ABSTRACT

‘Information’ is presumably the object of study in information science research. However, epistemological assumptions of concepts of information and the uses of the term ‘information’ in information science discourse and their cultural, social, and methodological implications are seldom examined. This study consists in the reconstructive analysis of concepts of information for explicating epistemological assumptions of foundational concepts of information in information science discourse, on the one hand, and for examining the relationship between concepts of information and research method and methodology, on the other. This study also proposes the study of information in our world, that is, rather than information in the, my or your world.

Keywords
Information, Knowledge, Epistemology, Critical Methodology

INTRODUCTION

The controversial concept of information and the ambiguity of the meaning of the term ‘information’ have elicited many discussions in information science in the past few decades (for example, Bates, 2005, 2006, 2008; Brookes, 1980; Buckland, 1991; Capurro & Hjørland, 2003, Day, 2001; Frohmann, 2004; Hjørland, 2007, 2009). However, there has not been an investigation devoted to the analysis of the epistemological assumptions of concepts of information or the uses of the term ‘information’ in information science discourse. It is as if ‘information’ is self-evident. In fact, despite the many possible meanings of the term ‘information,’ we often use the term without clarifying its meanings, not to mention we often assume ‘information’ is essential for decision making and learning. Frohmann (2004) argues that the use of the term ‘information’ in information science research falls into two major categories: realist and nominalist. In the realist sense, ‘information’ refers to the singular kind of thing conveyed by the many channels of communication (p. 56), whereas the nominalist sense of information brings together “very loosely bounded sets of studies under a single term without worries about what information itself might be” (p. 55).

Words, as Wittgenstein (1958) pointed, are defined by other words. Definition is a type of explanation, namely, one of explaining a word in terms of how the word is used within a context of use. Variable definitions of the term ‘information’ in library and information science discourse show a variance of use within a field, sometimes with little in common other than the word, ‘information.’ The conceptualization of information, however, is dynamically related to, explicitly and implicitly, the various “turns” of information science (Cronin, 2008), the formation of research areas, the topics of research studies, and the methods and methodologies employed. Each conceptualization of information has its own purposes and reasons, and each concept of information has its epistemological assumptions and its professional, societal, and methodological implications.

EPISTEMOLOGICAL ASSUMPTIONS OF CONCEPTS OF INFORMATION

In this poster presentation, concepts of information in the Shannon-Weaver model (Shannon & Weaver, 1964) and DIKW (Data-Information-Knowledge-Wisdom) model (Ackoff, 1989; Shedroff, 2001) are selected for reconstructive analysis because they are widely recognized and influential in the field of information science. (A cited reference search on Web of Science shows that in the field of information science and information systems, each of these three ‘theories’ has been cited more than 200 times.)

The reconstructive analysis begins with the analysis of the meanings of the term ‘information’ followed by the explication of their epistemological assumptions. The analysis shows that the sense or the meaning of the term ‘information’ in the Shannon-Weaver model is different from that of the DIKW model: in the Shannon-Weaver model, information refers to a measure or a logarithm that indicates “freedom of choice,” although sometimes ‘information’ also means “messages”; in the DIKW model,
information has the sense of processed and meaningful data, for example, Ackoff (1989) states that “information is
inferred from data.”

Despite the differences in the senses or conception of information, the two models share similar epistemological assumptions and commitments. First, information is conceptualized as entities or units that are measurable. Second, ‘information’ is conceptualized as having causal powers upon human behavior or learning. And third, improvement of effectiveness is the sole purpose of ‘having’ or ‘transmitting’ information.

Hence, what appears as the ambiguity and overlapping of different meanings in concepts of information are symptoms of a positivistic scientism as expressed by certain ontological and epistemological commitments as well as a commitment toward a certain notion of causation. The analogy between the ‘theories’ (or ‘models’) of information and the naïve empiricist theory of knowledge means, above all, the legitimization of research method and methodology that adhere to positivistic scientism in information science research.

INFORMATION, FORMAL ONTOLOGICAL CATEGORIES, AND RESEARCH CONSEQUENCES

Buckland (1991) has aptly pointed out that ‘information’ is passive—it does not do things to our minds. Rather, human beings do things with it or to it. He also suggests that whether something can be reasonably treated as information depends on its informativeness, which, in turn, depends on agreement, or at least some consensus, within a community.

If we agree that information should be evaluated by its informativeness and that information is enacted from social practices, it means, at the least, information cannot be viewed as an empirical entity that causes successful communication (e.g., the Shannon-Weaver model) or that causes learning (e.g., the DIKW model). Rather, information is communicatively and socially structured [16-17]. In terms of the three ontological realms suggested by critical methodology, information is in our world (normative-evaluative realm), that is, rather than in my (subjective realm), your (subjective realm) or the (objective realm) world (Carspecken, 1996; Habermas, 1984, 1987).

Understanding information in our world not only rids us of distorted views of communication and cognition, but also opens up questions concerning information for critical social analysis. We may then ask questions such as: how does a community considers what may be information and not information? What determines the informativeness of an object, an expression, a message, or an event? What organizational, economic, and/or political functions might ‘information’ serve? And what ideologies might be implicated in the production and use of information? The reconceptualization of information thus opens up questions concerning ‘information’ from a social perspective, and consequently, methodological discussions for information science research.

REFERENCES


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