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Acquisition and Interpretation of Terminology in a Highly Digitalised Learning Environment

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Abstract: The rapid expansion of technology has significantly transformed the way specialised terminology is acquired, processed and interpreted by learners. Rather than functioning solely as a static system, terminology reflects socially constructed meanings, technology-based structures and cognitively grounded mechanisms of concept formation and interpretation. Drawing on contemporary theories of terminology acquisition and digital literacy, the present study highlights how digital tools such as platforms, multimedia resources and interactive applications enable learners to grasp and use domain-specific terms.

Keywords: specialised lexicon, acquisition, semantic shift, language conventions, cognitive overload

1. Introduction

The acquisition and interpretation of terminology in the digital era encompass multiple social, technological, and cognitive dimensions, integrating perspectives from linguistics, psychology, and learning sciences. Rather than functioning solely as a static system, terminology reflects socially constructed meanings, technology-mediated structures, and cognitively grounded mechanisms of concept formation and interpretation.

Contextual factors contribute to the shaping of learners' representations of the world through texts, visuals, videos, and other multimodal resources, while advanced digital platforms, incorporating algorithms, domain-specific knowledge architectures, and real-time feedback configure learners' exposure to and interaction with specialized lexicon. From a cognitive perspective, learners are required to distinguish and categorize domain-specific terms in order to integrate them into long-term memory through repetition and meaningful contextualization. Moreover, terminology

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acquisition is influenced by intrinsic and extraneous cognitive load, particularly when learners process abstract or conceptually dense information.

The interpretation of terminology is highly dependent on contextual heterogeneity, as concepts are encountered across diverse digital sources that vary in reliability, epistemic authority, and linguistic conventions. In addition, social and collaborative practices such as participation in online forums, peer interaction around course-specific content, and reflective dialogue reinforce the dynamic nature of terminology development.

Therefore, terminology acquisition and interpretation constitute a complex process involving the interaction of multiple linguistic, cognitive, technological, and contextual factors, rather than a linear accumulation of discrete units of knowledge.

2. Digital context of terminology learning

2.1 Defining terminology in the digital era

At its core, terminology is "concerned with the systematic collection, description, processing, and presentation of concepts […] and their designations" (ISO 1087:2019, *Terminology work and terminology science – Vocabulary*, International Organization for Standardization). From a cognitive perspective, terminology is viewed as "a dynamic system of knowledge units whose meanings are cognitively structured and socially negotiated within expert communities" (Temmerman, 2000, *Towards New Ways of Terminology Description: The Socio-Cognitive Approach*).

Within the digital paradigm, terminology may be defined as "a structured yet evolving system of domain-specific designations that supports knowledge creation, communication, and management in technologically mediated environments" (Bowker, 2015, *Terminology and Translation*, in *Handbook of Translation Studies*).

Functioning as a tool for communication, terminology is generally understood to encompass two closely related dimensions: a communicative dimension and a linguistic dimension. As highlighted by Goffin (1985), "terminology is closely linked to an activity carried out within a field of knowledge and is therefore inseparable from its social context and practical applications."

Given its diverse purposes, terminology serves a range of specific applications. Linguists analyze terms as part of the lexicon, with particular attention to their pragmatic use. For domain specialists, terminology encodes complex concepts, processes, and relationships in a standardized manner, thereby facilitating professional communication and knowledge production. From the perspective of language planners, terminology represents an area of language requiring deliberate intervention to ensure its continued functionality as a means of expression. Language planning thus supports the accurate expression of emerging concepts while fostering effective knowledge transmission and maintaining linguistic autonomy.

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2.2 Peculiarities of the digital learning environment

The digital learning environment exhibits specific features that distinguish it from traditional learning contexts. Continuous connectivity, interactive technologies, and rapid access to information shape knowledge construction, enabling learners to collaborate and actively engage in the processes of understanding and interpreting digital content. Through the development of online communities, shared platforms, and participatory learning practices, the instructional setting transcends its primary function of content dissemination and evolves into a complex socio-technical system. Within this system, learners interact with continuously updated resources and multiple streams of information, thereby reshaping how knowledge is accessed, negotiated, and constructed.

2.2.1 Digitally mediated input

The acquisition and interpretation of terminology can be effectively supported through digitally mediated input, understood as information that is delivered, filtered, and transformed by digital technologies rather than presented through direct face-to-face interaction. In reference to the integration of digital technology Fawns (2022) calls for "a move beyond a 'pedagogy first' principle or a 'technology first' principle of using digital technology." He proposes a framework consisting of four different spaces: individual space, working group, community of interest and open connections.

The individual learning space enables learners to engage independently with contextualized content while managing their own learning pace, strategies, and cognitive resources. The collaborative space supports the clarification of concepts and the negotiation of shared goals through constructive discussion. Within a community of interest, terminology is acquired and developed through repeated interaction, exposure to authentic content, and alignment with the norms and practices of the community. Open connections refer to networked digital environments in which learners are linked through social media or digital platforms that facilitate knowledge exchange, diversity of perspectives, and innovation.

From the perspective of my professional practice as a foreign language teacher in the applied human sciences, the primary objective of this work is to approach terminology as an integral component of disciplinary practice rather than as a collection of isolated lexical meanings. More specifically, learners should be encouraged to move beyond interpreting terms at the level of dictionary definitions and instead understand them in relation to broader conceptual frameworks, textual conventions, and professional practices.

Digitally mediated input provides learners with authentic exposure to specialized language through resources such as online corpora, collaborative platforms, and digital textbooks. For instance, students in psychology may consult academic corpora to observe how terms such as *cognitive dissonance*, *bias*,

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and *validity* are used across empirical studies. Beyond grasping general definitions, learners are expected to identify typical collocations and contextual constraints in order to achieve a more precise and nuanced understanding of terminology. Similarly, journalism blogs authored by field specialists expose learners to terminological concepts such as *digital storytelling*, *algorithmic news distribution*, and *media convergence*, thereby illustrating how terms evolve within technologically driven communicative practices. Through collaborative digital platforms, students in Human Resources can relate terminology such as *diversity*, *inclusion*, *employee engagement*, and *upskilling* to concrete institutional practices and professional contexts. Consequently, terminology encountered within authentic, dynamic, and contextualized digital environments facilitates both accurate comprehension and nuanced interpretation across domain-specific disciplines.

2.2.2 Algorithm-guided content

Like digitally mediated input, algorithm-guided content plays a significant role in the interpretation of terminology in the human sciences, particularly because conceptual understanding is closely tied to context and professional practice. As stated by Ruiz-Rojas et al. 2023, this practice "enables the automatic creation of learning materials, tailored tests' comprehension levels, ensuring content relevance and progression alignment."

Nevertheless, the limitations of algorithm-based content should not be overlooked, particularly in knowledge-intensive and conceptually nuanced domains. Although such systems personalize information based on learners' prior knowledge, performance, and interaction patterns, thereby supporting semantic consolidation, they also introduce significant challenges for terminological interpretation. These challenges include the tendency to simplify and filter information according to predefined parameters, the fragmentation of conceptual understanding, and limited engagement with conceptual diversity. Moreover, algorithm-guided content may weaken learners' critical thinking, as predefined models of terminological interpretation can reduce motivation to question meanings, verify information accuracy, or seek converging perspectives across multiple sources.

Consequently, pedagogical practices such as comparing terms across diverse sources, encouraging reflective judgment, and fostering critical digital literacy can help educators counterbalance the constraining effects of algorithm-guided content on terminology acquisition.

2.2.3 Learning through participation

Instead of approaching terminology as a fixed set of definitions to be memorised, participatory learning involves peer-interaction, discussions and problem-solving contexts. Internalization of terminology is possible through collaborative work, repeated exposure or analysis which further foster both lexical competence and reflective interaction.

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Terms like *burnout, emotional regulation, coping mechanisms, conformity* etc., are best understood and interpreted through role-play or analysis of real-life scenarios. Similarly, students in journalism develop an understanding of concepts such as *clickbait, disinformation, newsworthiness* through participatory practices, including newsroom simulations, headline analysis or collaborative editorial tasks. Beyond the conventional process of recognizing new terms, participation involves explanation, deeper levels of cognitive processing, and the establishment of transferable conceptual relationships.

Consequently, learning through cooperation is gaining prominence positioning learners as active contributors to knowledge rather than passive recipients of definitions.

2.3 Terminology under the digital influence

In digitally mediated contexts, terminology is characterized by rapid evolution, including the continuous emergence of new terms in response to novel communicative environments. Digital platforms, social media, and online professional communities accelerate the coinage and dissemination of concepts, enabling their immediate use, semantic extension, and adaptation to technological and social change.

Ismoilova et al. (2023) argue that new terms "appear as a result of social needs and changes in technology," underlining the ongoing interaction between language and the specific cultural contexts in which it operates. This perspective suggests that newly coined terminology reflects the cultural and social realities of the communities that adopt and use it.

New lexical items often emerge in response to evolving lifestyles, values, behaviors, and cultural practices. The evolution of meaning, commonly referred to as *semantic change*, occurs as speakers adapt existing words or create new ones to meet emerging communicative needs, contexts, and goals. Within broader social trends, semantically refined terms develop to capture and represent everyday realities. For instance, terms such as *neurodiversity*, *trigger*, *work–life balance*, *quiet quitting*, *Zoom fatigue*, and *digital detox* reflect cultural attitudes toward mental health (e.g., *neurodiversity*, *trigger*), changing workplace and social conditions (e.g., *work–life balance*, *quiet quitting*), and the pervasive influence of digital technologies (e.g., *Zoom fatigue*, *digital detox*).

Collectively, these terms illustrate processes of ongoing semantic innovation shaped by cultural change, social transformation, technological advancement, and cognitive reorganization.

3. Terminology acquisition

3.1 Distinction between general vocabulary and specialised lexicon

General vocabulary consists of words that are widely used across everyday communicative situations and are understood by the majority of speakers. In contrast, specialized lexicon, or terminology, comprises words and expressions that belong to

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specific domains of knowledge. A frequently raised question is why the retention of specialized concepts is considerably more challenging than the retention of basic lexical meanings.

Language specialists consistently argue that terminology acquisition and lexical proficiency develop in ways that differ substantially from other levels of language competence. The acquisition and interpretation of new concepts constitute a complex process due to multiple interacting factors, including the long-term storage of new lexical items, neurocognitive constraints (Hansen, Lam, Orikasa, Rama, Schwaller, & Mellado Miller, 2012, p. 103), structural characteristics of language at the levels of morphology, phonology, and syntax, as well as the contextual variability of meaning. As Wise, 1997, p. 3 notes, "vocabulary is throughout considered to be a language subsystem with a potentially open-ended and infinite set of components and a strong form–functional (meaning) interface."

The acquisition process is much more difficult "since it implies retaining, storage, and accessing not only formal and semantic content of a lexical type, but also its pragmatic, stylistic, categorial, morphophonological, articulatory and spelling characteristics in an automatic way." (Hulstijn, 2001, pp.259, 273)

3.2 Retention of specialised terminology

Effective retention relies on the integration of formal, semantic, and pragmatic knowledge, supported by repeated exposure to terminology in meaningful environments. The memorization of terminology, especially abstract concepts, imposes increased cognitive load on learners.

Take, for instance, the term *talent pipeline*, which refers to a strategic system for cultivating and sustaining employees in order to ensure workforce continuity. This concept may be difficult to retain in memory due to a combination of semantic, cognitive, pragmatic, and stylistic factors. As the term is metaphorical rather than literal, its interpretation relies on metaphorical extension, requiring learners to mentally map one conceptual domain onto another, thereby increasing cognitive load. The term *pipeline* is conventionally associated with engineering and infrastructure; however, within the field of human resources it denotes a long-term process involving people, skills, and strategic planning. Its pragmatic variability further hinders retention, as the term may refer to external recruitment processes in some contexts, while in HR development it often denotes internal talent planning. Being largely confined to corporate discourse and lacking frequent use in everyday language, the term is less readily consolidated in long-term memory. In the absence of prior domain knowledge or repeated exposure, learners may interpret the term either too literally or too narrowly, resulting in superficial encoding.

The field of psychology likewise abounds in abstract concepts that pose particular challenges in terms of retention and cognitive processing. Terms such as *metacognition*, *dissociation*, *neuroplasticity*, *epigenetics* etc., lack direct experiential referents and are therefore cognitively demanding to process.

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Neuroplasticity is among the most frequently encountered concepts in neuroscience, psychology, psychiatry, and medicine. Semantically, the term denotes the brain's ability to reorganize itself; however, because this process is difficult to visualize or represent mentally, learners may struggle to develop a clear and stable conceptual understanding. Moreover, the term encompasses multiple underlying mechanisms, which may weaken semantic precision in memory. From a pragmatic perspective, the use of *neuroplasticity* varies across disciplinary contexts, while stylistically it belongs primarily to academic and scientific registers. In terms of articulatory complexity, the term is multisyllabic and exhibits a stress pattern that may be non-intuitive for learners. Its low semantic transparency, high conceptual density, and limited occurrence in everyday language collectively contribute to the difficulty of retaining the concept.

Far beyond simple memorization, the retention of specialized concepts requires a rigorous cognitive process, as terminology is characterized by semantic abstraction, low meaning transparency, pragmatic variability, and morphophonological complexity.

3.3 Exposure to terminology through writing, speaking and other practice-oriented tasks

From a pedagogical perspective, exposure to terminology through writing, speaking, and applied tasks is closely linked to learners' active participation. Active engagement with terms in productive activities requires learners to retrieve, apply, and contextualize domain-specific concepts, thereby fostering deeper levels of cognitive processing. This approach to terminology, also known as *word consciousness* (Scott & Nagy, 2004), involves developing learners' sensitivity not only to what specialized terms mean, but also to how and why they are used within specific disciplinary contexts. It further promotes analytical engagement with concepts by encouraging attention to their etymology, conceptual scope, typical collocations, and contextual range. Capturing semantic nuances, morphological characteristics, and pragmatic constraints is essential for interpreting and acquiring terminology with accuracy and clarity.

Writing tasks such as reports, case studies, and analytical essays enable learners not only to select appropriate terminology, but also to respect semantic boundaries, adhere to disciplinary language conventions, and reflect on the contextual use of specialized terms. By contrast, the use of domain-specific terminology in real-time presentations, debates, and role-play activities enhances communicative competence while strengthening memory encoding through active retrieval and application. Employing terminology in spoken communication is also effective for identifying errors in real time, recalibrating pragmatic appropriateness, and developing accurate intonation, rhythm, and stress placement. Spoken use of terminology transforms abstract concepts into operational knowledge, as learners must adapt terms to communicative goals, interlocutors, and situational contexts. Consequently, the integration of writing and speaking practices supports the incorporation of specialized

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terminology into functional discourse, fostering accurate and flexible use across professional domains.

3.4 Adapting meaning to technological contexts

One of the main challenges in the use of specialized terminology lies in adapting meaning to new technological contexts shaped by rapid digital transformation. As technology evolves continuously, newly emerging terms undergo processes of semantic adaptation through which they acquire new functions and values. This evolution is driven by the refinement of communicative practices and the growing significance of technological tools within the dynamics of language.

With the emergence of digital platforms, algorithm-based systems, and intensified information flow, terminology is reinterpreted and reconfigured in accordance with social and cognitive processes, remaining sufficiently precise while also flexible enough to accommodate innovation. However, semantic change does not occur instantaneously; rather, it is a gradual process through which meanings stabilize over time in response to sustained use and contextual negotiation.

As stated by Zalizniak, (2008, p. 218) "semantic change from meaning A to meaning B normally involves a transitional phase of polysemy where a form has both meanings." What changes over time is the relative prominence of meanings rather than their complete replacement. Semantic shifts occur when speakers attribute new nuances to existing expressions as a result of cultural and technological innovation. For instance, the term *fatigue*, traditionally referred to as physical or mental exhaustion, has been recontextualized as *Zoom fatigue*, denoting extreme tiredness caused by prolonged digital exposure. While the original meaning remains intact, its semantic scope has been narrowed and adapted to a specific technological context. Overall, terminology is continuously reconfigured to convey new linguistic and cognitive dimensions, as technology reshapes the ways in which individuals think, communicate, and experience the world.

4. Challenges in terminology acquisition and interpretation

4.1 Conceptual ambiguity

Conceptual ambiguity arises when terms denote abstract phenomena or when their meanings vary across disciplines and contextual uses. Terms such as *competency*, *bias*, and *narrative* frequently undergo semantic shifts that blur the distinction between technical and evaluative interpretations. As terminology migrates between academic and public discourse, such ambiguity becomes increasingly salient. For instance, the term *bias* may acquire multiple meanings depending on the speaker, the domain, and the communicative purpose, as it is employed across diverse fields and levels of discourse.

In psychology, *bias* is typically used in a neutral sense to refer to cognitive tendencies that influence judgment, whereas in media discourse it often implies unfairness or deliberate distortion. Ambiguity may be further reinforced through metaphorical usage, where *bias* is employed to signal disagreement or imbalance.

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Disambiguation can be achieved by explicitly specifying the term's type, disciplinary context, and functional scope. In the absence of such clarification, the term remains vague and open to multiple interpretations.

3.2 Lack of standard terminology

At times, terminology generates confusion not because it lacks standardization, but because of the ways in which it is interpreted and employed across different domains. When terminology is simplified in order to enhance accessibility or facilitate translation, the original meanings of terms may be altered, excessively metaphorized, or reinterpreted, thereby giving rise to semantic confusion, misunderstandings, and deviations from their technical definitions.

Emotional intelligence provides a relevant example of a term whose versatility and connotative richness contribute both to its popularity and to its conceptual ambiguity. In psychology, it is commonly framed as the ability to regulate emotions in relation to personality traits and cognitive processes. By contrast, in HR discourse it often assumes a more pragmatic meaning, being associated with effective teamwork, leadership, or conflict management. In the educational field, *emotional intelligence* is typically linked to resilience and social adaptation, whereas in mass media discourse the concept tends to carry predominantly positive connotations and is frequently simplified to qualities such as empathy or kindness.

As both a well-defined psychological construct and a flexible term shaped by social values, *emotional intelligence* can be interpreted accurately when learners distinguish between its scientific definition and its informal use in everyday discourse. Conceptual vagueness may also be reduced when the term is replaced, where appropriate, by more precise descriptors such as *emotion regulation* or *empathy*. The more explicitly the concept is defined and contextualized, the more effectively it preserves its analytical depth, thereby reducing semantic and stylistic ambiguity.

4.3 Cognitive overload

"Cognitive overload occurs when the information-processing demands placed on working memory exceed its limited capacity, thereby hindering learning and comprehension." (Paas, Renkl & Sweller, 2003)

It is widely acknowledged that technical terms are cognitively demanding to process, as learners do not focus solely on memorization but on integrating meanings within specific conceptual and contextual frameworks, a process that generates intrinsic cognitive load. Terminology is often abstract and context-dependent, requiring learners to construct mental representations that lack direct experiential referents. Such abstraction entails sustained cognitive effort, particularly when multiple or competing interpretations are available. Moreover, the use of specialized terminology requires learners to compare and differentiate related concepts simultaneously, which places additional strain on working memory.

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General interpretations may conflict with specialized definitions, and this semantic interference further contributes to cognitive overload. For instance, *mindfulness* does not denote a single skill but rather a system of interrelated processes, including awareness, attentional regulation, acceptance, and detachment. As a result, learners must construct a complex conceptual network in order to decode and understand the term accurately within its disciplinary context.

Unlike common language, in which *self-compassion* typically refers to being kind to oneself, in psychology the concept has clearly defined theoretical boundaries and describes how individuals relate to themselves in moments of difficulty, failure, or suffering. By contrast, the term *gaslighting* is primarily associated with psychological manipulation and abusive relational dynamics; however, in mass media discourse it has undergone semantic expansion and is frequently used to describe denial, disagreement, or deception more generally. Learners' oscillation between technical and popular interpretations of such terms may lead to misuse or semantic dilution. Providing clear definitions, contextual guidance, and explicit conceptual differentiation can help learners avoid semantic confusion and superficial understandings of specialized terminology.

5. Conclusions

The acquisition and interpretation of terminology in the field of the social sciences constitute a complex process characterized by both an abundance of information and the convergence of professional, academic, and lay discourse. Although technology, through its specific tools, facilitates the dissemination and refinement of new terms, thereby contributing to the evolution of communication, it may also lead to superficial conceptualization and semantic instability.

These factors can generate significant cognitive load, potentially discouraging learners from engaging meaningfully with terminological complexity. In conclusion, fostering conceptual clarity, accurate interpretation, and meaningful knowledge construction is essential for making digital learning environments more accessible and comprehensible for learners.

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