STREAMLINING THE INFORMATION RETRIEVAL PROCESS IN ELEMENTARY SCHOOL ONLINE LIBRARY CATALOGS

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Abstract

At the heart of Library and Information Science is the timely allocation of pertinent information to the patron. Given that the current technological environment in which we live dictates that all libraries, public, and private rely on the existence of online library catalogs, one area of research that is often overlooked is elementary school online catalogs. Current research has focused on the different information seeking behaviors of members of different school levels, sex, and age in regards to online information procurement. However, there exists little research specifically involved with improving the means by which public elementary school students might more effectively retrieve information pertinent to their searches, ultimately leading to a more enriching library experience and a continued pattern of the elementary school and public library use (in the wake of more popular internet-based technologies, such as Google.)

The intent of this research proposal is to initiate a research project that will focus on a sample group of approximately 50 students (grades one through five), split equally by sex, as they attempt to complete a series of tasks using their elementary school’s online library catalog. Techniques utilized will be mainly direct observation, followed with interview, and survey. Ultimately, the goal of this research is qualitative, and seeks to further define the means by which the students search for information. The ultimate end goal is to streamline the interface utilized by the elementary school and encourage further use of what is the most valid information source at the disposal of the students.
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Introduction

Pertinent research has been undertaken to discern the means by which people of varying backgrounds might differently approach their information searches. While extensive research has been done to see how these different populations might more effectively utilize internet technologies to their benefit, not enough study has been conducted considering how these people might more effectively utilize internet technologies solely regarding their libraries (i.e. online library catalogs.) More to the point, there does not exists enough current research regarding how children, students at an elementary level, might more effectively utilize their schools’ online library catalogs.

While Lim and Kwon (2010) have effectively demonstrated that there exists a gender difference between internet site use, Connaway, Dickey, and Radford (2011) have demonstrated that a majority of the population will opt for convenience over quality of information, and Chua and Goh (2010) can demonstrate the importance of more enriching interface features to encourage use, there still exists little research specifically geared towards the information seeking behaviors and wants of elementary school children. Large and Behesthi (2005) are part of the few who have undertaken research specifically within this field—a field that is even more sufficiently lacking if one is to consider elementary school online catalog use in particular.

With this in mind, it is pertinent to study the behavior of elementary school students insofar as how they interact with the online school library catalog. In doing so, the libraries will be able to streamline the processes by which the students collect information sources through the adoption of web design that is pertinent to the students’ needs. This will allow the students to acquire information with greater ease and speed, imprinting upon the students the validity of the information offered in comparison with more questionable sources available online, and create lifetime library users and learners.

Purpose Statement

The purpose of this research is to find what barriers currently exist within the information search processes of elementary school students within the online library catalogs of their institutions, leading them to outside and less valid information sources that are found online. Also, it is intended to determine what features facilitate the allocation of information online for elementary school age children in particular, as Large and Behesthi (2005) hold that there exists a unique information architecture that is most beneficial to those within those age group, as opposed to adults.

Significance of the Research

As this research is held as qualitative, the immediate outcomes will be few. It is, instead, intended that this research begins to build a body of information that has previously been given little attention. It is intended, however, that the long term effects of the research be a more informed and age-specific system of organizing information within online elementary school library catalogs that will facilitate faster searching and better, more rich search results. The implications for the elementary schools themselves are a more informed, better-educated student body.
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Research Questions

What graphic interfaces/representations of information on online elementary school online catalog websites are most effective in the student’s interpretation of the information or services provided?

What is the simplest means by which an elementary school student can conduct a fruitful search for information (with a specific source in mind)?

What is the simplest means by which an elementary school student can conduct a fruitful search for information (browsing)?

May information searching within the online library catalog be made more efficient if the online catalog adopts technologies that mirror other popular (possibly commercial) websites?

Review of Related Research

Kwon and Lim (2010), effectively summarize gender differences in information seeking behaviors, in regard to the use of the popular internet reference site, Wikipedia. In observation of a sample of 134 of 409 students who had undertaken an introductory undergraduate course. Utilizing a survey research technique, the authors surmised that male users tended to discount the possible invalidity of information found on the website as opposed to their female counterparts, harboring a higher expectation for the quantity of information provided by the site as well as the quality.

The ultimate conclusion of Kwon and Lim was that, although the actual quality of content delivered by Wikipedia might not be validated, there existed a large gap between the information literacy practiced, as a result of interaction with the site, between the male and female populations. The authors held that there existed little difference in the amount of experience (measured in years) between both the female and male members of the sample population. Holding that males tend to use Wikipedia, and the internet all around, for entertainment and information purposes (while females tend to utilize the same technologies for communication) males reported having more “positive” experiences with the site than their female counterparts (Kwon & Lim, 2010).

The limitations of this survey research are illustrated not only by the means in which the data collected is interpreted, but also in the means by which the survey questions themselves are created and the values given to the various responses (Connaway & Powell, 2010). In consideration of the emotional state of the sample group, Kwon and Lim (2010) posed statements such as, “I feel good about using Wikipedia”, or, “I use Wikipedia because its information is useful” (p.216). However, more substantive statements follow within the survey, regarding the perceived accuracy of information as presented on the site and the use of works cited within Wikipedia articles of behalf of the students. Also, it is important to note that, while this study highlights the difference in information seeking attitudes in regards to Wikipedia, it does not propose to answer the question as to why these differences exist.

In consideration of more rich, multi-media-driven web interfaces, Alton and Goh (2010) have undertaken considerable literature survey research regarding the use of “Web 2.0” technologies within library websites. Expanding upon this research, Alton and Goh surveyed a
sample group of 120 library websites (both public and academic) within North America, Europe, and Asia, within the years of 2007 to 2010 to determine the prevalence of Web 2.0 technologies and their perceived contribution to the information seeking processes and overall experiences of library website users.

The conclusions held by this survey include that: North American library websites make greater use of the more technologically enhanced user services, the types of Web 2.0 technologies held by the library websites seem to differ based on geography, and academic libraries tend to make more use of Web 2.0 technologies than public libraries. While their existed no quantitative difference between the perceived quality of public and academic library websites, the study still held that the prevalence of Web 2.0 technologies, overall, normally indicated a higher-quality information experience for website users (Chua & Goh, 2010).

Limitations on Chua and Goh’s study can be found in the selection of a sample group from limited geographic regions, as well as the focus on only six Web 2.0 applications. Also, while use of the Web 2.0 technologies was studied, the information seeking behaviors of those engaged with the relatively new technologies was not. Overall, however, this study does serve to illustrate the importance of the implementation of new technologies in order to enhance the perceived experiences of library web site users.

Connaway, Dickey, and Radford (2011) focus more on the information-seeking behaviors of those utilizing websites, focusing on the question of convenience. Utilizing a series of previous studies, the authors discern between the compromise that internet users make between the perceived validity of sources and the ease by which those sources might be acquired. This survey of previous research is undertaken holding the library as the most valid and pertinent, albeit not most convenient, information source.

Based mainly on interpretation of interviews with undergraduate students, graduate students, and faculty of the same university within one year, it was found that the sample group was often more than willing to sacrifice the validity of an information source for its convenience. The authors hold that, “…in some situations, information seekers will readily sacrifice content for convenience. Convenience is thus one of the primary criteria used for making choices during the information-seeking process” (Connaway et al., 2011, p. 188). While these results seem pertinent, it is again necessary to point out that the survey questions themselves may create bias insofar as research results are created.

More in line with the perceptual differences between youth and adult users of web interfaces is the work of Large and Beheshti (2005), focusing on the differing needs between those of different age groups insofar as information seeking is concerned. Conducting a survey of pertinent literature, it is found that the information needs of a younger population are better served through an information architecture that is unique to their age group. While their work focuses more on web portals than websites in general (or library web sites in particular), it is concluded that unobtrusive observation of children’s web search habits are tantamount to any research that may be undertaken in order to determine what best suits their information needs and searching techniques (Large & Beheshti, 2005). Interviews and focus groups are also emphasized as viable means towards this goal.

Methodology and Design of the Research

The study is to be conducted within one public elementary school library within a medium-sized city. The sample group will be comprised of 50 students, equally distributed
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between grades 1 and 5, and equally made up of both sexes. This research will be qualitative and the technique will be experimental, based on direct observation.

The students will be given a series of tasks: to locate a specific source (a textbook for example), to locate a source within a given subject area, and to find one piece of material of interest—all within the school’s online library catalog.

The students will be observed regarding where they begin their searches, the duration of their searches, and the amount of difficulty incurred within each search. The ultimate data taken from this study will be the amount of, “clicks” that it takes each student within the interface to locate the information for which he or she is searching. This data will be collected and utilized to determine which areas of the online catalog pose the greatest challenge for the students to use, and assist in suggesting how those areas might be improved.

The data may be further sub-divided within the specific grades, however the size of the sample group might not be adequate for further specialization within the study. The sample group may be widened for this sort of undertaking. If the sample group is expanded, it is still pertinent that all members of the group are students at the same school—allowing the online catalog to remain the independent variable.
REFERENCES


