/10.58230/27454312.510

Ouarniki, O. (2022). Assessing students' needs in an ESP context: The case of architecture students. *El Mohtaref Journal of Sports, 9*(2), 567–589.

Sari, H. M., & Nurhidayah, R. (2022). Ungrammatical sentences: A grammatical error analysis on architects students' corpuses of Pontianak State Polytechnic. *SPECTRAL: Jurnal Ilmiah STBA, 8*(1).

Sarwanti, S., Sotlikova, R., Novianto, D., & Indriani, L. (2023). Needs analysis of English skills amongst electrical engineering students in ESP contexts. *Journal of Languages and Language Teaching, 11*(4), 669–682. https://doi.org/10.33394/jollt.v11i4.9016