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Information behaviour concepts in the reference service research

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Abstract

Introduction. Information behaviour is an important conceptual foundation for reference service research. This study examines whether and how reference service research draws on information behaviour theories, models, and concepts.

Method. A content analysis of the published English-language research with the database classifications 'reference service' and 'reference work' from 2010-2019 were analysed for key information behaviour theories, models, and concepts.

Analysis. Abstracts of bibliographic database records were coded to identify empirical studies. Lexical searches with qualitative analysis software were used to identify use of information behaviour concepts and references to specific information behaviour theories, models, and concepts.

Results. More than half of the empirical papers (316 or 54%) on reference service mentioned information behaviour concepts. Nearly a quarter of these papers used information behaviour in a substantial way. Thirty (5%) of the papers explicitly used key information behaviour theories, models, or concepts, including Kuhlthau's (2004) information search process and Taylor's (1968) levels of information need.

Conclusion. These findings suggest that information behaviour is being used as a conceptual and theoretical knowledge base for reference services research.

Introduction

Reference service is complex work that draws on a wide range of knowledge and skills (e.g., Saunders, 2012; VanScoy & Bright, 2017). Key models of reference service, such as the educator's model of the reference and information service process (Agosto et al., 2011) and the content/relational model (Radford & Connaway, 2009; Radford & Radford, 2017) include a strong focus on the user, suggesting that understanding users' information behaviours, information practices, and information experiences are important for reference service. Given this importance, this study explores the extent to which reference service research draws on key information behaviour theories, models, and concepts or mentions the idea of information behaviour at all. Specific research questions for this study are:

- To what extent are key information behaviour theories, models, and concepts informing reference service research?
- To what extent are general information behaviour terms and concepts mentioned in the reference service research literature?

Literature review

Several studies have explored the use of information behaviour research, including Lund's (2019) study of the most highly cited information behaviour theories, Lund's (2021) study of the theories used in information behaviour dissertations, and McKechnie et al.'s (2005) study of the citation of information behaviour research. These studies provide some guidance as to the specific theories, models, and concepts that are most important in information behaviour research, as well as library and information science research, more broadly.

Building on this work, VanScoy, Julien, and Harding (2022, 2024) identified the information behaviour theories, models and concepts that are most important for reference service education. VanScoy et al. (2024) studied which of these theories, models, and concepts are relevant for reference service practice. While these studies are focused on education and practice, they provide a useful starting point for determining which information behaviour theories, models, and concepts that might be useful for reference service research.

Kingrey's (2002) study of five American trade publications (*American Libraries*, *Public Libraries*, *Library Journal*, *Texas Library Journal*, and *Louisiana Libraries*) from 1999–2001 is the only study to date of information behaviour concepts in the library practice literature. Kingrey argued for the importance of information behaviour content knowledge for librarians who provide reference and information service, writing '*without an underlying appreciation for theory, one finds it very difficult to understand, accept, or enact principles of practice*' (2002, Conclusions). Kingrey attempted to identify papers that '*critically explicated the dynamics of the individual's search for information, offered a model of information seeking based on research and formal hypotheses, or discussed the relationship between understanding the information search process and improving library practice*' (2002, Results). However, Kingrey found no papers in her sample that met these criteria. Rather, Kingrey found numerous uses of information behaviour terms used in the context of '*statistics of library use, patron satisfaction measures, issues of electronic access, or the logistics of reference service*' (2002, Results).

Method

This content analysis examined the English-language empirical research literature related to reference service for the decade 2010–2019. In contrast to Kingrey's (2002) journal specific study of five library trade publications, this study took a topical approach, searching the reference services literature for the decade, regardless of publication.

First, the thesauri for two comprehensive library and information science databases were consulted to identify the appropriate subject heading for papers about reference service. The term 'reference service' was used to search Library Literature and Information Science, and the term 'reference work' was used to search Library and Information Science Abstracts. Citations and abstracts for the resulting papers were downloaded from the database. Non-English language papers, as well as book reviews and editorials, were removed from the dataset, resulting in 1,888 papers.

Next, titles and abstracts were used to determine whether the papers reported empirical research. The coders followed a process similar to that described in previous content analyses (Julien, 1996; Julien & Duggan, 2000; Julien et al., 2011; VanScoy & Fontana, 2016). Two coders worked together to code 20 papers as 'empirical research' or 'not empirical research' (the latter combining 'commentary' and 'reports of service' from the earlier studies). They then coded 50 papers independently. Interrater reliability was 98%, after which the remaining papers were coded separately. When abstracts were missing or insufficient to determine a paper's empirical status, the coders examined the full text. 586 papers were coded as empirical research. Copies of these papers were obtained online or via interlibrary loan and uploaded into qualitative analysis software. Once the dataset of reference service-related empirical research papers was created, the papers were analysed in two phases.

Phase 1

This study used the list of key information behaviour theories, models, and concepts found by VanScoy et al. (2024) to be most important for reference service education. The list of specific theories, models, and concepts appears in Table 1. The full text of the 586 empirical research papers were searched for the names of these theories, models, and concepts; their abbreviations and the scholars that developed them (e.g., 'anomalous state of knowledge', 'Belkin', and 'ASK').

The resulting list of papers included some uses of these names and abbreviations that were not relevant. For example, the search for 'Wilson' resulted in papers not about Wilson's information behaviour models, but rather other authors with the surname Wilson. These non-relevant results were removed.

Phase 2

Next, the dataset was searched for general instances of information behaviour content. Lexical searches were conducted with the following keyword phrases: information behavior*, information practice*, information experience*, information use*, use of information, information need*, need for information, information sharing, sharing of information, information seeking, information-seeking, information search*, information avoidance, avoidance of information, information selection and selection of information. As with Phase 1, the searches resulted in some papers that were not relevant. For example, there were numerous examples of everyday use of some of the expressions as in this phrase from one paper '*...information used to determine participant demographics...*' which is clearly not referring to the information behaviour concept of information use. Another example of non-relevant results was use of a search term in a paper's references list. These non-relevant results were removed.

The relevant papers were furthered examined to determine if the information behaviour content was *substantial* (evidenced by information behaviour keyword phrases appearing in the paper title, abstract or keyword list, or by sustained discussion throughout the paper) or *mentioned* (defined as a study in which an information behaviour theory, model or concept merely appears in the text of the paper).

Results

Phase 1: Specific theories, models, and concepts

The first phase revealed that some key information behaviour theories and theorists appear in the reference related empirical research (see Table 1). Kuhlthau's (2004) information search process model was mentioned most frequently (in eight papers), and Taylor's (1968) levels of need was mentioned the second most frequently (in six papers). Some papers included more than one key theory, model, or concept.

Some information behaviour concepts were mentioned without the inclusion of a citation: everyday life information seeking (Savolainen, 1995), satisficing (Simon, 1955), and imposed query (Gross, 1995). These instances were included in the results. Notably, a specific theory searched that did not appear in the dataset was Chatman's (1996) information poverty.

Information behaviour theory	Number of papers	Examples of contexts studied
Kuhlthau's (2004) information search process model	8	Student use of virtual reference service Effect of students' epistemological beliefs
Taylor's (1968) levels of need	6	Assessment of school libraries Elicitation behaviours of intermediaries
Savolainen's (1995) everyday life information seeking	5	Intimate partner violence Use of websites
Dervin's (1992) sense-making	4	Use of library e-resources
Wilson's (1999) model of information seeking	3	Searching online databases
Belkin's (1982) anomalous state of knowledge	3	Modelling of user behaviour by intermediaries
Ellis' (1989) information seeking model	3	Doctoral student research
Simon's (1955) bounded rationality/satisficing	2	Fake news
Bates' (1989) berrypicking	1	Use of library e-resources;
Chatman's (1991) gratification theory	1	Importance of convenience in virtual reference service
Gross' (1995) imposed query	1	Teens' use of text reference service
Chatman's (1996) information poverty	0	

Table 1. The number of papers that included key information behaviour models in the reference research and the contexts studied

Phase 2: General information behaviour content

Relevant uses of general information behaviour related search terms were found in 54% (316) of the empirical papers. Table 2 shows the number of documents in the dataset containing relevant uses of the terms. Some documents contained more than one phrase. *Substantial information*

behaviour content was found in 23% or 73 of the 586 empirical papers. All the documents that resulted from the Phase 1 search were included in the results for Phase 2.

The papers appeared in a variety of journals, both those aimed toward scholars, such as *JASIST* and *Journal of Documentation*, and those aimed toward practitioners, such as the *Journal of Academic Librarianship* and the *Journal of Library Administration*. Some papers were published in reference service focused journals, such as *Reference Services Review* (five papers) and *Reference & User Services Quarterly* (six papers). One paper appeared in *Information Research*, the primary information behaviour journal.

Discussion

Overall, more than half of the empirical research on reference service from the years 2010-2019 incorporated some form of information behaviour content. These proportions are noteworthy given the range of disciplines from which reference service research may draw conceptual grounding, such as communication, education, and organizational science.

Contrary to Kingrey's (2002) findings, the current study suggests that librarians and researcher-practitioners may now have substantial exposure to information behaviour theories, models, and concepts, provided they read beyond the professional trade literature. Papers with substantial information behaviour content appeared in scholarly journals that focus on reference service, as well as journals aimed toward practice-focused research.

The frequent appearance of Kuhlthau's (2004) *information search process* and Taylor's (1968) *levels of need* aligns with earlier research identifying these as key theories for reference service education (VanScoy et al., 2022, 2024) and practice (VanScoy, et al., 2024). This alignment suggests some continuity between the theories taught in library and information science education, those applied in practice, and those used in the scholarly literature. However, the fact that such a small number of papers referenced a specific theory highlights a potential concern: librarians interested in reference service may find it difficult to stay informed about the evolution of new theories and concepts in information behaviour that may affect reference service if these frameworks are not reflected in the research they encounter.

A limitation to the study is the limited list of specific information behaviour theories, models, and concepts. Because this list is not exhaustive, some papers drawing on other information behaviour theories, models, and concepts may have been excluded. As Lund (2019) cautions, any attempt to identify a set of key theories inevitably privileges older theories. Moreover, information behaviour research draws on a wide range of important theories, models and concepts borrowed from other disciplines, such as practice theory and activity theory (Given et al., 2023), which Phase 1 of this study did not explicitly examine. At the same time, it is likely that papers drawing on such theories were nonetheless captured through the use of general information behaviour terms. For example, Cavanagh's (2013) paper, which draws on practice theory to inform reference service, was identified through the general information behaviour concepts search.

Further work could explore the other disciplines from which reference service draws conceptual framing. A similar study could identify reference service research in which theories, models, and concepts from disciplines like communication, education, and organizational science appear.

Given the high number of non-relevant results (in the specific theory search), it might be more effective to perform a citation study, examining reference lists of the empirical research papers for citations to the key papers where information behaviour theories, models, and concepts were published. A challenge for such a study would be the lack of a comprehensive list of information behaviour theories, models, and concepts to use for search terms.

Conclusion

It is encouraging that general information behaviour concepts were incorporated into a substantial portion of reference service research between 2010 and 2019. Contrary to Kingrey's (2002) concern that information behaviour content was largely absent from the reference service literature, such perspectives now appear to be meaningfully present. However, the explicit use of classic information behaviour theories, models, and concepts remains relatively limited. Given that practicing librarians constitute the majority of authors of reference service research (VanScoy & Fontana, 2016), continued efforts are needed to make developments in information behaviour scholarship more visible and accessible to this scholarly community.

About the author

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