Theory and Education: A Case of Structuration Theory

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ABSTRACT

The everyday work of information professionals is culturally, socially, and organizationally structured. The education of information professionals should not be limited to the teachings of practical skills and should include theoretical knowledge. A theory-based education provides the necessary intellectual tool for information professionals for critiquing, evaluating, improving, and refining practices, on the one hand, and for reflecting on the authority, legitimacy and acceptability of professional standards and policies and their cultural, ethical, and social implications, on the other. This paper suggests that structuration theory can make a valuable contribution to iSchool education, for it provides the necessary concepts for the study of the interrelationship between the everyday work of information professionals and "the social" that provoke critical and reflective thinking.

Categories and Subject Descriptors

K.3.2 [**Computer and Information Science Education**]: Information systems education

General Terms

Theory

Keywords

Structuration theory, critical social theory, education

1. INTRODUCTION

The work of information professionals is situated in social space and is culturally and socially structured. Database design, web programming and the uses of different kinds of information technologies are all social activities. These activities usually have as a goal improving the design and development of information services, systems, and policies; at the same time, they also serve certain organizational, economic, and political functions. The everyday work of information professionals is not the mere performance of certain skills but involves the understanding of the "the social" as well as the cultural, ethical, and social implications of their actions and activities. This paper suggests that structuration theory can make a valuable contribution in iSchool education, particularly the concepts that make possible the study of the interrelationship between everyday work and "the social" that provoke critical and reflective thinking.

1.1 "The Social"

In 1887, the first library school in the United States was named the "School of Library Economy" by Melvil Dewey. The term "social epistemology" first proposed by Margaret Egan and Jesse Shera in the early 1950s, emphasizing the role of library in social change, has been an ongoing topic of interest within the library and information science community [15, 16, 18, 20]. In 1968, Shera published a book entitled Sociological Foundations of Librarianship. In the 1990s, Rob Kling described the research area "social informatics" for the study of the relationship between information technologies and social life [26]. In the recent decade, scholarly works in the domains of the social studies of science, the sociology of science, and science and technology studies (STS) have been influential in research in information science (for example, [6, 27, 28]. Most recently, Cronin has discussed "the sociological turn in information science" [11]. Awareness of "the social" has been present since the inauguration of library school in the United States. However, it seems that little has been said about how it should be studied and how it can be incorporated in education of information professionals, not to mention many discussions of "the social" are not grounded in social theory.

Indeed, despite the many discussions of "the social" in IS research, they have not been broadly incorporated in most IS schools' curricula. Chu's content analysis of the curricula of ALA accredited LIS programs in the United States shows that there are very few "theory-based" courses [9]. Budd's review of management education in library and information science suggests that course materials usually emphasize management skills rather than concepts such as authority and responsibility and do not often address ethical issues [8]. One possible reason for the low number of theory-based courses in LIS may be the lack of recognition of the importance of theories by some practitioners, which is quite apparent in the recent discussion of the ALA Task Force Recommendations on Education [1, 39].

In response to the common misconception that theory is "abstract" and is therefore irrelevant to day-to-day practices, one can argue that it is actually the other way around: theory is an intellectual tool for critiquing, evaluating, improving, and refining practices. For, only if information professionals learn about and understand theories of communication can they evaluate and improve information services such as system design and

construction of indexing terms; and only if they learn about and grasp theories of social systems can they reflect critically on the ways in which their work is affected by and has implications for the organization within which they work and with which they interact such as library and university systems, funding agencies, private sector businesses, and local, state and federal governments. Kling has explicitly argued for "critical professional education" in library and information science, for he had witnessed the failures of information system designs that had cost millions of dollars because of the insufficient understanding of "the relationships of IT configurations, socio-technical interventions, social behavior of other participants in different roles, and the dynamics of organizational and social change" of IT professionals [25, p. 395]. Audunson has also aptly pointed out that a reflective practitioner "is not only taught to repeat established practices, but to go behind them, to criticize, refine and develop these practices and discard them if necessary" [2, p. 104]. Thompson also shares the view that the understanding of the relationship of theory and practice is germane to information studies [38].

Theoretical knowledge is as important as practical knowledge in iSchool education. Indeed, researchers in information science have imported theories from many different disciplines and schools of philosophy [12-13]. It is time for similar importation to take place in iSchool education. In what follows, I will briefly discuss Anthony Giddens' theory of structuration and how it could be useful for information science research and education, particularly Giddens' insights into the relationship between social interaction and social systems.

2. The Theory of Structuration

Anthony Giddens' theory of structuration has been very influential in the social sciences for his analysis of the relationship between structure and agency, in which concepts such as power, identities, contexts, and social systems are discussed. The theory of structuration is a response to the two poles of social theories at the time of Giddens' writing in the 1970s and 80s: the structuralist and functionalist, on the one hand, and the hermeneutic and interpretive, on the other. For Giddens, the structuralist and functionalist view of "societal totality" neglects the importance of human actions in the constitution of society. At the other extreme, hermeneutic and interpretive sociologies view actions and meanings only in terms of human conduct and experience and thus neglect "external" factors such as contexts and constraints. The concept of society and the study of the social sciences, for Giddens, however, is "neither the experience of the individual actor, nor the existence of any form of societal totality, but social practices ordered across space and time" [22, p. 2, emphasis added].

Central to the theory of structuration is the concept of "structure." For Giddens, structure is a virtual order, that is, structure does not have a physical existence. Rather, it is manifested in and through routinized activities involving the applications of rules and the manipulations of resources. Rules include those that are overt and formal (for example, Library Bill of Rights) as well as those that are covert and escape explicit awareness (for example, organizational practices). Resources, on the other hand, are either allocative, involving "command over objects, goods or material phenomena," or authoritative, meaning "command over persons or actors" [22, p. 33]. Giddens illustrates the nature of structure

using spoken language as an example: when we utter a sentence in English based on formal grammar and social norms, the utterance is a manifestation of structure and thus demonstrates "structural properties"; at the same time, the utterance reproduces English. At the same time, although speaking English involves the understanding of formal grammar and social norms, at most times we do not invoke and are not aware of these formal and informal rules in our conversations. Structure is thus nowhere to be "seen" but is always involved in social interactions. Giddens posits the "duality of structure" in which structuration is a process depending on structural properties that are "both medium and outcome of the practices they recursively organize" [22, p. 25]. In structuration theory, the concept of structure emphasizes the role of social interactions in the constitution of society, in contrast to the structuralist and functionalist view of "societal totality." The understanding of the interrelationship between structure and action also denies the epistemological assumptions of interpretive sociology that adhere to psychologism. Moreover, the duality of structure is important to Giddens' claim that "all social research has a necessarily cultural, ethnographic or 'anthropological' aspect to it" [22, p. 284] because one cannot explain social phenomena without understanding human agency, social interactions and other "structural properties" and their relations to "context" and social systems.

It should be clear by now that structure is not a physical entity; rather, it is virtual and is always evolving, although the rates of change may vary widely in different parts of society and among societies. Structure is implicated in all social interactions because they are dependent upon rules and resources. The analyses of social interactions and routinized activities, however, must also involve the conceptualizations of human agency, context and their relationships which make structuration possible. For Giddens, humans are "purposive agents" in the sense that they are aware of the intended consequences of their own actions. This awareness is the "reflective monitoring of action" based upon routinized practices. At the same time, routinized practices provide human agents with "ontological security" because members of a community then understand "how to go on" with their day-to-day activities with the knowledge of possible consequences. Structure is thus implicated within the mutual relationship of human agency and routinized activities. Moreover, this mutual relationship is contextual. "Context" in structuration theory is not mere "background," "environment," or "container; rather, it co-evolves with social interactions. That is to say, "context" not only involves time, space, and local settings, but also the co-presence of other agents which make social interactions and hence maintenance and reproduction of structure possible. Structuration theory thus rejects the structuralist, functionalist, and interpretive views of society and suggests a social ontology understood as coordinated human activities and the conditions of these activities.

3. Structuration Theory and Education

The everyday work of information professionals is culturally, socially, and organizationally structured. The education of information professionals should not be limited to the teachings of practical skills and should include theoretical knowledge such as the concepts of structuration theory. This is not to say that practical skills are not important, but that they should be complemented with theoretical knowledge. It is because theoretical knowledge provides the necessary tool for critical and

reflective thinking about the "why" and "how" of professional practices, standards, and policies such that they can be evaluated, refined, and discarded if necessary. Rosenbaum, one of the first scholars to make use of structuration theory in LIS, has conceptualized "information use environment" for the understanding of the complexities of the work environment of information professionals [34-35], and related issues such as the relationship between agency, technology, and organization. He suggests that the usually system- or user-centered system designs and evaluations are due to the lack of necessary *concepts* for the analyses of social interaction such as those of the theory of structuration can provide. In other words, without theoretical knowledge, information professionals lack the necessary tools—concepts—for the evaluation and improvement of information services and systems.

Orlikowski, a management and information systems scholar, has also introduced structuration theory into information systems research [for example, 29-30, 32, 41]. Her work focuses on how technology and organization are interconnected based on the concept of "duality of structure." With Baroudi, she has also argued for the use of interpretive and critical research methodologies in information systems in response to the limitations of positivistic, "descriptive" research [31].

Since then, there has been growing interest in social theory in information science. Articles citing structuration theory, or its "surrogates" such as works of Orlikowski and Rosenbaum have also been slowly increasing. For example, Bouthillier [5] has applied the concepts of structuration theory for the analysis of meaning of service in a public library. Cronin [10] has discussed the potentials of structuration theory for the study of scholarly communication. In the following I will expand the discussion of major concepts of structuration theory and their potential contributions to information science research and education.

3.1 Duality of Structure, Standards and Policies

The duality of structure is one of the very important concepts in structuration theory. It explains that "structure" is both the medium and outcome of the conduct it recursively organizes and that structural properties do not exist outside of human actions and are implicated in the production and reproduction of social systems. The concept is important for information professionals because it suggests that everyday professional activities are not merely the performances of certain skills or the accomplishments of certain tasks, but also the production and reproduction of "structure," and that these professional activities are influenced by and have implications for professional standards, practices, and policies. For example, while the routinized practice of cataloging in academic libraries is a seemingly mundane activity conforming to explicit rules (for example, Anglo-American Cataloging Rules (AACR)) and to organizational practices and norms, the act of cataloging itself is actually maintaining and reproducing the authority of AACR and the Library of Congress, on the one hand, and the organizational practices and norms, on the other.

Indeed, the rules and procedures involved in the use of programming and mark-up languages in information retrieval systems, the compliance with federal laws and institutional rules in creating user surveys, the institutionalized procedures of collection development and most other routinized activities of information professionals, though usually escape explicit awareness, are the medium as well as the outcome of the social practices enacted within specific cultural and social milieus. These routinized activities continue and reproduce the authority, legitimacy and acceptability of certain professional practices, standards and policies. The realization of the duality of structure not only makes possible a deeper understanding of existing rules and practices, but also enables critical and reflective thinking about the possible intended and unintended consequences of the act of following these rules and practices, and as such, their ethical, cultural, and social implications.

3.2 Action, Structure, and Practicalities

The theory of structuration is also useful in a more practical sense. Rosenbaum [35] has pointed out that the design of information services and systems should neither be system- nor user-centered. Rather, it should be based on the analyses of routinized practices of social interactions. The design of interactive interfaces and information systems, the construction of indexes, and most other professional activities in information science involve the understanding of human-human and human-computer interactions and how their interactions are related to social situations. The concept of structure in structuration theory provides the epistemological foundations for these analyses. For example, system-centered designs often neglect the "structure" of human interactions involved and in turn lead to the "non-usable" designs as described in Forsythe' and Kling's works [for example, 17, 25]. The user-centered approach, on the other hand, is often oriented toward the understanding of "information behaviors," or "information needs," and neglects the relationship between "structure" and larger social systems involved in information seeking activities. Structuration theory is potentially contributive to information system design in that it provides the theoretical foundations for reflecting the dynamics of information system design beyond the system- and user-centered approaches. The understanding of the interrelationship between structure and action will bring us more practical and user-friendly designs and services.

4. CONCLUSION

A theory-based education is necessary for iSchool. Indeed, the first graduate school in library science, the Graduate Library School at the University of Chicago, has championed the idea that a theory-based education is a necessary component of professionalization [37]. Benoît [3-4] has suggested critical theory as a foundation for pragmatic information systems design as well as for developing a critical theoretical perspective in information science. Radford [33] has also suggested the introduction of theory of communication in LIS curricula, particularly for courses such as reference services. Audunson argues that librarians should be taught "epistemology and theory of knowledge in order to be able to critically analyze the epistemological presuppositions of different systems" [2, p. 103]. In this paper, I have discussed the potential contributions of Giddens' theory of structuration for IS research and education. I have also shown that structuration theory is applicable in many professional activities in LIS and, more importantly, it provides the necessary concepts for reflecting and refining practices, standards, and policies. In sum, the understanding of "the social" and its relationship to the work of information professionals are essential for the assessment, evaluation, and improvement of information services and systems.

Structuration theory is one critical social theory that provides the necessary concepts for critical and reflective thinking on the practices, standards, and policies of information professionals.

5. ACKNOWLEDGMENTS

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