ADVANCES IN KNOWLEDGE ORGANIZATION
Proceedings of International ISKO Conference - ISSN: 0938-5495 - 2026 - São Paulo

Domain Analysis, Context of Situation and Context of Culture: a dialogue between Hjørland and Halliday

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Abstract

This paper aims at exploring the theoretical convergence between Domain Analysis, proposed by Birger Hjørland, and the concepts of Context of Culture and Context of Situation developed within the Systemic Functional Linguistics by Michael Alexander Kirkwood Halliday and Christian Matthias Ingemar Martin Matthiessen. The study adopts a qualitative and theoretical methodology based on bibliographic research and conceptual comparison. It examines how these perspectives emphasize the social, cultural, and contextual nature of knowledge production, organization, and communication. Incorporating a pragmatic perspective, highlighting the role of use, interpretation, and communicative context in the construction of meaning, this study reinforces the understanding that knowledge representation is not neutral, but shaped by discourse communities and their interpretative practices. The analysis highlights important conceptual parallels between domain analysis and the systemic-functional view of language, particularly regarding the role of discourse communities and the contextual variables Field, Tenor, and Mode in shaping meaning. The paper argues that integrating insights from systemic-functional linguistics and pragmatics may contribute to the development of Knowledge Organization Systems that more accurately represent the contextual and communicative conditions in which knowledge is produced and shared.

Keywords: Domain Analysis; Systemic-Functional Linguistics; Knowledge Organization.

1.0 Introduction

Conceiving language as a social phenomenon implies recognizing that it is through language that individuals interact with the world and with others within the society in which they live. It is primarily through language that members of a community learn about their culture, construct values and identities, and represent their experiences of the world. Hjørland and Albrechtsen (1995, 400) said that “the domain-analytic paradigm in information science (IS) states that the best way to understand information in IS is to study the knowledge-domains as thought or discourse communities, which are parts of society’s division of labor.” Halliday and Matthiessen (2014, 32–33) stated that “the contextual potential of a community is its culture, [the] context of culture [or] what the members of a

community can mean in cultural terms." From this starting point, we aim at analysing a possible dialogue between the concepts of Domain Analysis and Systemic Functional Linguistics (SFL) Contexts of Culture and Situation, arguing that SFL can provide valuable contributions for the development of Knowledge Organization Systems (KOS) that better reflect the linguistic and cultural realities of users, going beyond purely descriptive or formal approaches.

This study adopts a qualitative theoretical approach based on bibliographic research and comparative conceptual analysis. The investigation examines the theoretical relationship between Domain Analysis and the concepts of Context of Culture and Context of Situation within the Systemic Functional Linguistics (SFL). Qualitative approaches are particularly suitable for studies that seek to interpret conceptual frameworks and examine relationships among theoretical constructs in the scholarly literature (Creswell and Creswell 2018; Denzin and Lincoln 2018), helping the identification of convergences that may contribute, in this case, to the development of Knowledge Organization Systems (KOS).

2.0 The theoretical relationship

Shapere (1977, 528) said that the "domain is the total body of information for which, ideally, an answer to that problem is expected to account," complementing that "in particular, if the problem is one requiring a "theory" as answer, the domain constitutes the total body of information which must, ideally, be accounted for by a theory which resolves that problem." But defining "domain" needs to consider its social and cognitive dimensions. Hjørland and Hartel (2003, 239) suggested that three dimensions must interact for the constitution of domains:

> (1) Ontological theories and concepts about the objects of human activity; (2) Epistemological theories and concepts about knowledge and the ways to acquire knowledge, implying methodological principles about the ways objects are investigated; and (3) Sociological concepts about the groups of people concerned with the objects.

The relationships among these dimensions are complex and multifaceted. Various theoretical perspectives have been proposed to explain them, including philosophical realism, social epistemology, and social constructivism. A wide range of theoretical approaches may therefore be considered relevant, such as Pierre Bourdieu's theory of fields and the notion of epistemic communities. (Bourdieu 1996). Building on the view of domains as socially, epistemologically, and ontologically constituted entities, it is important to emphasize that meaning within such domains cannot be fully understood without considering its pragmatic dimension. In this sense, pragmatics complements domain analysis by foregrounding the role of use, context, and communicative intention in meaning construction.

From the standpoint of Knowledge Organization (KO), the pragmatic paradigm highlights that representations of information are not neutral or purely descriptive, but

communicative artifacts shaped by different perspectives within a heterogeneous reality. As Weiss and Bräscher (2014) argue, effective knowledge representation depends on enabling communication across viewpoints rather than privileging a single "correct" representation. This aligns with the domain-analytic view, in which knowledge is produced and negotiated within discourse communities. Furthermore, pragmatics reinforces the idea that meaning emerges from use, constructed through interaction between participants, their sociocultural context, and communicative purposes. Thus, semantic relations in Knowledge Organization Systems (KOS) should not be seen solely as formal or logical structures, but as mediating devices that guide users across perspectives within a domain (Weiss and Bräscher 2014). This perspective resonates with pragmatic semiotics grounded in Peircean philosophy, where knowledge is understood as the result of continuous sign processes and meaning arises through interpretation in socially situated contexts. Concepts do not have fixed meanings; their interpretation depends on the domain and discourse community (Thellefsen and Thellefsen 2004), reinforcing the need for epistemic and social sensitivity in knowledge organization. Additionally, incorporating classical pragmatism into Information Science underscores that indexing and knowledge representation are inherently interpretative and oriented toward future use. Rather than reflecting a direct correspondence between terms and objects, these processes involve projecting meaning based on anticipated uses and interpretants, highlighting their dynamic and constructive nature (Moraes and Almeida 2020).

From a social constructivist perspective, Dam Christensen (2007, 32) argues that a knowledge domain does not exist independently; rather, it emerges only in relation to the frameworks through which it is understood. Consequently, domains cannot be regarded as fixed or unambiguous entities. Instead of coherence, stability, and closure, they are better characterized by processuality, fragmentation, indeterminacy, and performativity, terms commonly used to capture their inherent ambiguity. In this sense, a domain is never static in time and space; it is continuously evolving, even if such change is not always evident to information producers, users, or mediators engaged in everyday scholarly practice. In a way, "(A) domains seem to be "out there, waiting to be described and analyzed," but in the second way, (B) Albrechtsen is right, we may all create them" (Hjørland 2017, 440). The author considers these two perspectives more closely:

> (A) When a person is born, the social world is already organized, for example, with languages and their conceptual distinctions, with social division of labor, with school subjects, and with academic disciplines. We do not all have the power to change that, although some persons (e.g., deans) may have some power to change an academic discipline at their own university. In this sense, domains are terrains out there, and as such they are described and analyzed by historians, sociologists, anthropologists, and bibliometricans, among others. (B) At the same time, domains are nothing but the work of human beings, and if enough people decide (actively or passively) to change a domain or the system of domains, it will change (for example, if too few people work hard to make a domain successful, it may vanish). Therefore, Albrechtsen is right: We may all contribute to creating a domain. This is also true in the methodological sense to which Albrechtsen refers. When we describe a domain, e.g., bibliometrically, the methodology we use influences how

> that domain looks. For example, the journals selected to map a domain such as LIS will always be a choice reflecting the researcher's conception of LIS. Albrechtsen's point is thus that mapping of domains cannot avoid the subjectivity of the researcher, and the study of domains is like the hermeneutical spiral: You start investigating domains based on your pre-understanding. During your study, your knowledge changes, and makes you change the way you study the domain in a spiral (Hjørland 2017, 440).

In this path, we can understand that the Systemic Functional Linguistics (SFL) also thinks of these relationships, but naming them as Context of Culture and Context of Situation. In SFL, language is understood as a social semiotic system whose meanings are shaped by different layers of context.

According to Halliday and Matthiessen ([1994], 2014), two contextual dimensions are central: the Context of Culture and the Context of Situation. The Context of Culture refers to the broader social and cultural environment in which language operates, encompassing shared conventions, values, and semiotic practices that shape communication. The Context of Situation, in turn, concerns the immediate circumstances in which a text is produced and interpreted, including what is happening, who is involved, and the role of language in the interaction. Within the systemic-functional framework, these situational variables are described through Field, Tenor, and Mode, which explain how linguistic choices are patterned in specific communicative events. Understanding the relationship between these levels of context is essential for analyzing meaning construction in discourse and for examining how knowledge is organized and communicated within specialized domains. For Halliday (1985), the construction of values, identity, and experience is grounded in these two contexts. The Context of Culture relates to shared social knowledge, while the Context of Situation concerns the specific characteristics of each interaction and its participants. The anthropologist Bronisław Malinowski (1923/46, 1935) was the first to emphasize the importance of the Context of Culture and the Context of Situation, arguing that language acquires meaning only when interpreted within its context of use. From this perspective, language is inherently functional and purpose-driven. Accordingly, Malinowski (1923, 306) highlights the need for researchers to understand the cultural context in which language is used.

> The study of any language, spoken by a people who live under conditions different from our own [one´s particular domain, emphasis added] and possess a different culture, [that can also be called as one´s particular domain, emphasis added] must be carried out in conjunction with the study of their culture and their environment [again, one´s particular domain, emphasis added].

According to Halliday and Matthiessen (2004, 109), when interpreted in the Context of Culture, the *meaning potential* corresponds to the entire semantic system of a language. When interpreted in the Context of Situation, it refers to the particular semantic system, or set of subsystems, associated with a specific type of situation or social context. A text is therefore always embedded in two contexts, the Context of Culture and the Context of Situation, as illustrated in the figure that follows. The Context of Culture encompasses meanings shared by a community, while language is used within more specific contexts,

known as Contexts of Situation, which involve the extralinguistic characteristics of a text and reflect the intentions underlying its production. Whereas the Context of Culture refers to shared social meanings, the Context of Situation concerns linguistic variation and the social features of each interaction, shaped by adaptations to different communicative situations. According to Halliday (1982, 46), the Context of Situation is realized through register, defined as "a reflection of the contexts of situation in which language is used, and of the ways in which one type of situation may differ from another." Because communicative situations vary, language also varies accordingly. Thus, we do not speak to a head of state as we do to a classmate, nor use the same discourse across domains such as medicine and automotive contexts. Different situations require distinct linguistic choices shaped by participants and circumstances. The Context of Situation therefore reveals the characteristics of each interaction in relation to its participants and is realized through register.

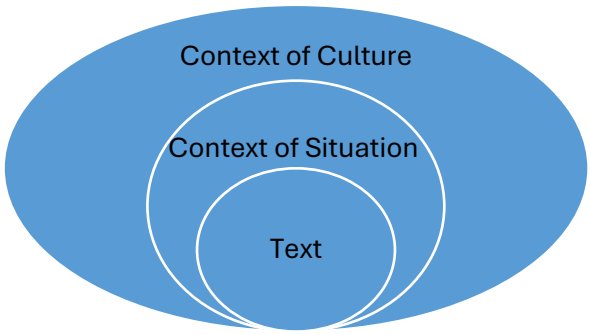


Figure 1. Texts and Context of Culture and Context of Situation (adapted from Halliday and Matthiessen 2004).

Following the systemic-functional tradition, Halliday also asked which aspects of context are most relevant, specifically, which aspects of a context influence the way language is used. Halliday (1978, 1985) therefore proposed that any situation of language use involves three distinct contextual variables that have linguistic consequences: Field, Tenor, and Mode.

Mode is related to the medium used for communication and to the organization of the flow of information within the text, being directly linked to the role of language and the linguistic resources employed in the construction of the text in each context in which it occurs. According to Eggins (2004, 9), Mode is associated with the meaning of experience and with the role that language plays in communication. The variable Tenor accounts for the social roles and relationships between the interactants. For example, roles such as teacher/student, buyer/seller, or friend/friend. Intuitively, we can recognize that the type of social role performed at the moment of interaction affects the way language is used; the variable Tenor is therefore related to relations of power and solidarity (Eggins 2004, 9). Field is the register variable that accounts for the subject matter being developed, the activities described, and those carried out through discourse, "the topic or focus of the activity" (Eggins 2004, 9). According to Martin and Rose (2008, 14),

> Technically speaking, a Field consists of sequences of activities that are oriented to some global institutional purpose, whether this is a local domestic institution such as family or community, or a broader societal institution such as bureaucracy, industry, or academia. Each such activity sequence involves people, things, processes, places, and qualities, and each of these elements are organized into taxonomies – grouping of people, things, and processes; these taxonomies in turn distinguish one field from another.

The figure below illustrates Field, Tenor, and Mode within the Context of Situation.

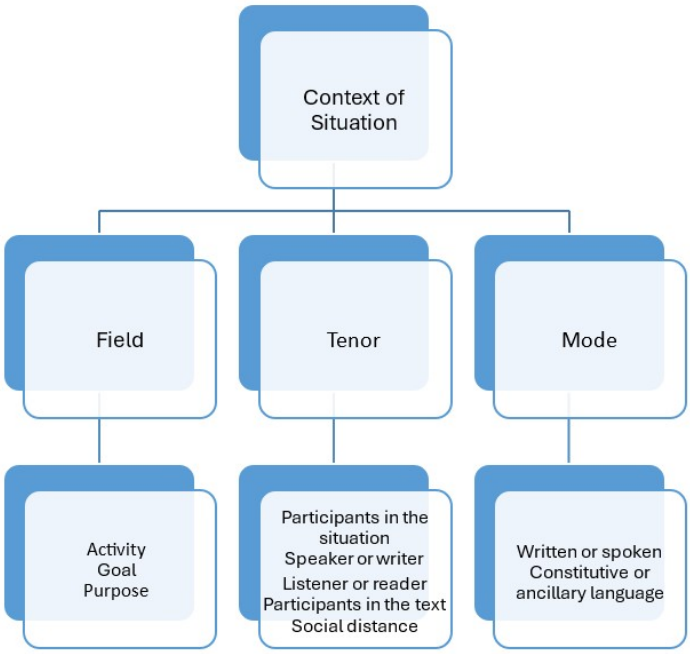


Figure 2. Variables in the Context of Situation (Fuzer and Cabral 2010, 19)

In Information Science, analyzing Mode, Tenor, and Field helps reveal how specialists communicate, which terms they use, and in which discursive contexts these terms appear. In particular, Field, understood as "the focus of the activity" (Eggins 2004, 9), plays a central role in shaping terminological choices in Knowledge Organization Systems (KOS), such as thesauri. From a KO perspective, Field is not merely descriptive but an operational criterion influencing term selection, hierarchies, and semantic relations. Because it reflects the activity and institutional purpose underlying discourse, it determines relevant concepts, their categorization, and preferred lexical choices. For example, within a hospital, terminology varies by Field. In a clinical-scientific context, terms are specialized and aligned with biomedical discourse (e.g., myocardial infarction, hypertension), whereas in an administrative context, they reflect organizational functions (e.g., patient admission,

billing procedures). Although both belong to the same domain, they require different representational strategies. This distinction has direct implications for thesaurus construction. Ignoring Field variation may lead to ambiguity and reduced retrieval precision, while incorporating it enables context-sensitive term selection, clearer conceptual distinctions, and improved retrieval performance. Thus, operationalizing Field supports a context-aware approach to knowledge representation, aligning terminology with the discursive realities of specialized domains. Preferred terms and variants can then be grounded in empirical evidence from specialized discourse, reducing ambiguity and increasing precision.

From a systemic-functional perspective, texts are shaped by cultural and situational contexts, bringing Systemic Functional Linguistics closer to conceptual models in Knowledge Organization, such as the IFLA Library Reference Model (Riva et al. 2017). In this model, entities such as Thema and Nomen depend on context, a relationship that can be further specified through the Context of Situation. Accordingly, the selection of a Nomen is not arbitrary but shaped by Field, Tenor, and Mode. Field determines which aspects of a subject are foregrounded, Tenor influences specialization and formality, and Mode affects how explicitly concepts are expressed. For example, the same subject (Thema), such as a cardiovascular condition, may be expressed as myocardial infarction in scientific indexing or heart attack in public communication. These are not mere synonyms, but context-dependent choices reflecting different Fields, Tenors, and Modes. This perspective reinforces that subject cataloging is not a neutral procedure but a context-sensitive linguistic activity. The attribution of Nomina is a process of meaning-making, in which indexers respond to domain-specific communicative conditions.

Integrating the Context of Situation into the IFLA LRM strengthens the theoretical foundation of Knowledge Organization by showing that naming practices are shaped by social and contextual factors. Thus, when Context of Culture and Context of Situation are considered, KOS development becomes not merely the construction of term lists, but a process reflecting how knowledge is constructed, organized, and socially shared.

3.0 Conclusion

The joint analysis of the concepts of domain analysis, proposed by Birger Hjørland, and the concepts of Context of Culture and Context of Situation, developed by Michael Alexander

Kirkwood Halliday and Christian Matthias Ingemar Martin Matthiessen within Systemic Functional Linguistics (SFL), reveals several important theoretical convergences for the field of Information Science and, more specifically, for Knowledge Organization. The first fundamental convergence lies in the social understanding of knowledge. In domain analysis, Birger Hjørland argues that information organization should begin with an understanding of the discursive communities that produce and use knowledge, considering their objectives, values, and epistemological practices. Knowledge production and organization are therefore not neutral, but shaped by specific social and historical contexts.

This perspective converges with Halliday's concept of Context of Culture, which refers to the shared meanings of a society, including its institutions, social practices, and value systems. As in domain analysis, cultural context establishes the horizon within which knowledge acquires meaning and legitimacy. Thus, both approaches recognize that Knowledge Organization Systems reflect the cultural and epistemological structures of particular scientific or professional communities. A second convergence concerns the role of discursive practices in knowledge construction. Hjørland emphasizes that scientific domains are formed through networks of documentary production, research practices, and scientific communication, expressed in texts produced by academic and professional communities. Similarly, in Systemic Functional Linguistics, the Context of Situation explains how meaning is realized in communicative contexts through the variables Field (what is happening), Tenor (who participates), and Mode (the role and medium of language). These variables describe the conditions under which texts are produced and interpreted, enabling the understanding of how specialized meanings emerge in professional and scientific contexts. A third convergence concerns the importance of context for knowledge organization and representation. In domain analysis, the construction of classifications, thesauri, or ontologies must be grounded in the conceptual structures of a specific domain, considering its theories, research problems, and terminology. Knowledge is therefore represented according to the perspective of the domain that produces it. Similarly, in Systemic Functional Linguistics, textual meaning is interpreted in relation to the Contexts of Culture and Situation. This implies that specialized language is shaped by activities, participant relationships, and communication media. Consequently, the terminology and conceptual categories used in Knowledge Organization Systems (KOS) reflect these

contextual conditions. Finally, a fourth convergence concerns the dynamic nature of knowledge and language. Domain analysis views scientific domains as evolving through new theories, research problems, and methods emerging within research communities. Similarly, in the systemic-functional perspective, meanings and linguistic forms change continuously alongside transformations in social practices. This dynamic view implies that Knowledge Organization Systems must be regularly updated to reflect the conceptual and discursive transformations of the domains they represent. In summary, domain analysis and the concepts of Context of Culture and Context of Situation converge in emphasizing that knowledge, language, and KOSs are products of situated social practices. Both approaches highlight that understanding discursive communities, their cultural contexts, and communicative practices is essential for constructing representations that are both semantically coherent and socially meaningful. All these convergences open possibilities for interdisciplinary approaches that integrate Systemic Functional Linguistics and Knowledge Organization in the development of representation systems that could be much more sensitive to the social contexts in which knowledge is produced.

STATEMENT OF USE OF ARTIFICIAL INTELLIGENCE: The authors declare that Artificial Intelligence (AI) tools were used solely for the linguistic revision and proofreading of the manuscript entitled “Domain Analysis, Context of Situation and Context of Culture: A Dialogue between Hjørland and Halliday.” AI was used exclusively to improve grammar, spelling, clarity, and overall language quality. No AI tools were used in the formulation of the research questions, development of the theoretical framework, analysis or interpretation of the findings, or formulation of the substantive arguments presented in the manuscript. The intellectual content, ideas, analysis, and conclusions are entirely the responsibility of the authors. The authors have carefully reviewed and approved the final version of the manuscript and take full responsibility for its content, accuracy, originality, and integrity.

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