QO‘QON DAVLAT PEDAGOGIKA INSTITUTI ILMIY XABARLARI
(2026-yil 10-son)
PEDAGOGIKA
PEDAGOGY
https://doi.org/10.70728/c.series.ped.v08.i10.035

METHODOLOGY FOR DEVELOPING PROFESSIONAL TERMINOLOGICAL COMPETENCE IN ARCHITECTURE STUDENTS THROUGH PROJECT-BASED LEARNING (PBL)

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Abstract. This article examines a methodology for developing the professional terminological competence of architecture students through Project-Based Learning (PBL). The study emphasizes that effective architectural education requires students not only to memorize specialized terms but also to understand, interpret, and apply them accurately in authentic professional communication. The research analyzes the content of professional terminological competence, the pedagogical potential of PBL, and mechanisms for integrating terminology acquisition with architectural project activities. The proposed methodology consists of five interconnected stages: diagnostic preparation, terminological preparation, project implementation, professional presentation, and reflection. The findings indicate that project-based instruction facilitates contextual acquisition of architectural terminology, productive vocabulary use, professional communication, collaborative learning, and greater terminological accuracy.

Keywords: architectural education, professional terminological competence, Project-Based Learning, architectural terminology, professional communication, ESP, project-based instruction, terminology acquisition.

Annotatsiya. Mazkur maqolada arxitektura fakulteti talabalarining professional terminologik kompetensiyasini loyihaga asoslangan ta’lim (Project-Based Learning — PBL) orqali shakllantirish metodikasi tadqiq etiladi. Arxitektura ta’limida maxsus terminlarni shunchaki yodlash emas, balki ularni real kasbiy vaziyatlarda to‘g‘ri anglash, qo‘llash va professional muloqotda samarali foydalanish muhimligi asoslanadi. Tadqiqotda terminologik kompetensiyaning mazmuni, PBLning pedagogik imkoniyatlari hamda ularni integratsiyalash mexanizmlari tahlil qilinadi. Taklif etilgan metodika diagnostik tayyorgarlik, terminologik tayyorgarlik, loyiha faoliyati, professional taqdimot va refleksiya bosqichlarini qamrab oladi.

Kalit so‘zlar: arxitektura ta’limi, professional terminologik kompetensiya, loyihaga asoslangan ta’lim, Project-Based Learning, arxitektura terminologiyasi, kasbiy muloqot, ESP, terminologik kompetensiya.

Аннотация. В статье исследуется методика формирования профессиональной терминологической компетенции студентов архитектурных факультетов посредством

проектно-ориентированного обучения (Project-Based Learning — PBL). Обосновывается необходимость не только запоминания специальных терминов, но и их осмысленного понимания, корректного применения и использования в реальных профессиональных коммуникативных ситуациях. Рассматриваются содержание профессиональной терминологической компетенции, педагогические возможности PBL и механизмы их интеграции в процессе архитектурного образования. Предлагаемая методика включает этапы диагностической подготовки, терминологической подготовки, проектной деятельности, профессиональной презентации и рефлексии.

Ключевые слова: архитектурное образование, профессиональная терминологическая компетенция, проектно-ориентированное обучение, Project-Based Learning, архитектурная терминология.

INTRODUCTION. Contemporary architectural education increasingly requires students to combine technical expertise with effective professional communication. Architecture is an interdisciplinary field in which specialists interact with engineers, urban planners, designers, contractors, clients, and other professionals. Therefore, students need not only general language proficiency but also a well-developed professional terminological competence that enables them to accurately understand, interpret, and use specialized architectural vocabulary in authentic academic and professional contexts.

Professional terminology performs a significant cognitive and communicative function in architectural practice. Terms related to spatial organization, structural systems, materials, construction technologies, sustainability, digital modeling, and design principles allow future architects to formulate ideas precisely and justify professional decisions. However, traditional approaches to terminology instruction often emphasize memorization, translation, and recognition of isolated lexical units. Such approaches may provide theoretical knowledge but do not always ensure students’ ability to apply terminology independently during design discussions, project documentation, presentations, and professional negotiations.

METHODOLOGY AND LITERATURE REVIEW

The methodological basis of this study is grounded in the integration of Project-Based Learning (PBL), English for Specific Purposes (ESP), contextual vocabulary learning, competency-based education, and professionally oriented communication. The central methodological assumption is that architecture students develop professional terminological competence more effectively when specialized vocabulary is acquired through meaningful professional activities rather than through isolated memorization [1]. In this context, terminology is considered not simply as a collection of lexical units but as an instrument for interpreting, discussing, explaining, and defending architectural decisions.

The theoretical foundations of Project-Based Learning have been extensively discussed by John W. Thomas in his seminal work *A Review of Research on Project-Based Learning*. Thomas emphasizes several defining characteristics of PBL, including the centrality of the project, a driving question or problem, constructive investigation, learner autonomy, and the connection of learning activities with realistic situations. These principles are particularly

compatible with architectural education because architectural training itself is commonly organized around design projects, problem-solving, studio work, presentations, and professional critique.

The linguistic dimension of the proposed methodology is supported by the principles of English for Specific Purposes developed by Tony Dudley-Evans and Maggie Jo St John in *Developments in English for Specific Purposes: A Multi-Disciplinary Approach* [2]. The authors emphasize the importance of identifying learners' specific needs, analyzing professional discourse, and designing language instruction around the communicative requirements of particular disciplines. For architecture students, this means that language instruction should focus on the terminology and communicative practices required in architectural design, technical documentation, project presentations, consultations, and interdisciplinary collaboration.

Vocabulary development is further supported by I. S. P. Nation's *Learning Vocabulary in Another Language*. Nation distinguishes different dimensions of knowing a word and discusses vocabulary learning through deliberate study, contextual exposure, productive use, and repeated retrieval. The book contains specific treatment of specialized vocabulary, vocabulary use in speaking and writing, and learning words from context. This perspective is particularly relevant to professional architectural terminology because students need both receptive knowledge, allowing them to understand technical texts and presentations, and productive knowledge, enabling them to employ terminology accurately in their own communication [3].

Project-Based Learning in language education has also been examined by Fredricka L. Stoller, particularly in her chapter "Establishing a Theoretical Foundation for Project-Based Learning in Second and Foreign Language Contexts," published in *Project-Based Second and Foreign Language Education* [4]. Stoller connects project work with language development by emphasizing purposeful investigation, collaboration, learner engagement, and the production of meaningful outcomes [5]. This perspective supports the integration of professional terminology into architectural projects, where students can acquire language while simultaneously constructing disciplinary knowledge.

RESULTS AND DISCUSSION

The results of the methodological analysis demonstrate that Project-Based Learning (PBL) provides a particularly suitable environment for developing the professional terminological competence of architecture students. The principal finding is that terminology acquisition becomes more effective when specialized lexical units are embedded in authentic architectural activities. Instead of memorizing terminology independently from professional practice, students encounter, interpret, discuss, and apply terms while solving design problems. This creates a direct relationship between linguistic knowledge and professional action.

The first significant result concerns the development of **contextual understanding of architectural terminology** [6]. Within traditional vocabulary instruction, students may remember definitions without fully understanding how terms function in professional

discourse. The project-based model changes this situation by presenting terminology through architectural problems. For example, terms such as *spatial organization, circulation, zoning, elevation, structural system, façade treatment,* and *material selection* acquire concrete meaning when students are required to incorporate these concepts into their own architectural proposals. The meaning of a term is therefore reinforced by its relationship with a specific design decision [7].

The second result is associated with **productive terminology use.** The proposed methodology requires students to use specialized vocabulary in several interconnected forms: group discussion, research notes, design descriptions, project documentation, visual annotations, oral presentations, and responses to questions. This repeated production is important because professional competence requires more than passive recognition. Students must be capable of retrieving appropriate terminology rapidly and using it accurately when explaining architectural concepts. This principle corresponds with the broader finding that PBL encourages students to apply disciplinary concepts through sustained project activity [8].

A third important result is the strengthening of **professional communication skills.** Architectural projects naturally require students to explain, negotiate, defend, and revise ideas. During collaborative work, students discuss alternative solutions and justify decisions concerning planning, structure, materials, functionality, and aesthetics. Consequently, terminology is learned as part of professional interaction. This is especially significant because architecture education already relies heavily on studio-based project work [9]. Recent research characterizes architectural studios as a project-oriented environment in which students integrate research, conceptual thinking, practical skills, and professional design processes.

The fourth result concerns **integration of language and disciplinary knowledge.** The proposed methodology avoids treating professional English or specialized terminology as a separate educational component. Instead, language learning is incorporated into architectural design activities. For instance, when students analyze a site, they simultaneously acquire and apply terminology related to *site conditions, accessibility, orientation, land use, circulation, and environmental context.* During structural analysis, vocabulary concerning *load-bearing elements, structural framework, span, foundation,* and *construction system* can be introduced and practiced. Such integration makes terminology immediately relevant to the students’ professional objectives.

Another important finding is the potential improvement of **terminological retention.** Repeated exposure to the same lexical units across different stages of a project creates multiple retrieval opportunities [10]. A term introduced during the preparation stage can subsequently be encountered in research materials, used during group discussions, included in drawings and written descriptions, and finally applied during the project defense. Thus, the learning process follows a cycle of introduction, contextualization, production, feedback, and reinforcement. This is consistent with the general principle of PBL in which students investigate, create, receive feedback, revise, and present a final product.

The methodology also demonstrates considerable potential for **interdisciplinary competence.** Contemporary architecture requires interaction with professionals from

engineering, construction, environmental science, urban planning, and project management [11]. Therefore, students need terminology that enables them to communicate beyond the boundaries of architectural design. A project involving sustainable building design, for example, can require students to use terms related to *energy efficiency*, *thermal performance*, *renewable energy*, *passive design*, *environmental impact*, and *resource efficiency*. Such terminology expands students' professional communicative repertoire and prepares them for multidisciplinary collaboration.

CONCLUSION

The study demonstrates that Project-Based Learning provides a productive methodological framework for developing the professional terminological competence of architecture students. The analysis confirms that specialized terminology is acquired more effectively when it is integrated with authentic professional activities rather than taught as a collection of isolated lexical units. Architectural projects create meaningful situations in which students can encounter, interpret, practice, and independently apply professional terms while solving practical design problems.

The proposed methodology combines five interconnected stages: diagnostic preparation, terminological preparation, project implementation, professional presentation, and reflection. This structure enables students to move progressively from recognition of specialized vocabulary toward contextual and productive use. The repeated application of terminology in group discussions, design documentation, visual materials, project presentations, and professional defense contributes to strengthening both lexical retention and communicative accuracy.

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