

Paulette M. Rothbauer¹
Rachelle Gooden
Faculty of Information Studies
University of Toronto

Representations of Young People in Information Science: The Case of the Journal of the American Society for Information Science (and Technology), 1985-2005

Abstract: Using 35 articles published in *JASIST* between 1985 and 2005, we present the first level of our analysis of the themes we found in respect to the representation of young people as subjects of information science research. It is our general finding that the developmental approach to childhood remains dominant.

Résumé : Utilisant 35 articles publiés dans *JASIST* de 1985 et 2005, nous présentons le premier niveau de notre analyse sur les thèmes que nous avons rencontrés concernant la représentation des jeunes en tant que sujets dans la recherche en sciences de l'information. Le principal résultat est que l'approche liée au développement de l'enfance continue de dominer.

1.0 Introduction

One can find out about something in a number of different ways. However, in any kind of social research, knowing what questions to ask and the ways in which it is best to ask them, as well as knowing which questions *not* to ask and how *not* to ask them, is recognized as one of the keys to a successful research outcome (Christensen and James 2000, 1).

The impetus for this study was twofold: to understand how and to what ends information science researchers write and talk about young people; and to examine how such discourses correspond to trends in social research with children that begin to disrupt the taken-for-granted, mundane representation of childhood as simply a “stage” of human life. Our long-range objective is to come to some understanding of what might be seen as the marginalisation of studies of young people within the cognate fields of information science. While not the focus of this report, we are particularly interested in knowing more about how power relations between adult researchers and young research subjects are mediated and reflected in information science. In this paper, we present the first level of our analysis of a larger study of the representations of young people in information science. The larger study is concerned with understanding the discourses of childhood and children that are found in studies of the information seeking, uses and practices of children and young adults as reported in library and information science peer-reviewed journals. Our overarching research question is, “How are children constituted as subjects in information science research?”

2.0 Research Methods

The purpose of this study is to examine the representation of young people in *The Journal of the American Society for Information Science and Technology* (JASIST). This journal was chosen based on its history, reputation, and quality.

The earliest edition of the journal was published in 1938. However, this publication was then suspended for eight years from 1943 to 1950. Former titles of this journal are *The Journal of the American Society for Information Science* (until 1971-2000); *The Journal of American Documentation* (until 1970); and *The Journal of Documentary Reproduction* (until 1942). Today, *JASIST* articles are available online with access to a backfile to 1986. This scholarly journal is published 14 times a year and is a venue for research in information science and cognate areas. It also includes editorials and book reviews. *JASIST* was selected as one of the titles in a larger sample of Library and Information Science (LIS) journals as it is one of the top-tiered peer-reviewed journals in the field of information science consistently ranking among those journals receiving the highest impact factor in this field. *JASIST* uses double blind reviewing of all manuscript submissions.

For this stage of the research project, we needed to determine first of all, how many *JASIST* articles took children or teenagers as their primary research subjects or for whom children's experiences were the chief focus of the study. We identified thirty-five articles published between 1985 and 2005 that position young people, in one way or another, as the focus of the studies. We used several overlapping search strategies to collect our sample of articles including the following:

1. Searches of *The Web of Science* databases limiting the search by journal title and then using both subject and keyword searches of terms related to children, young adults, adolescents etc.;
2. Similar searches in WilsonWeb *Library Literature*;
3. Keyword searching using the online access to *JASIST*, searching full-text and citation/abstracts when full-text was not available;
4. Manual searching through the complete print run of journal titles 1938 to 2005 held by library at the Faculty of Information Studies at the University of Toronto;
5. Checking bibliographies of *JASIST* articles that we located to ensure that we did not miss any additional articles.

We conducted this series of search strategies as there was little consistency in how young people were referred to in article titles, abstracts and database records. It was common to read a full abstract, the introduction to an article and still not learn that it was about children's experience of an information technology (to cite just one example) until the discussion of the research methods.

Our search yielded 36 articles published between 1985 and 2005 (we did not search 2006 issues). Of these, one article was removed from the sample, as it was a report of school library media specialists rather than of children's information seeking behaviour (Neuman 1995). We considered omitting four other articles that were, respectively, a call for research (Dresang 1999), an editorial (Chelton and Thomas 1999), an analysis of policy that potentially affected young people but that was not about young people (Jaeger, Bertot and McClure 2004), and a report of statistical modelling of readability levels for which it is claimed young people's selection of reading materials will be improved (Collins-Thompson and Callan, 2005). However, we ultimately decided to keep these four articles as they rely on certain dominant discourses of childhood and children to make their arguments. We attempted to limit our sample of studies to those concerned with young people under the age of 18 years; and thus, we rejected studies of undergraduates and college students. We used 35 articles for this study. The most articles

published in any year were six in 1999 (a special issue on youth). Five articles were published in the following year. Between 1985 and 1993 there were several years without any articles on young people. See Table 1 for frequency of sample articles by year of publication.

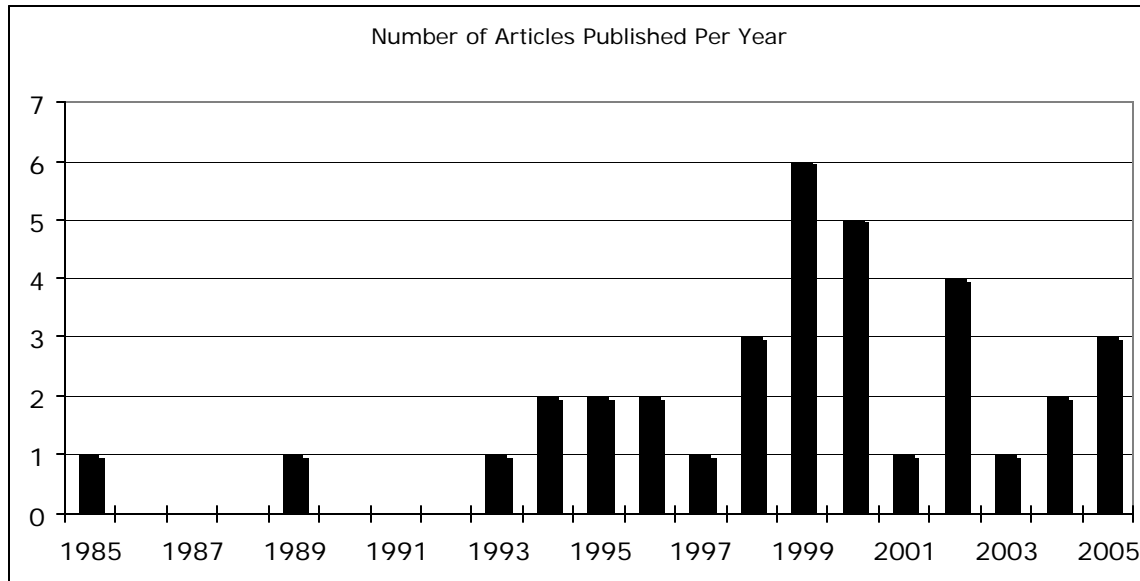


Table 1: Frequency of Sample Articles by Year of Publication, 1985-2005

Using methods of textual analysis we closely read each article noting how young people are represented as research participants as well as the stated goals of the research. We read and re-read each article over the course of several months refining our emerging sense of the dominant discourses of childhood and children to be found in this sample of articles. We began with the relatively straightforward isolation of terms used by researchers to designate the young people in their studies. For example, researchers variously conceived of young people as students, children, adolescents, subjects, participants, novices, youngsters, youth, teens, teenagers and young adults. As we continued we sought to situate the use of the such terms within larger themes of representation – themes that emerged both from our close reading of the articles and from our reading of social theories of childhood; for example: child-as-student, child-as-novice, the developmental child, the statistical child and so on. We will take up these and additional recurring representations in the remainder of this article. As this study is an interpretive project that is concerned with understanding how children are constituted as subjects in library and information science research, it is not appropriate to use a more quantitative method of textual analysis (i.e. such as content analysis) that seeks a measurable degree of inter-coder correspondence among fixed categories.

We situate the larger project of which this report is part, among the growing number of studies that examine various user discourses within LIS (see for example Given 2002; McKenzie 2003; Talja 1997; Tuominen 1997). Following Hedemark, Hedman and Sundin (2005), the content of any article under study in this report should “...not be regarded as information about the reality to which it refers, instead texts are analysed in order to reveal the underlying structures, assumptions or discourses (2005, 2). Furthermore, we do not make judgments regarding the quality of any of the studies cited in this report – we are, rather, attempting to look closely at what information science researchers say and write about young people in their published reports.

3.0 Results and Discussion

While this study makes some tentative claims regarding what we see as emerging discourses of children and childhood within library and information studies, this paper reports primarily on themes in the representation of young people in *JASIS* (and later *JASIST*), published during a twenty-year period from 1985 to 2005. These articles represent all research studies published in this journal that are concerned with young people that met our criteria for inclusion as discussed above. In keeping with the interpretive nature of this project none of the themes to follow should be seen as fixed or stable but, rather, intersecting and competing representations of young people. Furthermore, we offer only the most dominant emerging themes in this report; this is not an exhaustive summary.

3.1 Child as Unknown Being

Many studies are justified by claims made about how little we know about young people in the broad context of information studies. Our lack of knowledge and understanding is used as a rationale for the study, often in conjunction with a motivation to improve a particular information system or series of searching techniques:

“...little is known about how students...might use digitized historical primary source materials in the classroom...” (Gilliland-Swetland, Kafai and Landis 2000, 195).

“Although information-seeking behavior of adults and older children has been examined...information-seeking behavior in the very young has not been as thoroughly addressed” (Cooper 2002, 904).

“In order to understand more about the ways children interact with systems, we need to consider several factors...” (Abbas 2005, 1512²).

It is acknowledged that such statements represent a common rhetorical strategy in the justification of *any* research initiative, but positioning children in this way has consequences for how young people are constituted in information science research. By positing children as members of an unknown population we are, perhaps, committing them to the realm of the unknowable “Other” despite our own remembrance of childhood and recognition of “child-like” experience. In terms of the relationship between researchers and child subjects, it renders very little agency to young people as active research participants or research partners. The child as unknown being suggests that there is a set of experiences waiting to be uncovered if only we look in the right directions using the proper methods.

3.2 Child as Being in Process

The discourse of development is one of the most taken-for-granted ways to express our understanding of childhood and adolescence (Jenks 2005). In the *JASIS(T)* articles young people were seen as being in process of maturation, in transition to young adulthood or adulthood, or simply on the way to expert status as a user of an information tool or system:

“...as today’s children become highly competent adults, they will in turn have an effect on information science” (Beeson 1985, 339).

“These sixth graders have begun the transition to adolescence with its common tendencies toward egocentricity and avoidance of public ridicule” (Kimmel and Weiner 1985, cited in Solomon 1993, 255).

The specific construction of the “Piagetian child” was also common as seen in the following references to Piaget’s stages of development:

“Children who are in this concrete-operational stage seek information that exactly matches their own search terms...” (Hirsh 1999, 1279)

“A child in the second grade is, therefore, most likely making a transition from a preoperational to concrete operational stage in development” (Cooper 2002, 904)

“At this age, children have the ability to use internalized abstract operations based on general principles to predict the effects of operations on objects” (Bilal and Wang 2005, 1311).

A discourse related to the developmental child represents children as lacking in some key element that would allow them to be more successful users. We came to think of this of the child-in-deficit discourse:

“What was frequently lacking among students was evidence of cognitive processing of information...” (Oliver and Oliver 1997, 520).

“...in targeting children as a consumer population, one has to address obvious limitations this population has in terms of physical size, cognitive ability, literacy level, attention span, hand-eye coordination...” (Milekic 2000, 49-50).

“Typing, spelling, limited vocabulary, search strategy formulation, and Boolean logic skills limited their abilities in finding appropriate resources” (Bilal 2000, 647).

“...they lack adequate understanding...” (Bilal 2001, 118).

One consequence of the developmental child discourse is repeated calls for age-appropriate systems design as seen in the following statement:

“Information retrieval systems for children must be designed on principles appropriate to their developmental level” (Borgman, Hirsh and Walter 1995, 665).

“...systems designed for children should adapt to children and to their unique information seeking needs...” (Abbas 2005, 1512).

As one team of researchers recognizes, the discourse of the developmental child runs the risk of treating all children as a homogeneous group:

“...it is important to emphasize the rapid development phases through which

young people pass. We can talk about children's versus adults' portals, but this masks the reality that at least in the case of children, it is unrealistic and misleading to lump them all into one group regardless of age" (Large, Beheshti, Nessel and Bowler 2004, 1151).

3.3 Child as Student

There may be little surprise to learn that the category of child-as-student was one of the most common ways to represent young people in the sample of articles. Most studies were concerned to improve the interaction between young people and information systems and/or to improve the search strategies employed by young people to find information. Such concerns with improvement often translated into calls for better methods of instruction, better training and sometimes better users:

"Children are the adult information consumers of tomorrow. We need to understand how children are assessing the information they need today, and find ways to better educate them so they can be more savvy information users in the digital environment" (Hirsh 1999, 1282).

Sometimes training is seen to be a matter of exposure, a metaphor of education that relies on what we have come to think of as the "tabula rasa child" referring to John Locke's famous articulation of the child as a blank slate upon which education, learning and knowledge can be imprinted:

"...children should be exposed to effective Web training to equip them with the knowledge and skills to use various Web search engines and the browser they embed" (Bilal 2002, 1180).

When taken together the discourses of child in process and child as student suggest that information tools and information systems "fail" to be meaningful sources of information young people because as users they are ill equipped to take full advantage of them – through lack of skills and training, lack of understanding and knowledge or lack of "development".

3.4 Child as Novice End-User

Beginning with Marchionini's 1989 study of full-text electronic encyclopedia searching, children are represented in many of these studies as novice "end-users" of various information technologies and/or systems. Marchionini begins with the need to design "electronic systems for storing and retrieving information" that are used by "people who are not information specialists (end-users)" (1989, 54). The child-as-novice becomes a surrogate for all other users, including novice adults:

"...the measure of any computer system is whether it can be used by children, these design principles should be generally applicable to information retrieval systems" (Borgman, Hirsh and Walter 1995, 666).

"Since in a very real sense every end user is a novice within the context of some specific information systems, the needs and problems young people encounter using information technology provide a useful analogy for adult "novice users" as well" (Chelton and Thomas 1999, 7).

The child as novice supports the potential application of results to a much larger population of users, which in turn, garners additional justification for studies with children.

3.5 Child as Natural Technology User

In this set of discourses young people are seen to be naturally proficient at using various information technologies, especially those related to the Internet and the World Wide Web.

“...the reality that many young people have become partners with adults, or even mentors and role models for them, in determining how best to approach the Internet proactively, flexibly, and productively” (Dresang 1999, 1123).

Related to this natural competency with information technologies is what is seen as a corresponding natural motivation of young people to explore and adapt to new technologies:

“...imagine children who often seem to have new questions or interests that lead to information needs, who are curious and whose curiosity leads to action, who are not intimidated by computers nor reluctant to try out those mysterious input keys...” (Solomon 1993, 247).

“Our goal in design and evaluation is to understand children’s information-searching behavior sufficiently to construct a system with powerful searching mechanisms that can build on children’s natural tendencies to explore...” (Borgman, Hirsh and Hiller 1996, 569).

“...children are also the most adaptable and fast-learning consumer population, which can be easily “trained”...” (Milekic 2000, 49-50).

The persistent discussion regarding the popularity of browsing techniques among children’s information search behaviour dovetails with the representation of children as natural, curious, exploring technology users who use creative, reactive, non-systematic and non-analytic methods to locate information (see for example, Schacter, Chung and Dorr 1998; Bilal 2000, 653).

An extension of the notion of the child-mentor/technology expert corresponds to the sense in some studies that children are being “colonized” by new electronic media. This is best illustrated by this concluding statement from Large and Beheshti’s study on classroom use of the World Wide Web: “...their generation still cannot be considered fully “electronic.” For this we shall have to wait a few more years” (2000, 1078).

4.0 Conclusion

The majority of the studies in our sample are investigations of the “schooled child” who is situated in institutional learning environments whether in the classroom or school library media centre. A few of the studies published in JASIS(T) in the past twenty years have examined young people’s information seeking behaviours and information use in

other specific contexts (e.g. Julien 1999, Ross 1999), and even fewer still have attempted to explore the holistic “information universe of young people” (Shenton and Dixon 2003, 1031). Discourses that we encountered but have not featured in this report include those of the “legalistic child” or the child that comes to be constituted through policy and legislation (e.g. Jaeger, Bertot and McClure 2004) and the “statistical child” who becomes visible only through an articulation of his or her statistical significance (e.g. Beeson 1985; Borgman, Hirsh and Hiller 1996). The five sets of discourses discussed here: child as an unknown being; child as a being in process; child as student; child as novice end-user; and child as natural technology user, were used regularly by researchers in the variety of studies that comprised our sample. The overwhelming emphasis on the need for training, education and more responsive information systems design supports Chris Jenks’ (2005) view on what he terms “institutional childhood” which is characterized by the control of physical and virtual spaces inhabited by young people. However, in the more recently published articles, there is also emerging evidence of competing discourses that begin to disrupt these dominant representations of young people. This is achieved by considering young people as research partners and collaborators, by approaching research questions with an assumption of the diversity of children’s experiences across age, gender, ethnicity, culture, geographic location and so on; and by recognizing the potential inadequacy of the developmental discourse as an (often sole) explanation for children’s behaviours.

Future directions for this project include an examination of research articles published in other scholarly LIS journals. In particular we are interested to examine whether children are represented differently in research contexts that have less emphasis on information technology.

Notes

1. Author to whom all correspondence should be addressed.
2. All references to articles in the JASIS(T) sample are found in Appendix A.

References

- Christensen, Pia and Allison James. 2000. *Research with children: Perspectives and practices*. London: Falmer Press.
- Given, Lisa M. 2002. Discursive constructions in the university context: Social positioning theory and mature undergraduates' information behaviours. *The New Review of Information Behaviour Research: Studies of Information Seeking in Context* 3:127-41.
- Hedemark, Åse, Jenny Hedman and Olof Sundin. 2005. Speaking of users: On user discourses in the field of public libraries. *Information Research* 10(2). Available at: <http://informationr.net/ir/10-2/paper218.html>

- Jenks, Chris. 2005. *Childhood*. 2nd ed. New York: Routledge.
- McKenzie, Pamela J. 2003. Justifying cognitive authority decisions: Discursive strategies of information seekers. *Library Quarterly* 73(3): 261-88.
- Talja, S. 1997. Constituting information and user as research objects: A theory of knowledge formations as an alternative to the information man-theory. In Pertti Vakkari, Reijo Savolainen and Brenda Dervin (Eds.), *Information seeking in context: Proceedings of an international conference on research in information, needs, seeking and use in different contexts, 14-16 August, 1996, Tampere, Finland*. (pp. 67-80). London: Taylor Graham.
- Tuominen, K. 1997. User-centred discourse: An analysis of the subject positions of the user and the librarian. *Library Quarterly* 67(4): 350-71.
- Neuman, Delia. 1995. High school students' use of databases: Results of a national delphi study. *JASIS* 46(4): 284-98.

Appendix A: Articles included in JASIST Sample

- Abbas, June. 2005. Out of the mouths of middle school children: I. Developing user-defined controlled vocabularies for subject access in a digital library. *JASIST* 56(14): 1512-24.
- Beeson, Betty Spillers and R. Ann Williams. 1985. The effects of gender and age on preschool children's choice of the computer as a child-selected activity. *JASIS* 36(5): 339-41.
- Bilal, Dania. 2000. Children's use of the Yahoooligans! web search engine: I. Cognitive, physical, and affective behaviors on fact-based search tasks. *JASIS* 51(7): 646-65.
- Bilal, Dania. 2001. Children's use of the Yahoooligans! web search engine: II. Cognitive and physical behaviors on research tasks. *JASIST* 52(2): 118-36.
- Bilal, Dania. 2002. Children's use of the Yahoooligans! web search engine. III. Cognitive and physical behaviors on fully self-generated search tasks. *JASIST* 53(13): 1170-83.
- Bilal, Dania and Peiling Wang. 2005. Children's conceptual structures of science categories and the design of web directories. *JASIST* 56(12): 1303-13.
- Borgman, Christine. L., Sandra G. Hirsh and John Hiller. 1996. Rethinking online monitoring methods for information retrieval systems: From search product to search process. *JASIS* 47(7): 568-83.

- Borgman, Christine L., Sandra G. Hirsh and Virginia A. Walter. 1995. Children's searching behavior on browsing and keyword online catalogs: The science library catalog project. *JASIS* 46(9): 663-84.
- Chelton, Mary K., and Nancy P. Thomas. 1999. Introduction: Why a special topic issue on youth issues? *JASIS* 50(1): 7-9.
- Collins-Thompson, Kevyn and Jamie Callan. 2005. Predicting reading difficulty with statistical language models. *JASIST* 56(13): 1448-62.
- Cooper, Linda Z. 2002. A case study of information-seeking behavior in 7-year-old children in a semistructured situation. *JASIST* 53(1): 904-22.
- Dresang, Eliza T. 1999. More research needed: Informal information-seeking behavior of youth on the Internet. *JASIS* 50(12): 1123-24.
- Fidel, Raya, Rachel K. Davies, Mary H. Douglass, Jenny K. Holder, Carla J. Hopkins, Elisabeth J. Kushner, Bryan K. Miyagishima, and Christina D. Toney. 1999. A visit to the information mall: Web searching behavior of high school students. *JASIS* 50(1): 24-37.
- Gilliland-Swetland, Anne J., Yasmin B. Kafai, and William E. Landis. 2000. Application of Dublin Core metadata in the description of digital primary sources in elementary school classrooms. *JASIS* 51(2): 193-201.
- Hirsh, Sandra G. 1999. Children's relevance criteria and information seeking on electronic resources. *JASIS* 50(14): 1265-83.
- Jaeger, Paul. T., John Carlo Bertot, and Charles R. McClure. 2004. The effects of the Children's Internet Protection Act (CIPA) in public libraries and its implications for research: A statistical, policy, and legal analysis. *JASIST* 55(13): 1131-39.
- Julien, Heidi E. 1999. Barriers to adolescents' information seeking for career decision making. *JASIS* 50(1): 38-48.
- Large, Andrew and Jamshid Beheshti. 2000. The web as a classroom resource: Reactions from the users. *JASIS* 51(12): 1069-80.
- Large, Andrew, Jamshid Beheshti and Tarjin Rahman (2002). Design criteria for children's web portals: The users speak out. *JASIST* 53(2): 79-94.
- Large, Andrew, Jamshid Beheshti, Alain Breuleux and Andre Renaud. 1994. Multimedia and comprehension: A cognitive study. *JASIS* 45(7): 515-28.
- Large, Andrew, Jamshid Beheshti, Alain Breuleux and Andre Renaud. 1995. Multimedia and comprehension: The relationship among text, animation, and captions. *JASIS* 46(5): 340-47.

- Large, Andrew, Jamshid Beheshti, Alain Breuleux and Andre Renaud. 1996. Effect of animation in enhancing descriptive and procedural texts in a multimedia learning environment. *JASIS* 47(6): 437-48.
- Large, Andrew, Jamshid Beheshti and Charles Cole. 2002. Information architecture for the web: The IA matrix approach to designing children's portals. *JASIST* 53(1): 831-38.
- Large, Andrew, Jamshid Beheshti, Valerie Nessel, and Leanne Bowler. 2004. Designing web portals in intergenerational teams: Two prototype portals for elementary school students. *JASIST* 55(13): 1140-54.
- Lazonder, Ard W., Harm J.A. Biemans and Iwan G.J.H. Wopereis. 2000. Differences between novice and experienced users in searching information on the World Wide Web. *JASIS* 51(6): 576-81.
- Marchionini, Gary. 1989. Information-Seeking strategies of novices using a full-text electronic encyclopedia. *JASIS* 40(1): 54-66.
- Martinez, Martin E. 1994. Access to information technologies among school-age children: Implications for a democratic society. *JASIS* 45(6): 395-400.
- Milekic, Slavko. 2000. Designing digital environments for art education/exploration. *JASIS* 51(1): 49-56.
- Mokhtarian, Patricia L., Michael N. Bagley and Ilan Salomon. 1998. The impact of gender, occupation, and presence of children on telecommuting motivations and constraints. *JASIS* 49(12): 1115-34.
- Oliver, Ron and Helen Oliver. 1997. Using context to promote learning from information-seeking tasks. *JASIS* 48(6): 519-26.
- Schacter, John, Gregory K.W.K. Chung and Aimee Dorr. 1998. Children's Internet Searching on Complex Problems: Performance and Process Analyses. *JASIS* 49(9): 840-49.
- Shenton, Andrew K. and Pat Dixon. 2003. A comparison of youngster's use of CD-ROM and the Internet as information resources. *JASIST* 54(11): 1029-49.
- Solomon, Paul. 1993. Children's information retrieval behavior: A case analysis of an OPAC. *JASIS* 44(5): 245-64.
- Todd, Ross J. 1999. Utilization of heroin information by adolescent girls in Australia: A cognitive analysis. *JASIS* 50(1): 10-23.
- Watson, Jinx Stapleton. 1998. "If you don't have it, you can't find it." A close look at students' perceptions of using technology." *JASIS* 49(11): 1024-36.