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RÜSTƏMOVA NƏRMIN MUSA QIZI

rustemovanermin623@gmail.com

Azərbaycan Texniki Universitetinin nəzdində Bakı Texniki Kolleci

LINGUISTIC FOUNDATIONS OF EFFECTIVE REPORT WRITING IN ENGINEERING ESP CLASSROOM

Açar sözlər: ixtisasyönlü ingilis dili, mühəndislik hesabat yazısı, texniki yazı, tətbiqi dilçilik, akademik diskurs

Ключевые слова: Английский язык для специальных целей (ESP); написание инженерных отчётов; прикладная лингвистика; академический и профессиональный дискурс; техническое письмо

Keywords: English for Specific Purposes (ESP); engineering report writing; applied linguistics; academic and professional discourse; technical writing

Abstract

Effective technical report writing is a core academic and professional requirement for engineering students; however, many learners in English as foreign language (EFL) contexts experience persistent difficulties in mastering this genre. These challenges are often not limited to grammatical inaccuracies but are rooted in limited awareness of genre conventions, register, and discipline-specific language use. Grounded in applied linguistics and English for Specific Purposes (ESP) theory, this paper examines the linguistic foundations of effective report writing in engineering ESP classrooms. Drawing on genre analysis, discourse studies, and functional linguistics, the study identifies key linguistic and cognitive challenges faced by engineering students, including weak understanding of report structure, insufficient technical vocabulary, inappropriate stylistic choices, and difficulties in transforming technical data into coherent written explanations. The paper further explores pedagogically informed strategies for addressing these challenges, emphasizing genre-based instruction, lexico - grammatical scaffolding, process-oriented writing, and integration of language instruction with engineering content. By highlighting the role of linguistic awareness in technical communication, the study argues that effective report writing instruction must move beyond surface-level grammar correction toward discourse-level competence and meaning construction. The findings suggest that linguistically informed ESP pedagogy can significantly enhance engineering students' academic writing performance, professional preparedness, and confidence in using English for technical communication.

1. Introduction

In today's rapidly evolving technological world, engineering graduates are expected not only to demonstrate strong technical expertise but also to communicate

their knowledge effectively in written form. Among various academic and professional genres, technical report writing occupies a central position in engineering education, as it reflects students' ability to describe processes, analyze data, present results objectively, and justify technical decisions. Reports are widely used in laboratory work, project documentation, feasibility studies, and professional engineering practice, making them a critical component of both academic assessment and workplace communication.

For engineering students studying in English as a foreign language (EFL) contexts, report writing presents considerable challenges. Despite possessing adequate subject knowledge, many students struggle to transform technical content into coherent, well-structured written discourse (Hyland, 2004; Johns, 2008). Common difficulties include weak organization, limited use of discipline-specific vocabulary, grammatical inaccuracies, and inappropriate stylistic choices. These challenges often result in reports that fail to meet academic or professional standards, undermining students' academic performance and professional confidence.

Within technical universities and colleges, English instruction is frequently delivered through the framework of English for Specific Purposes (Dudley-Evans & St John, 1998). ESP emphasizes the alignment of language teaching with learners' disciplinary and professional needs. Unlike general academic writing, engineering report writing requires mastery of specific genre conventions, rhetorical structures, and lexico-grammatical patterns that are characteristic of scientific and technical discourse. Consequently, traditional general English writing approaches may not adequately address the linguistic demands of engineering communication.

From a linguistic perspective, engineering report writing can be viewed as a form of specialized academic discourse governed by conventions of genre, register, and disciplinary meaning-making practices. This study adopts an applied linguistic approach to explore the linguistic foundations of effective report writing in engineering ESP classrooms. It aims to identify key linguistic challenges faced by engineering students and to propose pedagogically sound strategies that integrate genre awareness, discourse competence, and functional language use. By strengthening the linguistic basis of report writing instruction, ESP teachers can support students in developing both academic literacy and professional communicative competence.

2. Engineering Report Writing as a Linguistic and Discursive Genre

2.1. Report Writing and Genre Theory

In applied linguistics and discourse studies, genres are understood as socially recognized ways of using language to achieve specific communicative purposes within particular communities. Engineering reports constitute a distinct academic and professional genre characterized by conventional structural components such as the

introduction, methodology, results, discussion, and conclusion. Each section fulfills a specific communicative function and requires appropriate linguistic realization.

From a genre-based perspective, effective report writing involves more than grammatical accuracy; it requires awareness of how meaning is constructed through conventionalized rhetorical moves. For example, method sections prioritize procedural clarity and passive constructions, while result sections emphasize objective data presentation and precise quantitative language. Lack of familiarity with these genre conventions often leads students to treat reports as extended essays, resulting in inappropriate organization and stylistic inconsistency (Johns, 2008).

2.2. Register and Style in Engineering Discourse

Engineering reports operate within a formal academic-professional register that values objectivity, precision, and impersonality. Linguistically, this register is characterized by limited use of personal pronouns, preference for passive voice, high lexical density, and frequent nominalization. These features allow writers to foreground processes and results rather than personal involvement.

Many EFL engineering students experience difficulty adjusting to this register. Their writing may contain conversational expressions, subjective evaluations, or informal vocabulary that conflict with the conventions of technical discourse. Such stylistic deviations highlight the importance of explicit instruction in register awareness as a core component of ESP writing pedagogy.

3. Linguistic Challenges in Engineering Report Writing

3.1. Structural and Discourse-Level Difficulties

One of the most persistent challenges faced by engineering students is weak understanding of report structure. Students often fail to differentiate between descriptive and analytical sections or to maintain logical progression between ideas. Background information, procedural details, and interpretations of results are frequently mixed, reducing clarity and coherence.

From a discourse-linguistic standpoint, these problems indicate limited awareness of how information is organized and staged within technical genres. Without explicit guidance, students may be unaware of the communicative purpose of each section and the types of linguistic resources required to achieve it.

3.2. Lexico-Grammatical Limitations

Another major challenge involves insufficient command of technical and academic vocabulary. Engineering reports require precise lexical choices to describe processes, measurements, and outcomes accurately. However, students often rely on general English verbs such as *do*, *make*, or *get*, which lack the specificity required in technical contexts (Hyland, 2004).

Grammatical difficulties are also common, particularly in the use of passive voice, verb tenses, and complex sentence structures. Passive constructions play a

crucial role in technical writing by emphasizing procedures rather than actors, yet students may avoid or misuse them due to limited grammatical confidence.

3.3. Meaning Construction and Data Interpretation

Writing challenges in engineering education are not solely linguistic but also cognitive in nature. While students may successfully conduct experiments or technical tasks, they often struggle to interpret numerical data and express relationships, trends, and implications in written form. Reports may present raw data without explanation or fail to connect findings to theoretical expectations.

From a cognitive linguistic perspective, this difficulty reflects problems in transforming technical knowledge into linguistically structured meaning. Students require support in linking quantitative information with explanatory language and disciplinary concepts.

3.4. Affective Factors and Writing Anxiety

Affective factors such as low confidence, fear of making mistakes, and previous negative writing experiences significantly influence student performance. When report writing is perceived primarily as an assessment tool rather than a learning process, students may rely heavily on memorization, templates, or copying from sources. This can lead to superficial learning and increased risk of plagiarism.

4. Linguistically Informed Pedagogical Strategies in ESP Classrooms

4.1. Genre-Based Instruction and Modeling

Genre-based instruction provides a linguistically grounded framework for teaching report writing. By analyzing authentic engineering reports, students can identify common rhetorical patterns, section-specific language features, and typical sentence structures. Tasks such as matching sections with their communicative purposes, reorganizing scrambled report texts, and highlighting key linguistic features promote genre awareness and discourse competence.

4.2. Vocabulary Scaffolding and Lexical Development

Effective ESP instruction requires systematic development of technical and academic vocabulary. Teachers can create discipline-specific language banks that include technical verbs, collocations, and formulaic expressions commonly used in reports. Contextualized practice activities, such as sentence transformation and guided rewriting, help students integrate new vocabulary into meaningful discourse.

4.3. Process Writing and Feedback

The process writing approach aligns well with pedagogical linguistics by emphasizing writing as an evolving activity (Tribble, 1996). Breaking report writing into stages—planning, drafting, revising, and editing—allows students to focus on different linguistic aspects at each stage. Peer feedback using simplified rubrics encourages critical reading skills and increases learner autonomy while reducing dependence on teacher correction.

4.4. Integration of Language and Engineering Content

Collaboration between language instructors and engineering faculty enhances the authenticity of writing tasks. When report writing is directly linked to laboratory work or technical projects, students perceive writing as a meaningful professional activity. Such integration reinforces the connection between linguistic competence and disciplinary knowledge.

4.5. Digital Tools and Collaborative Writing

Digital platforms such as shared documents and learning management systems support collaborative writing and real-time feedback. These tools facilitate joint editing, revision tracking, and integration of visuals with text, reflecting modern professional communication practices and increasing student engagement.

5. Conclusion

Engineering report writing represents a complex form of specialized academic discourse that requires mastery of genre conventions, register awareness, and functional language use (Swales, 1990; Halliday & Matthiessen, 2014; Hyland, 2007). For engineering students in EFL contexts, difficulties in report writing often stem from limited linguistic awareness rather than lack of technical knowledge alone. This study has examined the linguistic foundations of effective report writing in engineering ESP classrooms, highlighting key challenges at the discourse, lexicogrammatical, cognitive, and affective levels.

The proposed pedagogical strategies, grounded in applied linguistics and ESP theory, emphasize genre modeling, vocabulary scaffolding, process writing, and integration of language instruction with engineering content. These approaches aim to develop students' ability to construct meaning through appropriate linguistic choices and to view report writing as a professional communication practice rather than a mechanical language exercise.

The findings suggest that systematic, linguistically informed instruction can significantly improve students' confidence, writing quality, and professional preparedness. Future research may explore longitudinal effects of genre-based ESP instruction and examine the role of digital and AI-assisted feedback tools in enhancing technical writing pedagogy. Strengthening the linguistic foundations of report writing instruction is essential for preparing engineering graduates who are not only technically competent but also communicatively effective in global professional contexts.

References

- Bhatia, V. K. (1993). *Analysing genre: Language use in professional settings*. London: Longman.
- Biber, D., Conrad, S., & Reppen, R. (1998). *Corpus linguistics: Investigating language structure and use*. Cambridge: Cambridge University Press.

- Dudley-Evans, T., & St John, M. J. (1998). *Developments in English for specific purposes: A multi-disciplinary approach*. Cambridge: Cambridge University Press.
- Flowerdew, J. (2013). Discourse in English for specific purposes. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 175–194). Oxford: Wiley-Blackwell.
- Halliday, M. A. K., & Hasan, R. (1989). *Language, context, and text: Aspects of language in a social-semiotic perspective* (2nd ed.). Oxford: Oxford University Press.
- Halliday, M. A. K., & Matthiessen, C. (2014). *Halliday's Introduction to functional grammar* (4th ed.). London: Routledge.
- Hyland, K. (2004). *Disciplinary discourses: Social interactions in academic writing*. Ann Arbor, MI: University of Michigan Press.
- Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing*, 16(3), 148–164. <https://doi.org/10.1016/j.jslw.2007.07.005>
- Johns, A. M. (2008). Genre awareness for the novice academic student: An ongoing quest. *Language Teaching*, 41(2), 237–252. <https://doi.org/10.1017/S0261444807004892>
- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
- Swales, J. M., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks and skills* (3rd ed.). Ann Arbor, MI: University of Michigan Press.
- Tribble, C. (1996). *Writing*. Oxford: Oxford University Press.
- Wingate, U. (2012). Using academic literacies and genre-based models for academic writing instruction: A 'literacy' journey. *Journal of English for Academic Purposes*, 11(1), 26–37. <https://doi.org/10.1016/j.jeap.2011.11.006>

Xülasə

Rüstəmovə Nərmin

Mühəndislik üzrə ESP dərslərində effektiv hesabat yazısının linqvistik əsasları

Texniki hesabat yazısı mühəndislik tələbələri üçün əsas akademik və peşəkar bacarıqlardan biridir. Lakin ingilis dilini xarici dil kimi öyrənən (EFL) tələbələr bu janrı mənimsəməkdə davamlı çətinliklərlə üzləşirlər. Bu çətinliklər əksər hallarda yalnız qrammatik səhvlərlə məhdudlaşmır, janr xüsusiyyətləri, üslub (register) və sahəyexas dil istifadəsi barədə kifayət qədər məlumatın olmaması ilə bağlıdır. Tətbiqi dilçilik və Xüsusi Məqsədlər üçün İngilis dili (ESP) nəzəriyyəsinə əsaslanan bu məqalədə mühəndislik üzrə ESP dərslərində effektiv hesabat yazısının linqvistik əsasları araşdırılır. Janr analizi, diskurs tədqiqatları və funksional dilçilik yanaşmaları

əsasında mühəndislik tələbələrinin qarşılaşdıqları əsas problemlər — hesabat strukturunun zəif mənimsənilməsi, texniki leksikanın məhdudluğu, qeyri-münasib üslubi seçimlər və texniki məlumatların məntiqi yazılı izahında çətinliklər — müəyyənləşdirilir. Məqalədə bu problemlərin aradan qaldırılması üçün janr-əsaslı tədris, leksiko-qrammatik scaffolding, prosesyonümlü yazı və dil tədrisinin mühəndislik məzmunu ilə inteqrasiyasına əsaslanan pedaqoji strategiyalar təklif olunur. Nəticələr göstərir ki, lingvistik cəhətdən əsaslandırılmış ESP tədrisi mühəndislik tələbələrinin akademik yazı bacarıqlarını, peşəkar hazırlığını və texniki kommunikasiya sahəsində özünəinamını əhəmiyyətli dərəcədə artırmağa bilər.

АННОТАЦИЯ

РУСТАМОВА НАРМИН

ЛИНГВИСТИЧЕСКИЕ ОСНОВЫ ЭФФЕКТИВНОГО НАПИСАНИЯ ОТЧЁТОВ В ИНЖЕНЕРНЫХ ESP-АУДИТОРИЯХ

Техническое отчётное письмо является одной из ключевых академических и профессиональных компетенций для студентов инженерных специальностей. Однако обучающиеся, изучающие английский язык как иностранный (EFL), часто сталкиваются с устойчивыми трудностями при освоении данного жанра. Эти трудности, как правило, выходят за рамки грамматических ошибок и связаны с недостаточной осведомлённостью о жанровых нормах, регистре и профессионально-ориентированном использовании языка. Настоящая статья, основанная на положениях прикладной лингвистики и теории английского языка для специальных целей (ESP), рассматривает лингвистические основы эффективного написания отчётов в инженерных ESP-аудиториях. Опираясь на жанровый анализ, дискурсивные исследования и функциональную лингвистику, в статье выявляются основные проблемы, с которыми сталкиваются студенты инженерных специальностей, включая слабое понимание структуры отчёта, ограниченный объём технической лексики, неадекватные стилистические решения и трудности в интерпретации и письменном объяснении технических данных. В работе также предлагаются педагогические стратегии, направленные на преодоление указанных проблем, такие как жанрово-ориентированное обучение, лексико-грамматическое сопровождение, процессуальный подход к письму и интеграция языкового обучения с инженерным содержанием. Результаты исследования свидетельствуют о том, что лингвистически обоснованная ESP-педагогика способствует повышению качества академического письма, профессиональной подготовки и уверенности студентов в использовании английского языка для технической коммуникации.

Rəyçi: filologiya üzrə fəlsəfə doktoru Layə Mustafayeva