Reflections on the Impact of the "Intelligence" Terminology Controversy on Academic Exchange and Discipline Construction: Postprint

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Abstract

[Purpose/Significance] Addressing the current terminological controversy over "intelligence" in the intelligence studies community, this paper reflects on the impact of the misuse and confusion of basic terminology in intelligence studies on academic exchange and discipline construction, calling for the standardization of terminology in intelligence studies and the reconstruction of the theoretical and methodological systems of intelligence research. [Method/Process] Based on the principles and ideas of terminology science, this study analyzes the causes of existing terminological controversies in intelligence studies from three aspects: terminological context, conceptual hierarchy, and multilingual terminology translation operations. [Results/Conclusion] The study argues that discussion of intelligence terminology is an inevitable part of intelligence studies' development with society, and that the discipline's need for a standardized terminology system reflects its expectation for theoretical reconstruction.

Full Text

Reflection on the Impact of "Intelligence" Terminology Controversy on Academic Exchange and Discipline Construction

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Abstract:
[Purpose/significance] The ongoing terminology dispute surrounding "intelligence" in the information science field has influenced academic exchanges and discipline construction. It is time to standardize the terminology of information science and reconstruct its theoretical system. [Method/process] Based on

the principles and concepts of terminology, this paper analyzes the causes of controversy in existing information science terminology from three aspects: the terminology context, the concept level, and multilingual term translation operations. [Result/conclusion] This paper suggests that the discussion of information terminology is a necessary part of the development of information science alongside social development. The demand for a standardized terminology system in information science reflects the expectation for theoretical reconstruction.

Keywords: information science; terminology; context; concept; academic exchanges; discipline construction

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Influenced by the modern information revolution and informatization construction, information science research in China has, on one hand, aligned closely with the broader category of information sciences, forming interdisciplinary comprehensive research based on "information" studies [1]. This has expanded the research scope of information science and leveraged its inherent advantages in information collection, processing, and analysis. On the other hand, many researchers have expressed concerns about the development of China's information science, believing that current research and practice have become imbalanced and deviated [2], with the "intelligence" element missing, and have called for Chinese information science to return to its original form [3]. The debate between "intelligence" and "information" has a long history, and researchers' exploration of the concept and nature of intelligence has never ceased, yet a unified understanding remains elusive. The mixed and chaotic use of basic terminology in information science has, to some extent, adversely affected academic exchange and discipline construction.

1. Research on "Intelligence" Terminology Issues

Information science is an interdisciplinary field between natural and social sciences, examining the generation, development, and application of intelligence, including term concepts, classification systems, naming rules, evolution patterns, and dissemination laws. It maintains close relationships with linguistics, logic, information science, communication studies, and other disciplines [4].

This study searched academic journal papers in the CNKI database. To ensure comprehensive retrieval, initial searches were conducted using subject terms without time limits, yielding 537 journal papers with the subject "intelligence" or "information science" and containing the term "terminology" (search criteria: ((subject = intelligence OR subject = information science) AND subject = terminology) (exact match), final search date: May 31, 2017). Based on relevance, medical research, terminology compilations, and introductory literature were excluded, resulting in over 100 relevant papers. Since terminology science is closely related to information science, the retrieved literature fell into two categories: one treating terminology as the object of information documentation work, focusing on thesauri, term extraction, and literature vocabulary standardization

according to the National Committee for Terms in Sciences and Technologies; the other addressing terminology issues in information science itself, which is more relevant to this study. Based on these factors, 54 highly relevant papers were selected for analysis, primarily from the following perspectives:

Comprehensive exploration of intelligence terminology issues based on terminology principles. In 1983, Wang Wanzong argued that the process of discussing intelligence definitions reveals its unique attributes and conventional terminology, and that terminology "confusion" does not stem from conceptual discussions [5]. In 1989, Zang Lan conducted preliminary research on information science terminology [6]. In 2004, Jia Guihua and Yao Jian clarified misconceptions about intelligence terms from the perspective of polysemy in words versus monosemy in terms [7]. In 2011, Ren Quan'e and Huang Liting used basic terms like "information," "intelligence," and "information science" to argue for drawing on international disciplinary terminology policy guidelines and domestic experts' experiences to reach consensus through thorough 论证, advocating decisive measures to address long-standing 不规范 usage and emphasizing translation work and talent cultivation [8].

Examining specific terminology concepts in information science. Many scholars have explored specific concepts such as "bibliometrics" and "competitive intelligence." Chen Jianlong once identified problems in intelligence awareness research based on terminology principles and analyzed the essential attributes of intelligence awareness from formal, functional, and qualitative perspectives to derive its definition [18].

Translation issues across languages as a factor affecting terminology interpretation. In 1980, Zhao Guoqi discussed intelligence science terminology in Russian, English, French, and German, arguing that each language's characteristics influence term selection and interpretation [9]. In 1981, Zhuang Yixun proposed translating "information" as "intelligence materials" and "intelligence" as "intelligence" based on translations of information science literature [10]. Yao Jian and Jia Guihua argued that translating both "information" and "intelligence" as the same English word "information" violates logical principles, and that "intelligence" should correspond to "intelligence" [11]. They also viewed "intelligence" as a covert Japanized Chinese term that has interfered with China's traditional intelligence concept and hindered information science development [12].

Calls for intelligence terminology standardization and analysis of its impact on exchange. In 1991, Li Jingzheng proposed the urgency and necessity of controlling and standardizing library and intelligence terminology based on usage analysis [13]. Tan Dajun argued that vague and inconsistent intelligence terminology adversely affects exchange [14]. Some scholars have also focused on terminology differences across the Taiwan Strait.

Exploring the "renaming" issue around differences between "intelligence" and "information." In 1993, Wu Weici noted that renaming "scien-

tific and technical intelligence" to "scientific and technical information" reflected both terminological ambiguity and the disconnect between theory and social information practice [15]. Wu Jiazhu argued that intelligence and information cannot be equated or substituted, and that inaccurate terminology reflects theoretical immaturity [16]. Li Changxin et al. discussed the definition of information and intelligence from their respective properties, acquisition methods, and relationships [17].

In summary, while numerous studies have examined "intelligence" terminology, most explore disciplinary conceptual essence, with few approaching from a terminology science perspective. This is likely because terminology science is highly applied and closely integrated with practical work, while perfecting the intelligence terminology system is not an overnight task and requires long-term implementation.

However, with the advent of the big data era, information science faces both opportunities and challenges requiring new thinking. The long-standing mixed and chaotic use of basic terminology inevitably affects disciplinary development and hinders information science's role in social, technological, and economic development.

2. Analysis of "Intelligence" Terminology Controversy from a Terminology Perspective

2.1 "Intelligence" Understanding in Different Terminology Contexts

Terminology is the specialized language of scholarship, with different disciplines typically using different terms. The linguistic differences arising from different disciplines constitute the "context" (or "linguistic environment"). According to Rondot's terminology theory from the Canadian-Quebec School, the narrower the disciplinary scope, the more proprietary its terms and the smaller its vocabulary coverage [19]. The debate over "intelligence" in information science has long existed, with increasingly intense discussions in recent years. From a terminology perspective, a crucial reason is that research is based on different intelligence contexts, making vocabulary coverage expansion difficult and hindering consensus formation and academic exchange. Over the past decade, discussions have focused on the following contexts:

2.1.1 Defense and Military Intelligence Perspective

Researchers like Bao Changhuo argue that Chinese information science should originate not from bibliography and library science but from military science and strategy, from organizational intelligence activities and consulting [20]. They advocate elevating information science research to national strategy, with its core being the "intelligence-ization" of information, focusing on intelligence rather than information [21]. Gao Jinhu defines intelligence as information collected, analyzed, and processed by governments, militaries, and enterprises for policy-making and execution, with prediction being the essential attribute distinguish-

ing intelligence from information and knowledge [22].

2.1.2 (Industrial) Competitive Intelligence Perspective

Chen Feng, based on cases of foreign institutions short-selling Chinese overseas listed companies, explained the relationship between "intelligence" and "information" from an intelligence science perspective, particularly competitive intelligence. He defined intelligence as "a social activity where humans specifically address decision-making problems by processing relevant information, especially external information" [23].

2.1.3 Comprehensive Perspective on Chinese-Western Terminology Differences

Peng Zhihui argues that intelligence as a basic concept of information science was formed under Western influence but is broader than Western "intelligence," serving as a subordinate concept to Western "information" while carrying dual meanings of both "information" and "intelligence" [24]. Shen Guchao compared Chinese and Western intelligence concepts from English terminology, arguing that a key difference lies in "intelligence" (the ability to apply knowledge to solve problems). Whether intelligence is used to enhance knowledge levels for decision-making is the watershed between intelligence and information [25]. He called for introducing Western intelligence theories and practices into Chinese information work [26].

2.1.4 Information Theory Perspective

Wang Zhijin et al., based on information theory and the proposition that "intelligence is useful information for users in a certain environment," proposed that intelligence is "information." From this perspective, information science takes "information" as its research object, with its central task being maximizing the development of "information" contained within information [27]. Yang Yuanli divided information science into three categories and concluded that intelligence is one-to-one service information science [28]. These studies provide new perspectives for understanding intelligence concepts.

From these studies examining intelligence from different angles and contexts, the distinction between "intelligence" and "information" remains central. However, expanding intelligence vocabulary from narrow contexts may lead to misconceptions: first, information society development has greatly broadened information science's scope, making single subfield contexts inadequate; second, defining intelligence as "information of…" equates intelligence with information or its subset, severing ties with traditional intelligence thought; third, viewing the difference as merely one of degree remains at the conceptual level and is difficult to operationalize.

2.2 "Intelligence" Understanding at Different Conceptual Levels

The German-Austrian terminology school, represented by Eugen Wüster, holds that conceptual systems form the basis of terminology—understand concepts first, then divide specific conceptual terms [19]. Different understandings of

"intelligence" at different conceptual levels also affect exchange:

2.2.1 Intelligence as a Thought Unit

Understanding at the "thought unit" level is influenced by individual knowledge accumulation and thinking processes, carrying subjectivity and varying across disciplines. This is why natural science terminology is often easier to standardize than social science terminology. Even among information science researchers discussing the same topic, individual linguistic characteristics, knowledge, and thinking differences may cause misunderstandings. As a social science, exchange misunderstandings caused by thought units are difficult to eliminate completely and require more objective supplementation.

2.2.2 Intelligence as a Knowledge Unit

As a knowledge unit, intelligence definitions should theoretically cover all conceptual knowledge of "intelligence." At this level, researchers extend, elevate, and standardize intelligence concepts to reduce subjective understanding and achieve professional consensus—the process of terminology standardization. Subsequently, concepts can be split and reintegrated into several applied terms based on specific research areas or knowledge modules.

2.2.3 Intelligence as a Cognitive Unit

Understanding intelligence as a cognitive unit emphasizes process and dynamism. As disciplines grow and cognition develops, existing knowledge improves and new knowledge emerges, deepening understanding of intelligence connotations and expanding extensions.

2.3 Improper Splitting in Multilingual Terminology Translation

In multilingual terminology work, people seek conceptual consistency first, not nominal consistency. In compound terms, components no longer have independent semantics. For example, "information science," according to *Encyclopædia Britannica*, "refers to disciplines involving information storage and transmission processes, attempting to integrate concepts and methods from multiple disciplines (library science, computer science, linguistics, psychology, and other technologies) to develop technologies and tools for information mastery (including collection, organization, storage, retrieval, interpretation, and use)." Although imperfect, this reflects current information science research areas. Even if "information science" is translated as "情报学," it doesn't mean English "information" equals Chinese "情报" or "science" equals "学." Splitting compound terms and taking components out of context creates understanding errors about true conceptual connotations.

In summary, understanding intelligence from different terminology contexts, conceptual levels, and improper multilingual translation operations can all cause mixed and chaotic use of intelligence terminology. Terminology is an essential tool for knowledge/skill dissemination and academic exchange, and 不规范 terminology may cause communication barriers, misunderstandings, hindered exchange, and impeded disciplinary concept dissemination. In the long term,

inconsistent terminology may cause disciplinary system confusion, weaken core competitiveness, and affect disciplinary accumulation.

3. Impact and Reflection of Intelligence Terminology Controversy

3.1 The Necessity of Intelligence Terminology Discussion for Disciplinary Development

Discussion of intelligence terminology reflects internal needs for academic exchange and is inevitable as information science develops with society. The long-standing controversy doesn't necessarily mean research deviation or disciplinary essence loss—it reflects information science as a social science changing with social environments. This discussion indicates increased exchange needs and disciplinary progress.

To ensure smooth academic exchange, we need a standardized intelligence terminology system with dynamic quality evaluation mechanisms. The long-standing inconsistent usage has seen much debate but little substantive resolution. Terminology standardization should be implemented sooner rather than later to avoid adverse effects. Recently, the National Committee for Terms in Sciences and Technologies approved and pre-published the *Library, Information and Documentation Terms* on May 8, 2017, for public comment—a milestone for terminology standardization. However, terminology system construction is not accomplished overnight, and habitual 不规范 usage cannot change quickly. Multi-party coordination is needed, potentially seeking cooperation with terminology organizations or linguistic experts to establish dynamic evaluation mechanisms fitting information science's dynamic development.

3.2 Terminology Controversy Reflects Expectations for Theoretical Reconstruction and Disciplinary Development

The need for terminology system standardization reflects expectations for theoretical reconstruction. The big data era has catalyzed information science transformation, with terminology debates reflecting disciplinary boundary ambiguity and unclear development paths. Collision between traditional intelligence thought and new environment expansions drives theoretical and methodological system development. The relationship between information science's multiple names and translation alignment with international usage require strong theoretical support and broad academic backing. Two recommendations:

First, seize the era's opportunities to reconstruct intelligence research theory and methodology systems, promoting healthy intelligence ecology development. The "intelligence" terminology issue is merely superficial—the theoretical foundation is fundamental. Information science is highly interdisciplinary, closely related to socioeconomic development. Big data has changed its connotations and extensions, bringing opportunities and challenges. To adapt and grasp opportu-

nities, intelligence research theory and methodology must be reconstructed to better fit socioeconomic development. Successful implementation depends on harmonious intelligence ecology relationships [29], including appropriate task objectives, solid data accumulation, and 完善的 institutional systems.

Second, establish broad intelligence concepts and strengthen discipline construction and talent cultivation. Intelligence professionals' expertise manifests through ideology, spirit, and methodology [30]. Discipline construction and talent cultivation determine intelligence affairs' prosperity. Currently, information science as an undergraduate major has disappeared, with content shifting toward "information" and "information management," affecting basic terminology understanding. While 迎合 current information society trends, this may cause education 萎缩 and hinder healthy development in the long term. Information science's return and theoretical reconstruction require implementation in discipline construction and talent cultivation.

4. Conclusion

The debate between "intelligence" and "information" in information science has long existed, with researchers continuously exploring intelligence concepts and disciplinary essence. From a terminology perspective, different contexts, conceptual levels, and improper multilingual translation can all cause terminology confusion. With information society development, such controversy is unavoidable. To ensure smooth academic exchange, the intelligence terminology system needs continuous standardization. However, the essence of the terminology issue reflects expectations for disciplinary theoretical development and reconstruction, which must be addressed through discipline construction and talent cultivation.

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Author Contributions:

Zhao Keran: Proposed research 思路 and framework, wrote and revised the paper;

Wang Yanfei: Guided paper writing.

A Review over the Influence of "Information" Terminology Issues on Academic Exchanges and Discipline Construction

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Abstract: [Purpose/significance] The current "information" terminology dispute in the information field has influenced academic exchanges and discipline construction. It's time to standardize the terminology of the information science and reconstruct the theory system. [Method/process] Based on the principles and ideas of terminology, this paper analyzed the causes of controversy in the existing terminology of information science from three aspects: the terminology context, the concept level and the multilingual term translation operation. [Result/conclusion] This paper suggests that the discussion of information terminology is the necessity of the development of information science with the social development. The demand for the terminology system of information science reflects the expectation for the theoretical reconstruction.

Keywords: information science; terminology; context; concept; academic exchanges; discipline construction

Note: Figure translations are in progress. See original paper for figures.