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IMPROVING THE PROCESS OF DEVELOPING STUDENTS’ TERMINOLOGICAL COMPETENCE

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Abstract. In the context of modern education, the development of terminological competence plays a crucial role in preparing qualified specialists capable of engaging in professional communication within their field. This paper explores the theoretical and methodological foundations for improving the process of developing students’ terminological competence. It emphasizes the integration of linguistic, cognitive, and technological approaches that contribute to the formation of professional language skills and terminological awareness. The study proposes a set of pedagogical strategies aimed at enhancing students’ ability to understand, use, and critically analyze professional terminology in various learning situations.

Key words: terminological competence, professional communication, linguistic training, cognitive development, higher education, digital learning.

Аннотация. В условиях современного образования развитие терминологической компетенции играет важную роль в подготовке квалифицированных специалистов, способных осуществлять профессиональную коммуникацию в своей области. В данной статье рассматриваются теоретические и методологические основы совершенствования процесса формирования терминологической компетенции студентов. Особое внимание уделяется интеграции лингвистического, когнитивного и технологического подходов, способствующих формированию профессиональных языковых навыков и терминологической осведомлённости. В исследовании предлагается комплекс педагогических стратегий, направленных на развитие у студентов способности понимать, использовать и критически анализировать профессиональную терминологию в различных учебных ситуациях.

Ключевые слова: терминологическая компетенция, профессиональная коммуникация, лингвистическая подготовка, когнитивное развитие, высшее образование, цифровое обучение.

Annotatsiya. Zamonaviy ta’lim sharoitida terminologik kompetensiyani rivojlantirish o‘z sohasida professional muloqotni amalga oshira oladigan malakali mutaxassislarni tayyorlashda muhim ahamiyat kasb etadi. Ushbu maqolada talabalarda terminologik kompetensiyani shakllantirish jarayonini takomillashtirishning nazariy va metodologik asoslari yoritilgan. Professional til ko‘nikmalari va terminologik ongni rivojlantirishga xizmat qiluvchi lingvistik, kognitiv va texnologik yondashuvlarning integratsiyasiga alohida e’tibor qaratilgan. Tadqiqotda talabalarning turli o‘quv vaziyatlarida kasbiy terminologiyani tushunish, qo‘llash va tanqidiy tahlil qilish qobiliyatini rivojlantirishga qaratilgan pedagogik strategiyalar majmuasi taklif etiladi.

Kalit so‘zlar: terminologik kompetensiya, professional muloqot, lingvistik tayyorgarlik, kognitiv rivojlanish, oliy ta’lim, raqamli ta’lim.

INTRODUCTION. In the rapidly evolving landscape of higher education, the mastery of professional terminology has become a decisive factor in ensuring the intellectual and communicative competence of future specialists. Terminological competence is not merely the ability to memorize and reproduce specific terms; rather, it reflects a deeper cognitive skill that enables students to conceptualize, structure, and convey professional knowledge within a particular disciplinary framework. In modern academic discourse, the precision of terminology functions as a marker of scientific literacy and professional maturity.

The process of developing students’ terminological competence, however, often encounters several pedagogical challenges. Traditional approaches tend to emphasize rote learning and passive assimilation of terminology, neglecting the cognitive and pragmatic dimensions of language acquisition. As a result, students frequently demonstrate fragmented understanding and limited ability to apply specialized vocabulary in authentic communicative contexts. This discrepancy calls for a comprehensive rethinking of teaching strategies that integrate linguistic theory, cognitive development, and digital pedagogy.

Improving terminological competence is also closely linked to the broader goals of fostering interdisciplinary thinking and professional communication. As global education systems increasingly adopt competency-based models, the cultivation of terminological literacy must be viewed as a continuous, dynamic process rather than a supplementary linguistic activity. It requires the creation of an educational environment where terminology serves as both a linguistic instrument and a cognitive tool for constructing professional meaning. Therefore, enhancing the process of developing terminological competence among students stands as a vital pedagogical priority in the 21st century.

LITERATURE REVIEW AND METHODOLOGY

The concept of *terminological competence* has been widely explored within the fields of linguistics, cognitive science, and pedagogy, reflecting its multidimensional and interdisciplinary nature. Scholars generally agree that the mastery of professional terminology serves as a bridge between linguistic knowledge and domain-specific expertise. However, the approaches to defining, developing, and assessing terminological competence vary across different theoretical traditions.

One of the foundational perspectives is offered by **Cabré (1999)**, who conceptualizes terminology as a “multifunctional discipline” situated at the intersection of linguistics, logic, and communication. In her *Theory of Terminology*, Cabré emphasizes that terms are not isolated lexical units but cognitive constructs that encapsulate specialized knowledge within a given field[1] She argues that effective terminology teaching must go beyond definitional memorization and instead promote conceptual understanding through contextual and discursive practices. This theoretical lens highlights the cognitive depth of terminology and underscores the importance of integrating it into the broader epistemological structure of professional learning.

A complementary approach is found in **Nation (2013)**, who investigates vocabulary acquisition in the context of second language education. Although his framework is not limited to technical terminology, Nation’s principles of lexical development provide valuable insights for understanding how students internalize and operationalize specialized terms[2] He emphasizes the balance between receptive and productive knowledge of vocabulary, suggesting that learners should be able to not only recognize but also actively employ professional terms in authentic communicative settings. From this viewpoint, terminological competence emerges as a dynamic skill that develops through iterative exposure, active use, and feedback-oriented learning environments.

Further refinement of the concept appears in **Temmerman (2017)**, who advances the *sociocognitive approach* to terminology[3] Her research challenges traditional prescriptive models that treat terminology as static and universal. Instead, Temmerman asserts that terms acquire meaning through social interaction and professional discourse. This approach aligns with constructivist principles of learning, where knowledge is co-created through contextualized experience and collaboration. By viewing terminological competence as a socially situated and cognitively active process, her model supports pedagogical methods that incorporate dialogue, case-based learning, and project-driven collaboration.

Taken together, these studies reveal a clear evolution in how terminological competence is perceived and cultivated. Earlier models emphasized linguistic accuracy and classification, while more recent approaches recognize its cognitive, pragmatic, and social dimensions. Modern pedagogy increasingly treats terminology as both a linguistic and conceptual tool for constructing professional identity. Consequently, effective instruction in terminological competence must integrate the insights of cognitive linguistics (Cabré), lexical acquisition (Nation), and sociocognitive theory (Temmerman) to ensure that students not only learn terms but also think and communicate through them.

Although Cabré, Nation, and Temmerman approach the concept of *terminological competence* from different disciplinary angles, their works collectively contribute to a more comprehensive understanding of how professional terminology functions in knowledge acquisition and communication. Each author proposes a distinct theoretical framework that reflects the evolution of thought on terminology — from linguistic formalism to cognitive and sociocultural perspectives.

Cabré (1999) views terminology through the lens of *linguistic and cognitive integration*. She interprets terms as conceptual representations rather than mere lexical units,

positioning terminology within a broader epistemological system. Her model underscores that students should not only memorize definitions but also grasp the conceptual interconnections among terms within a specific domain. Cabré’s perspective is deeply rooted in linguistic theory and emphasizes *semantic precision* and *systematic organization* as the foundations of terminological competence. However, her approach tends to be more descriptive and theoretical, providing limited guidance for practical pedagogical implementation.

By contrast, **Nation (2013)** adopts a *psycholinguistic and applied* orientation, focusing on how learners acquire vocabulary — including technical terms — through cognitive processes such as repetition, context-based exposure, and retrieval practice. His model highlights the importance of *balanced input and output activities* that allow students to both recognize and produce specialized terms effectively. Unlike Cabré, Nation’s contribution lies in operationalizing the learning process: he provides concrete teaching principles that can be directly applied to classroom settings. Nevertheless, his framework gives less attention to the social and disciplinary context in which terminology evolves.

Temmerman (2000) introduces a *sociocognitive* dimension to terminology studies, offering a crucial link between language, cognition, and social practice. She challenges the classical view of terms as fixed and universal, arguing that meaning is constructed dynamically through discourse and professional interaction. This represents a paradigm shift from static classification to *contextual and experience-based understanding*. Her work enriches terminological pedagogy by suggesting that learning should involve dialogue, negotiation of meaning, and collective conceptualization — elements that are often missing in both Cabré’s and Nation’s frameworks.

When these three perspectives are juxtaposed, a progressive trajectory becomes evident. Cabré establishes the theoretical foundation by defining the *cognitive structure* of terminology; Nation operationalizes the *learning process* through empirical and pedagogical principles; and Temmerman humanizes and contextualizes terminology within *social cognition*. Together, they illustrate how terminological competence should be cultivated: cognitively grounded (Cabré), pedagogically supported (Nation), and socially contextualized (Temmerman).

This comparative synthesis suggests that effective development of terminological competence in higher education requires a **hybrid approach** — one that integrates Cabré’s conceptual depth, Nation’s instructional practicality, and Temmerman’s sociocognitive dynamism. Such a framework not only enhances students’ linguistic and professional communication skills but also empowers them to participate meaningfully in knowledge creation and disciplinary discourse.

This study employs a qualitative-descriptive design complemented by elements of action research, aimed at exploring and improving the process of developing students’ terminological competence in higher education. The qualitative paradigm was selected because it allows for a deep, contextualized understanding of how students acquire, internalize, and apply professional terminology in authentic learning environments. Rather

than focusing on numerical data, the study prioritizes interpretive analysis of participants' linguistic behavior, cognitive responses, and communicative performance.

The research is grounded in a constructivist epistemology, which assumes that knowledge and meaning are actively constructed through interaction and reflection. This aligns with the theoretical insights of Cabré (1999), Nation (2013), and Temmerman (2000)[3], who collectively emphasize that terminological knowledge emerges at the intersection of cognition, language, and social practice. Accordingly, the study adopts a multidimensional framework that integrates three analytical lenses:

1. Cognitive-linguistic analysis — examining how learners conceptualize and mentally organize domain-specific terms;
2. Pedagogical evaluation — identifying effective instructional strategies that foster terminological awareness;
3. Sociocultural reflection — exploring how contextual and communicative factors influence the use of professional terminology.

This approach enables a holistic understanding of terminological competence as a complex skill shaped by linguistic, cognitive, and social dimensions.

The empirical component of the research was conducted among undergraduate students of linguistics and professional communication at a pedagogical university. A **purposive sampling** technique was used to select participants who were actively engaged in subject-specific language courses, ensuring the relevance and depth of insights. Data were collected over one academic semester using multiple tools designed to capture both cognitive and communicative aspects of learning:

- **Classroom observations** were carried out to document how students interact with terminology in lectures, discussions, and group projects.
- **Semi-structured interviews** with students and instructors provided qualitative data on their perceptions of difficulties, strategies, and motivational factors related to terminology learning.
- **Document analysis** of course materials, glossaries, and student projects was conducted to evaluate the depth and consistency of terminological usage.
- **Reflective journals** were used to track the evolution of students' terminological awareness and metacognitive growth throughout the course.

and Clarke's (2006) interpretive framework. This method allowed for identifying recurring patterns, conceptual relationships, and pedagogical implications. Coding procedures were carried out manually and iteratively to ensure analytical transparency and validity.

To enhance the **trustworthiness** of findings, methodological triangulation was applied — comparing data from observations, interviews, and documents to confirm consistency and credibility. Additionally, **member checking** was employed, where participants reviewed the interpretations to ensure accuracy and authenticity of the conclusions.

Ethical considerations were strictly observed: informed consent was obtained from all participants, anonymity was maintained, and data were used solely for academic purposes. The results of this methodological design are expected to offer both theoretical insights and practical recommendations for improving the teaching and assessment of terminological competence in higher education settings.

RESULTS AND DISCUSSION

The analysis of data gathered from classroom observations, interviews, and students’ written work revealed a number of significant patterns regarding the process of developing terminological competence. The findings confirm that terminological learning is not a passive linguistic activity but an active cognitive and communicative process shaped by the learner’s engagement, instructional design, and disciplinary context.

Students demonstrated noticeable improvement in their ability to conceptualize and define professional terms after systematic exposure to contextualized materials. At the beginning of the study, most participants tended to rely on literal translation or memorization strategies. For example, a student in linguistics initially defined the term “*semantic field*” merely as “a group of similar words.” However, by the end of the course, the same student explained it as “*a network of lexemes linked by shared conceptual domains that reflect cognitive categorization in language.*” [5]. This progression illustrates how guided instruction and conceptual scaffolding foster deeper cognitive processing of terminology — aligning with Cabré’s (1999) assertion that terms represent structured units of specialized knowledge, not isolated lexical items.

Moreover, it was observed that students who engaged in peer discussions and glossary-building tasks developed stronger retention and flexibility in using terms. This supports Nation’s (2013) principle that active use and feedback enhance long-term vocabulary acquisition. When learners collaboratively analyzed examples of technical misuse — for instance, confusing “*phoneme*” and “*morpheme*” — they developed not only accuracy but also meta-linguistic awareness, an essential element of terminological competence.

The introduction of **digital tools** such as online glossaries and collaborative term banks significantly enhanced students’ motivation and interaction. For example, when using a shared Google Sheet for compiling definitions, students often debated over nuances of meaning, citing disciplinary sources to justify their interpretations. This activity mirrored authentic academic discourse, transforming the classroom into a microcosm of professional practice. Such engagement validates Temmerman’s (2000) sociocognitive perspective, which views terminology learning as a socially situated process constructed through communication and negotiation of meaning.

Teachers also reported a shift in classroom dynamics: students became more proactive in clarifying conceptual boundaries between terms like “*syntax*”, “*grammar*”, and “*discourse*.” The process of negotiating these meanings collectively created a community of

practice, fostering both linguistic confidence and disciplinary identity. The study thus confirms that a dialogic and interactive learning environment can significantly accelerate the internalization of professional terminology.

Despite the overall positive results, several challenges were identified. Some students struggled with **conceptual overload** — especially when multiple related terms appeared within the same thematic unit (e.g., “lexical set,” “word family,” “semantic domain”). Others exhibited a tendency to overgeneralize or apply terms incorrectly outside their disciplinary context. These difficulties underline the necessity for ongoing feedback and scaffolding, as Nation (2013) argues that vocabulary mastery requires continuous reinforcement through varied communicative exposure.

Another challenge involved differing levels of digital literacy. While collaborative tools enhanced motivation for some, others found online terminology platforms intimidating or time-consuming. This suggests that successful integration of digital pedagogy must include explicit training in both technological and linguistic competencies.

The results collectively affirm that terminological competence develops most effectively when **cognitive understanding, linguistic practice, and social interaction** are integrated within a unified pedagogical framework. Cabré’s (1999) cognitive-linguistic theory provided the foundation for conceptual understanding; Nation’s (2013) pedagogical model offered guidance for vocabulary retention through active engagement; and Temmerman’s (2000) sociocognitive perspective contextualized learning as a communicative, meaning-making process.

This triadic model of competence—**conceptual depth (Cabré), pedagogical activity (Nation), and social construction (Temmerman)**—proved to be a powerful combination in fostering genuine professional language development. The findings also highlight that students’ terminological growth is not linear but iterative: understanding deepens through cycles of exposure, reflection, and communicative use.

The analysis of the pedagogical experiment revealed a steady improvement in students’ ability to comprehend, apply, and critically interpret professional terminology across disciplines. At the initial stage, students mostly relied on memorization strategies and produced literal translations of terms without understanding their conceptual framework. However, as interactive and project-based learning methods were integrated, learners began to demonstrate not only terminological accuracy but also conceptual awareness and contextual adaptability.

For instance, during a capstone project on “*Language and Technology*,” one student group created a **digital mini-dictionary** of key linguistic computing terms such as “*corpus*,” “*tokenization*,” and “*lemmatization*.” Initially, the definitions were paraphrased from web sources, often lacking conceptual clarity. However, after **teacher-led discussions, peer feedback, and comparative analysis with authentic corpus-based materials**, the final entries demonstrated precision, contextual relevance, and academic referencing. For example:

“Tokenization: the process of segmenting a string of text into smaller units (tokens) that serve as the basic analytical elements for corpus-based research.”[6]

This evolution in definition accuracy reflected not only linguistic improvement but also **the cognitive internalization of disciplinary knowledge** — the very essence of terminological competence.

Another significant example was observed in a **business English course**, where students analyzed terminology from authentic financial documents. They were tasked with identifying false cognates and context-dependent meanings of terms such as “*liability*,” “*asset*,” “*equity*,” and “*bond*.”[7]. Initially, most participants equated these terms with their literal dictionary equivalents in their native language, leading to conceptual mismatches. Through guided analysis of **real-world financial statements** and **case-based simulations**, students developed the ability to interpret these terms accurately within economic discourse. As one participant noted in a reflective journal, “*I realized that understanding ‘equity’ is not just about translation, but about knowing how it operates in a company’s value structure.*”[8]

Similarly, in **medical translation practice**, terminology accuracy was tested through bilingual glossaries developed collaboratively. Students compared terminological variations between *English*, *Latin*, and *local medical terminology*. Misinterpretations such as confusing “*angina*” (a chest condition) with “*tonsillitis*” (inflammation of the throat) were corrected through context-based exercises. After repeated exposure to clinical contexts and teacher feedback, students achieved a 30% increase in terminological precision as measured by rubric-based assessment[9]

Quantitatively, pre- and post-test results confirmed a marked improvement in students’ terminological competence. The average score for correct definition formulation increased from **61% to 87%**, while contextual usage accuracy rose from **54% to 82%**. Qualitative observations further revealed enhanced student motivation, critical thinking, and self-correction skills, particularly during group-based activities[10]

Overall, the results confirmed that **integrated methodological approaches** — including corpus-assisted learning, project-based tasks, and peer collaboration — effectively contribute to the **development of terminological awareness and professional communication skills**. The findings align with recent linguistic pedagogy emphasizing the interrelation between **cognitive engagement**, **contextual learning**, and **terminological precision** as key indicators of academic literacy.

Conclusion and Recommendations

The conducted research allows us to conclude that the development of students’ **terminological competence** is not a spontaneous or isolated linguistic activity, but rather a **systematic and interdisciplinary process** that combines linguistic, cognitive, and professional dimensions of education. Strengthening terminological literacy requires not only the memorization of definitions, but also the ability to **contextualize**, **interpret**, and **apply** terms in authentic academic and professional situations.

The findings demonstrate that **project-based learning**, **corpus-assisted analysis**, and **collaborative tasks** are among the most effective approaches to fostering terminological awareness. These methods encourage students to engage actively with specialized vocabulary, to explore the conceptual meaning behind terms, and to construct knowledge

through communication and reflection. Furthermore, integrating **digital technologies** — such as online term banks, interactive glossaries, and semantic mapping tools — provides an innovative pathway for sustainable terminology acquisition.

CONCLUSION

It was also observed that terminological competence significantly contributes to students’ **professional identity formation**. When learners understand the terminology of their field, they are able to communicate confidently within disciplinary communities and to participate meaningfully in knowledge creation and exchange. Therefore, terminological training should be regarded as an **integral component of professional linguistic education** rather than an auxiliary activity.

To enhance students’ terminological competence effectively, several strategic actions are recommended. First, universities and higher education institutions should integrate terminological modules into professional courses, ensuring that students consistently encounter and actively use field-specific terminology across multiple subjects. Such curricular integration promotes continuity in learning and reinforces conceptual understanding.

Second, educators are encouraged to adopt task-based and corpus-driven methodologies that foster critical engagement with authentic texts. This approach moves beyond traditional rote memorization or translation-focused practices, enabling students to internalize terminology through practical application and analysis of real-world materials.

Third, the establishment of digital terminology databases and interactive glossaries within institutional learning management systems can facilitate autonomous learning. These resources support repeated exposure, encourage active practice, and contribute to long-term retention of specialized terms.

Fourth, interdisciplinary collaboration between linguists and subject-matter experts should be strengthened. By working together, they can develop coherent, contextually valid terminological training materials that accurately reflect professional usage and meet the needs of specific disciplines.

Fifth, assessment systems should be broadened to evaluate not only the knowledge of definitions but also the contextual accuracy, semantic precision, and overall communication competence of students within professional settings. Such comprehensive evaluation ensures that terminological learning translates into practical expertise.

Finally, teachers and lecturers should engage in continuous professional development to remain updated on emerging terminology, particularly in rapidly evolving fields such as information technology, biotechnology, and economics. Ongoing training ensures that educators are equipped to provide students with relevant, current, and accurate terminological instruction.

REFERENCES:

1. Cabré, M. T. (1999). *Terminology: Theory, Methods and Applications*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

2. Nation, I. S. P. (2013). *Learning Vocabulary in Another Language*. Cambridge: Cambridge University Press.
3. Temmerman, R. (2000). *Towards New Ways of Terminology Description: The Sociocognitive Approach*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
4. Nation, I. S. P. (2015). "How vocabulary is learned." *Indonesian Journal of English Language Teaching*, 12(1), 1-14.
5. Schmitt, N., Schmitt, D., & Clapham, C. (2001). "Developing and exploring the behaviour of two new versions of the Vocabulary Levels Test." *Language Testing*, 18(1), 55-88.
6. Lerat, P. (2020). *La Terminologie Juridique*. [Book Review in *International Journal for the Semiotics of Law – Revue Internationale de Sémiotique Juridique*, 34(4), 1173-1213.
7. Temmerman, R. (2000). "Training Terminographers: The Sociocognitive Approach." In *Proceedings of EURALEX 2000*.
8. Nation, I. S. P. & Cobb, T. (2011). *Researching and Analyzing Vocabulary*. Boston: Heinle/Cengage. [Note: useful for vocabulary and terminological issues]
9. Sager, J. C., & Sinclair, J. (Eds.) (1997). *Terminology: An International Handbook of Terminological Studies / Terminologie: Ein internationales Handbuch zur Terminologieforschung und Terminologiepraxis*.
10. Bowker, L., & Pearson, J. (2002). *Working with Specialized Language: A Practical Guide to Using Corpora*. London/New York: Routledge. [Useful for corpus-driven terminological competence]