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THE TERMINOLOGICAL DIMENSION OF ACADEMIC WRITING IN INTERDISCIPLINARY CONTEXTS: A STUDY OF COMPUTER, LEGAL, AND MANAGEMENT TEXTS

ТЕРМІНОЛОГІЧНИЙ ВИМІР АКАДЕМІЧНОГО ПИСЬМА В МІЖДИСЦИПЛІНАРНИХ КОНТЕКСТАХ: ДОСЛІДЖЕННЯ КОМП’ЮТЕРНИХ, ЮРИДИЧНИХ ТА УПРАВЛІНСЬКИХ ТЕКСТІВ

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The article investigates the role of terminology in academic writing with a particular focus on three disciplinary domains: computer science, legal studies, and management. Terminology is treated not merely as a set of technical labels but as a cognitive and communicative mechanism that reflects disciplinary identity and facilitates the construction and transmission of knowledge. The analysis demonstrates that each field exhibits distinctive structural and semantic patterns. Computer science terminology is marked by compounding, acronym formation, and frequent neologism, producing largely transparent and operationally defined terms that evolve rapidly in response to technological innovation. Legal terminology, by contrast, is characterized by conservatism and historical layering, relying heavily on Latin and French borrowings, formulaic expressions, and stipulative definitions with low semantic transparency. Management terminology occupies an intermediate position, combining technical borrowings with metaphorical and evaluative expressions that serve both descriptive and persuasive purposes. Despite these contrasts, all three domains employ terminology to achieve key pragmatic functions: structuring arguments, standardizing disciplinary practices, and legitimizing scholarly authority. The study identifies significant challenges in interdisciplinary contexts, where differences in definitional authority, tempo of change, and pragmatic orientation may lead to terminological ambiguity or misalignment. At the same time, it highlights promising strategies for integration, including the use of layered definitions, cross-disciplinary glossaries, and corpus-informed validation techniques. The findings suggest that terminology not only demarcates disciplinary boundaries but also provides tools for bridging them, reinforcing its central role in the development of integrative forms of academic discourse.

Key words: academic writing, terminology, interdisciplinary communication, computer science, legal studies, management, standardization.

Стаття досліджує роль термінології в академічному письмі з особливим акцентом на три галузі знань: комп’ютерні науки, правознавство та менеджмент. Термінологія розглядається не лише як набір технічних позначень, але і як когнітивний та комунікативний механізм, що відображає ідентичність дисципліни та сприяє конструюванню й поши-

ренню знань. Аналіз показує, що кожна з цих сфер виявляє відмінні структурні та семантичні моделі. Термінологія комп'ютерних наук вирізняється словоскладанням, утворенням акронімів і частими неологізмами, які формують здебільшого прозорі й операційно визначені терміни, що швидко розвиваються у відповідь на технологічні інновації. Правова термінологія, навпаки, характеризується консерватизмом і історичною нашарованістю, значною мірою спирається на латинські та французькі запозичення, формульні вирази й дефініції з низькою семантичною прозорістю. Термінологія менеджменту займає проміжну позицію, поєднуючи технічні запозичення з метафоричними та оцінними виразами, що виконують як описову, так і переконувальну функцію. Попри ці відмінності, усі три сфери застосовують термінологію для реалізації ключових прагматичних функцій: структурування аргументації, стандартизації дисциплінарних практик та легітимації наукового авторитету. У дослідженні визначено суттєві виклики в міждисциплінарних контекстах, де відмінності у дефініціях, темпі змін і прагматичній орієнтації можуть призводити до термінологічної неоднозначності чи невідповідності. Водночас наголошено на перспективних стратегіях інтеграції, серед яких використання багаторівневих дефініцій, міждисциплінарних глосаріїв і методів корпусної валідації. Отримані результати свідчать, що термінологія не лише окреслює дисциплінарні межі, але й надає інструменти для їх подолання, підкреслюючи свою центральну роль у розвитку інтегративних форм академічного дискурсу.

Ключові слова: академічне письмо, термінологія, міждисциплінарна комунікація, комп'ютерні науки, правознавство, менеджмент, стандартизація.

Introduction. Academic writing, as a core component of scholarly communication, is characterized by precision, clarity, and adherence to disciplinary conventions. One of its essential dimensions is terminology, which not only reflects the epistemological foundations of a given field but also facilitates the transmission of knowledge across academic and professional domains. In interdisciplinary contexts, however, terminological practices acquire a more complex character. The interaction of different disciplinary traditions – for instance, computer science, law, and management – leads to the coexistence of distinct conceptual systems, specialized vocabularies, and discursive strategies. Despite the extensive body of research devoted to the stylistic and structural features of academic texts [1; 2; 4; 5], the terminological dimension in interdisciplinary writing remains underexplored. In particular, there is a need to examine how specialized terms function as cognitive, communicative, and pragmatic tools in the process of constructing and legitimizing knowledge. Such an analysis is especially relevant in view of the growing demand for integrative research projects and cross-disciplinary education, where scholars and students must navigate heterogeneous terminological repertoires.

The present study focuses on the terminological aspects of academic writing within the fields of computer science, legal studies, and management. These domains provide a fertile ground for investigation due to their diverse methodological orientations and extensive use of specialized terminology. By analyzing selected academic texts, the research aims to identify structural, semantic, and functional patterns of term usage, to trace points of convergence and divergence among disciplines, and to outline the challenges of terminological integration in interdisciplinary communication.

The **aim** of the study is to investigate the terminological dimension of academic writing in interdisciplinary contexts, with a particular focus on computer, legal, and management texts. The research seeks to determine how specialized terminology operates as a linguistic and cognitive mechanism in the construction and transmission of knowledge across disciplinary boundaries. To achieve this aim, the study sets the following tasks: to outline the theoretical foundations of terminological studies in the context of academic writing and interdisciplinary communication; to analyze the structural and semantic features of terms used in computer science, legal studies, and management texts; to identify pragmatic functions of terminology in academic discourse, including its role in argumentation, standardization, and legitimization of knowledge; to compare similarities and differences in the use of terms across the three disciplinary domains under consideration; to determine challenges and prospects of terminological integration in interdisciplinary academic writing.

Literature overview. In recent years, a growing body of scholarship has emphasized the need to investigate academic discourse from both linguistic and interdisciplinary perspectives. Foundational contributions [1] highlight the ways in which disciplinary traditions shape language use and terminological practices. This concern with disciplinary variation has been further developed in corpus-based studies that examine the grammatical and structural features of academic texts. Ahmad, Mahmood and Siddique [2] demonstrate how dissertations in hard and soft sciences differ in their characteristic features, while Biber, Gray and Staples [4] contrast the grammatical complexities of conversation and academic writing, offering important implications for English for Academic Purposes pedagogy. Similarly, Dong, Wang and Buckingham [6] and Nasseri [13] investigate syntactic complexity, mapping its variation across disciplines, genres and levels of proficiency, whereas Tian and Zhang [14] explore nominalization as a key feature that diverges between engineering and linguistics. Together, these studies foreground the struc-

tural dimension of academic writing and provide a solid basis for analyzing the use of specialized terminology in disciplinary and interdisciplinary contexts.

Alongside structural analyses, another strand of research has concentrated on the challenges faced by students engaged in academic writing, particularly those operating in international environments. Campbell [5] offers a phenomenological account of doctoral students' acculturation in the United States, while Eze and Inegbedion [7] identify the key factors influencing international students' performance in UK universities. Gupta and colleagues [10] extend this perspective by incorporating both students' and supervisors' views on writing difficulties, and Maringe and Jenkins [12] shed light on the stigma and tensions that often accompany academic writing experiences. Further insights into institutional and cultural barriers are provided by Hill and Thabet [9], who analyze publication challenges in the UAE, and Tremblay-Wragg et al. [15], who illustrate how writing retreats foster productivity and collaboration among graduate students.

Approaches to improving academic writing have also attracted scholarly attention. Hershberger [8] demonstrates how manuscript templates can help doctoral students develop and disseminate literature reviews, while Inouye and McAlpine [11] review the role of feedback in doctoral writing, linking it to the development of academic identity. Such research emphasizes the pedagogical and identity-forming functions of academic writing practices, suggesting avenues for supporting novice scholars. Finally, new technological contexts are shaping academic communication. Ahmad and colleagues [3] discuss the implications of artificial intelligence for decision-making and safety in education, indirectly pointing to the pressures that technology exerts on academic writing and scholarly practices.

These studies reveal three interrelated dimensions of academic writing: the structural and terminological patterns that define disciplinary communication, the sociocultural and institutional challenges faced by students, and the pedagogical as well as technological frameworks that support or constrain the development of academic literacy.

Results. The terminological systems of computer science, legal studies, and management, while all oriented toward precision, reveal certain contrasts in their structural and semantic organization. In computer science the dominant tendency is toward compounding, abbreviation, and frequent neologism. Terms such as *memory leak, feature extraction,* or *neural network* are largely transparent compounds in which the semantic relation between components is accessible to the insider. The field is also characterized by the intensive use of acronyms, for example *API* or *NLP*, which condense complex technical designations into highly economical forms. Word-formation processes such as affixation produce derivations like *multithreading* or *underflow*, while metaphor is recruited to label abstract phenomena, as seen in *firewall, handshake,* or *deadlock*. This results in a terminological system that is structurally dense, semantically compositional, and rapidly evolving under the pressure of innovation.

In contrast, legal terminology exhibits both conservatism and historical layering. The lexical stock is heavily influenced by Latin and Norman French, which explains the persistence of forms such as bona fide, force majeure, or estoppel. Structurally, legal terms favor of-phrases and formulaic binomials, as in *breach of contract*, *rights and obligations*, or *terms and conditions*. The semantics of legal terms tends to be stipulative and low in transparency: the distinction between *void* and *voidable*, or *warranty* and *representation*, is not immediately accessible outside legal doctrine and may vary across jurisdictions. Unlike computer science, where polysemy is controlled by technical definition, in law even near-synonymy carries significant consequences, which demands exactness and discourages rapid change. Modality plays a central role, with *shall, may*, and *must* serving as key semantic markers of obligation, permission, and prohibition.

Management discourse occupies an intermediate position, borrowing from technical registers while simultaneously deploying figurative and evaluative language. Structurally, it favors business compounds such as *stakeholder engagement, cost-benefit analysis*, *performance review*, as well as a steady influx of acronyms like *KPI, OKR, ESG*. Borrowings from other domains, including Japanese managerial practices such as *Kaizen* or *Kanban*, illustrate its openness to internationalism. Semantically, management terms are often metaphorical (*roadmap, pipeline, bottleneck, leverage, buy-in*) conveying complex processes through images of movement, mechanics, or commerce. Unlike law, where precision dominates, and unlike computer science, where operational clarity is required, management terminology allows for flexibility and persuasive force, producing terms such as *best practice, world-class* which are not strictly denotative but carry normative and promotional value.

When these three fields are compared, one observes that computer science terminology is characterized by high compositionality and rapid lexical turnover, legal terminology by stability, conserva-

tism, and doctrinal authority, and management terminology by its hybrid nature, oscillating between technical precision and metaphorical expansiveness. All three demonstrate specialized strategies of structural organization (acronymy and compounding in computer science, formulaicity and of-phrases in law, compound nouns and metaphors in management) but they differ in semantic transparency and evaluative orientation. This contrast illustrates how each discipline constructs its professional identity and communicative practices through the particular configuration of its terminological system.

In academic discourse, terminology does not merely serve as a neutral system of labels; it performs a range of pragmatic functions that shape communication, argumentation, and the construction of disciplinary authority. The most evident function is argumentative. Specialized terms allow scholars to advance claims with precision, draw distinctions that support reasoning, and delimit the scope of concepts under discussion.

A second pragmatic function is standardization. Terminological systems codify how phenomena are to be described and evaluated within a discipline. This is achieved through glossaries, taxonomies, style guides, and the authority of professional associations or standard-setting bodies. In linguistics, the definition of corpus or speech act establishes methodological uniformity; in management research, constructs such as key performance indicator or human capital become operationalizable only once standardized. It is through terminological stability that disciplines maintain coherence and continuity over time.

A third function is legitimization of knowledge. Technical vocabulary signals that the text belongs to the epistemic community of the discipline and conforms to its norms. Terms such as *discourse marker, critical mass, liability regime* not only denote specific constructs but also serve as markers of expertise, distinguishing scholarly discourse from lay explanation. The legitimizing role of terminology is particularly visible when new disciplines or paradigms emerge. For example, the spread of terms such as *sustainability, interdisciplinarity, artificial intelligence* legitimizes research agendas and secures their place in institutional and funding structures.

Across computer science, legal studies, and management, terminology performs a shared set of communicative tasks while exhibiting field-specific profiles that complicate interdisciplinary work. In all three domains, terms condense complex knowledge into portable units, enable precise reference, and signal membership in an epistemic community. Each field relies on definitional framing to stabilize meaning in context, and each uses recurrent patterns of multiword noun phrases to package concepts efficiently. These commonalities make cross-field dialogue possible, because authors can assume that carefully introduced terms will carry argumentative weight, travel across texts, and anchor claims to recognized constructs.

The differences emerge in how stability is achieved, how new terms are admitted, and how meaning is negotiated. Computer science favors productive compounding and rapid lexical innovation; its terms are often compositionally transparent to insiders, such as *memory leak, gradient clipping, role-based access control*. Legal sphere is conservative; many terms are historically layered, stipulative, and low in transparency, such as estoppel, consideration, or burden of proof, and their meanings are controlled by codification and precedent rather than by operational criteria. Management readily assimilates technical vocabulary from other domains, but it also cultivates evaluative and metaphorical labels such as *stakeholder alignment, value creation, north star metric*.

The most persistent challenges of terminological integration follow from this asymmetry of control, speed, and purpose. First, definitional authority is uneven. Legal definitions are internal to instruments and jurisdictions; computer science definitions are externalized in standards, repositories, and reference implementations; management definitions often circulate through consultancy literature, professional associations, and case-based pedagogy. Second, the tempo of change is mismatched. Computer science proliferates neologisms quickly, while legal terminology changes slowly and only within authoritative channels; management terminology turns over at a rate driven by organizational fashion and diffusion of practices. Third, the pragmatic load differs. Legal terms encode obligations and permissions; computer science terms encode operations and constraints; management terms frequently encode evaluation and aspiration.

Despite these obstacles, the prospects for effective integration are strong if authors adopt explicit, text-level strategies. Interdisciplinary articles benefit from layered definitions that move from a field-neutral gloss to field-specific refinements, with signalling phrases that mark shifts in scope, such as for the purposes of this study or under contract law of the relevant jurisdiction. Crosswalk tables that pair near-equivalents and alert readers to false friends help pre-empt confusion where homonymy is likely. Definition sections can specify operative constraints for technical terms, cite controlling sources for legal terms, and note evaluative dimensions for manage-

rial terms, thereby preserving each field's pragmatic commitments while maintaining a shared core.

Methodological choices can also support convergence. Authors can extract candidate terms with pattern rules tailored to each domain, then validate them with mixed evidence: authoritative codes and case law for legal items, standards and reference documentation for computing items, and peer-reviewed frameworks plus measurement formulas for management items. When a term has both a technical and a normative reading, the article can reserve one typographic convention for stipulative legal definitions and another for operational definitions, while maintaining a single running glossary to keep cross-references visible. Corpus-informed analysis of collocations across the three subcorpora can further reveal stable bridges, for example the shared use of risk, mitigation, compliance, governance, and audit, which often serve as interfield hinges where meanings can be coordinated without distortion.

In sum, the three disciplines share a commitment to precision and reusable conceptual units, but they diverge in their sources of authority, rates of change, structural preferences, and pragmatic aims. Interdisciplinary writing succeeds when it acknowledges these differences openly, provides explicit definitional scaffolding, and builds stable lexical bridges through crosswalks, layered definitions, and corpus-guided validation. Under these conditions, terminological integration does not flatten disciplinary nuance; it renders it legible and productive for collaborative knowledge making.

Conclusion. The analysis of computer science, legal studies, and management texts demonstrates that terminology functions as both a linguistic and a cognitive instrument, structuring disciplinary knowledge while shaping the ways arguments are developed and validated. The comparison reveals shared reliance on specialized vocabulary for precision and coherence, but also significant divergences in structural preferences, semantic transparency, and pragmatic aims. Computer science privileges rapid innovation and compositional clarity, legal studies prioritize stability and doctrinal authority, while management balances technical borrowing with metaphorical and evaluative flexibility. These asymmetries create obstacles for interdisciplinary work, particularly where terms carry different pragmatic loads or rates of change. Yet they also open opportunities: through explicit definitional scaffolding, cross-disciplinary glossaries, and careful negotiation of homonyms and metaphors, scholars can create stable bridges across fields. In this way, terminology not only reflects disciplinary boundaries but also becomes a means of overcoming them, enabling academic writing to serve as a vehicle for integrative and collaborative knowledge production.

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