Ping Li
Graduate School of Library and Information Studies
Queens College, City University of New York
65-30 Kissena Blvd., Flushing, NY, USA 11367-1597

Math Graduate Students' Information Behavior and Their Need for Information Literacy Instruction

Abstract: This longitudinal study aims at finding out the information behavior of math graduate students at different stages of their programs. Data will be collected via semi-structured interviews, diaries and direct observations. Findings are expected to throw light on the designing of an effective instructional program for this group of users.

Résumé: Cette étude longitudinale a pour objectif de déterminer le comportement informationnel des étudiants en mathématiques de cycles supérieurs à différentes étapes de leur programme. Les données seront recueillies au moyen d'entrevues semi structurées, de journaux et d'observation directe. Les résultats devraient éclaircir la conception d'un programme d'enseignement efficace pour ce groupe d'utilisateurs.

1. Introduction

A good understanding of the target user groups is the basis for libraries and librarians' provision of satisfactory services to their users. In accordance with this assumption a lot of user studies have been conducted and the findings have been assisting libraries and librarians in adjusting their policies and services so that they can better satisfy their users' needs (Li 2011). Among the various user groups that have received researchers' attention are students and professionals (e.g. Friedlander 2002; Online Computer Library Center 2002). Yet few of these user studies aimed at graduate students (George et al. 2006), and even fewer focused on those in the math discipline.

2. Research Objectives

This research aims at finding out the information behavior of math graduate students at different stages of their programs via a longitudinal study, based on which an information literacy instruction program for math graduate students is to be proposed for academic libraries.

While the information behavior of students and professionals has received a lot of attention from researchers, studies of graduate students are far from enough as compared to undergraduates or professionals (Fidzani 1998; Barrett 2005; George et al. 2006). Besides, the research in this direction is unbalanced across disciplines. While much research literature has been published on the information behavior of graduate students in disciplines such as of humanities (e.g. Delgadillo and Lynch 1999; Barrett 2005), studies

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of graduate students from other disciplines or multiple disciplines are very inadequate (Li 2011).

Graduate students have their own distinguished characteristics though they have some substantial overlapping areas with faculty and with undergraduates. Their information behavior is in need of more exploration and research if we want to make sure that they get satisfactory services. Moreover, it should be noted that graduate students are "a group constituting a unique series of stages" and "more work remains to be done in exploring the subtler points of comparison between particular stages of the graduate career" (Barrett 2005, 330).

The research literature on graduate students' information behavior, though very insufficient, has revealed that the information research skills of this group of users are not adequate. Graduate students are in need of information literacy instruction and it is important for libraries and librarians to design and provide effective instructional programs for them. Yet the effort for this purpose is very limited (Rempel 2008).

3. Research Methodology

This research seeks an in-depth understanding of math graduate students' information behavior at different stages of their study via a longitudinal approach. Participants are recruited from among the new master and Ph.D. students in math discipline in universities in North America. Data will be collected every three months during the first two years of participants' study programs or their whole programs if two years goes beyond the time span for their programs. The data collection techniques will include semi-structured interviews, diaries and direct observations at various stages of the participants' programs:

1) The semi-structured interviews will be on participants' information behavior, including their recognition of information needs, choices and usages of information resources, their usual information search strategies, and their usage or transferring of the retrieved information. The first interview of each participant will include additional questions on his or her background.
2) Participants will be asked to keep a diary of their information behavior for one week before the scheduled interview date, reporting each of their information needs during the week, resources they consult, their search strategies, information retrieved, how they use the retrieved information and the difficulties they encounter.
3) Participants will be observed of their actual information searching on an academic topic related to their study area. Their resource choices and search strategies will be recorded with screen-capturing software.

Content analysis technique will be employed for the analysis of the data. Based on the findings, an information literacy instruction program will be proposed for math graduate students if the need is decided on. The types of instruction and instructional content appropriate for this group of users will be specified in the proposed instructional program.

4. Conclusion

Graduate study years are a critical stage in a person's life. The exploration and research of this user group's information behavior patterns at different stages of studies should be of great value and significance. If the need is identified via this type of research, libraries and librarians should seriously consider designing effective information literacy instruction programs for them. It is of utmost importance for this group of users to acquire adequate information literacy skills and to become life-long learners.

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