

A Study of the Impact of Statewide Database Licensing on Information Provision in Washington State.

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Abstract

The Statewide Database Licensing (SDL) Project brought ProQuest, full-text periodicals and newspapers databases from Bell & Howell, to nearly every library in Washington State. The research presented here investigates the impact of statewide database licensing on the users of public, school and community college libraries. The study was conducted in two stages. At first, transaction log data from Bell & Howell were analyzed to provide a summary of statewide usage. Then, a study of how selected communities search and utilize information available through the SDL initiative was conducted using interviews, focus groups and a survey questionnaire.

The usage data indicated that the database is used mainly in education. The heaviest use of ProQuest is in K-12 and academic institutions. The conclusions from the survey data draw attention to the importance of implementation and promotion strategies. The computer and information appear firmly linked in the minds of users. Computer literacy appears widespread amongst the community college users, who use computers to access information almost daily. Patrons who have not used the SDL database indicated that they did not know of its existence. Recommendations to improve the SDL project include, a vigorous marketing campaign, and training programs in the use of the database for librarians and patrons.

INTRODUCTION

Accessing database services through state-held contracts is becoming a national trend. Washingtonians have access to ProQuest databases through the Statewide Database Licensing (SDL) project. The research presented in this paper is an exploratory study of the impact of SDL on information provision in the State of Washington.

The Statewide Database Licensing project allows Washington State libraries of all types to engage in a cooperative approach to licensing commercial on-line databases. The Washington State Library coordinates the licensing of the databases and acts as a clearinghouse for information on behalf of all libraries. The State Library's efforts are guided by a Steering Committee that represents the various library stakeholders. Currently, more than 2,000 Washington libraries have access to the full-text periodical and newspaper package (ProQuest) that was licensed by Bell & Howell for the period October 1998 through December 2000. (The license has now been extended to December 2001.) Participating libraries include a range of Washington State public, special non-profit, tribal, public and private K-12 school, community college, and public and private college and university libraries (Washington State Library, 1999).

AIMS AND OBJECTIVES

The premise of the research study conducted by the Information School at the University of Washington is that a better understanding of the impact of statewide database licensing will be achieved if we can understand how people perceive this type of service when they use it. The study was conducted in two stages. In Stage 1, transaction log data from Bell & Howell were analyzed to provide a summary of statewide usage. In Stage 2, a study of how selected communities search and utilize information available through the SDL initiative was conducted.

The study involved communities where the SDL initiative had been implemented and Bell and Howell statistics revealed that library patrons were using ProQuest. The three libraries selected for the study were Whatcom Community College Library, Rogers High School Library, and Mt Vernon Public Library. The research team examined the information needs of selected groups served by these libraries and observed how these needs are met or not met by access to ProQuest through the SDL initiative. The study objectives were to:

- Observe how people are using ProQuest and the nature of the information that they are looking for.
- Elaborate the impact of the SDL database use. E.g., Information provision and Information services (user and library perspectives).

The investigation centered on several types of users (librarians, teacher-librarians, library patrons, community college students), and use contexts (public library, community college library and school library). The user-oriented paradigm is the conceptual framework that underpins this research study (Dervin & Nilan, 1986).

METHODOLOGY

Data Collection and Analysis

The study employed a number of methods for collecting data about use and users including document and policy review, database use statistics, in-depth interviews, focus groups interviews and survey questionnaires. Data for the study were gathered from librarians; teachers; members of the user community, and Bell and Howell. Data collected included usage numbers, patterns, and purposes, policies, and testimonials.

Database use statistics

Bell and Howell, the distributors of ProQuest regularly issue statistics that summarize the frequencies of database use for each library or signing authority participating in the SDL program. These statistics can be somewhat obtuse and difficult to elucidate at the local level. The researchers asked Bell and Howell for use statistics in electronic form. The data were then manipulated and restructured using Microsoft Access and Excel so that information on use could be more readily extracted.

Document and Policy review; Observations of the physical context

The user-oriented paradigm recommends that we understand the context of information provision and information use. Studies of information seeking in context are common (see proceedings of the Information Seeking in Context Conference, ISIC 1996 Tampere, 1998 Sheffield). Study of the context informs our understanding of how and why people are looking for and using information and the expectations that they may have. The data collected from the libraries participating in this study provided a description of the physical space (library layout, computer terminals, collection); electronic information (access policies, acceptable use, technologies) the library in the community context; patron profiles; staff profiles; special programs; information literacy instruction and support; promotion and implementation of the database licensing initiative.

Individual interviews

The people involved with the statewide licensed databases and the way they are used in libraries in Washington are basically either professionals or patrons. The professionals are library personnel, teacher librarians, students in school, community colleges and universities or people who want to use the information services of a library to find information to serve professional or personal information needs. A technique widely used for research that aims to achieve a broad overview of impact is the interviewing of stakeholders. The interviews that took place for this research involved the senior personnel at each of the libraries participating in the study. The in-depth interviews were semi-structured. A structured component of the interview schedule was used to obtain the sort of data that described the operational context of the library or library media center and approaches that were being used to promote and implement the program in each library context. Data from the semi structured, in-depth interviews was also used to inform the development of the survey instrument that was later distributed to patrons. The interviews also provided valuable insight into the administrative and service dynamics of the libraries participating in the study.

Focus groups interviews

Focus group interviews were used to gather data on the context of SDL use and to inform the design of the user surveys. Libraries, like most organizations, function through an organizational culture that is defined by groups, teams and partnerships. They function through the work of committees, executive groups, governing bodies, advisory boards and so on. One focus group interview was conducted with library staff. A second focus group was conducted with student users of the Community College Library.

Survey/ questionnaire

The questionnaire that was used in this study was designed on the basis of data that emerged from onsite observations, in-depth interviews and focus groups. The researchers were keen to assemble a quantitative summary of certain aspects of database use and the impact of the SDL initiative. The questionnaire was designed to quantify who is using the databases available through the SDL initiative. Attributes such as age, occupation, computer use and library use were explored. The researchers also wanted to know what people use the databases for and their impression of the databases as an information resource. A convenience sample was used. Library patrons were simply encouraged by librarians on duty at the circulation desk or reference desk to fill in the questionnaire.

RESULTS

PROQUEST USAGE DATA

In late September 1999, Bell & Howell provided ten files that contained monthly usage data from November 1998 to August 1999, for all SDL libraries in Washington . A file with library contact information for all libraries involved in SDL was also included. The monthly usage data files and library contact files were manipulated and imported into Microsoft Excel spreadsheets and an Access database for data analysis.

The monthly library usage files contained detailed information on what IP address accessed what journal or periodical in what ProQuest module and on which date, as well as how what was accessed was delivered. The library file contained detailed address, contact and billing information for each participating library in the SDL project. The usage data files were processed and merged into a new database for the analysis.

Among the libraries and institutions that participate in the SDL initiative are six academic institutions that together form the Cooperative Libraries Project (CLP). The six CLP institutions (University of Washington, Evergreen State College, Western Washington University, Eastern Washington University, Central Washington University, and Washington State University) receive federal funds for database licensing and therefore are not a part of the Washington SDL project in its strictest sense. The State Library requested that the monthly usage data be examined both with and without the CLP institutions and the results below are reported accordingly.

All special, non-profit libraries were invited to participate in the SDL initiative. However, the only special, non-profit libraries that chose to participate are special "Health Sciences" libraries.

The usage of the ProQuest databases is measured by examining the number of hits reported by Bell & Howell. Unlike other systems that keep track of the number of logins to the system and the number of queries run, Bell & Howell keeps track only of how many times a title has been accessed, what part of the document was requested, and how it was delivered. The results are discussed in terms of usage by institution, usage by ProQuest module type and by title, delivery format, and delivery method.

Usage by institution type

Working from print lists of participating institutions (for school, academic, public, tribal, and special library) supplied by the State Library an Access table was created with the name of all participating institutions and then an institution type was assigned to each one. The following seven institution types were used: Academic (excluding the 6 CLP institutions), CLP institutions, Public, School, Special, Tribal libraries, and the State Library.

Figure 1 represents the number of hits according to all library types over the ten month period, November 1998 to August 1999. During this period there were 2,018,765 hits on the ProQuest databases. The heaviest usage is by Academic (excluding the 6 CLP), CLP institutions, Public, and School libraries. The lowest usage is reported by Special and Tribal libraries, and the State Library. Usage for the latter three types is steady and flat during the study period. Usage of the Academic institutions (excluding the 6 CLP) and the CLP institutions is very similar in volume and form. A similar pattern with respect to form of the trend line is also observed between the Public and School libraries. However, the volume of Public Library usage is much higher than usage by School libraries. The link between School and Public libraries reflects the fact that most Public libraries work very closely with Schools and provide access to K-12 resources after school hours. The overall usage pattern of the Academic, CLP institutions, Public, and School libraries seems to be cyclical with peaks and valleys corresponding to academic and school holidays. For example, the valleys in December 1998, March 1999, and from June to August 1999 correspond to school breaks. The peaks in February 1999 and April-May 1999 correspond to increased end-of-term activity, when papers and school projects are due.

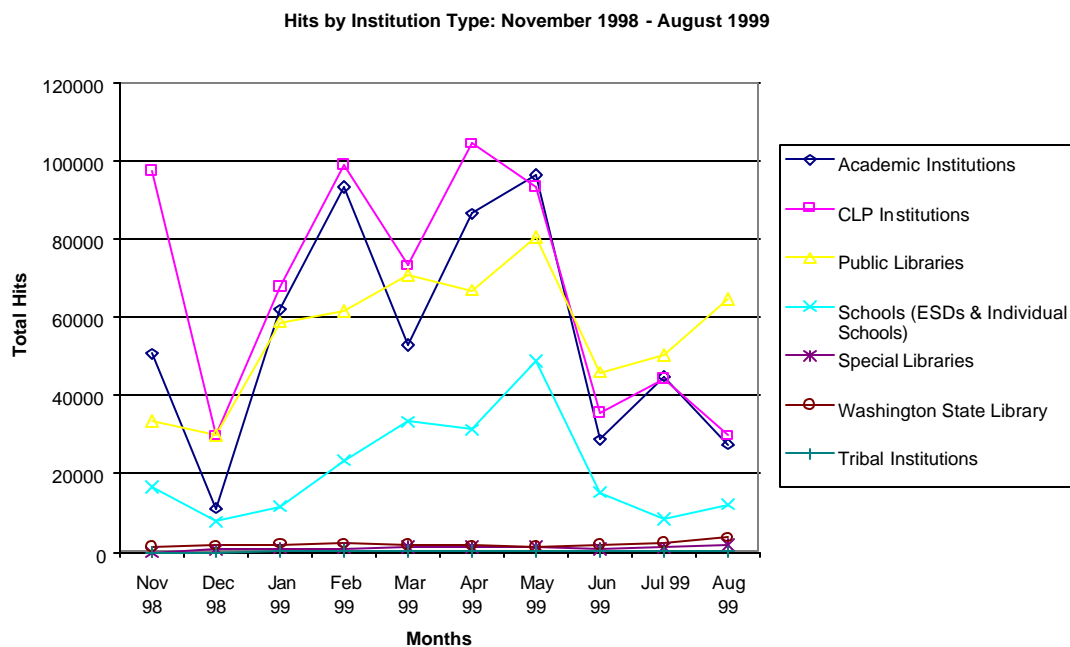


Figure 1: Usage by type of library/institution

Usage by All Modules, News modules and Periodical modules

ProQuest is made available in modules, which group titles in subject areas or by interest to particular user groups. The usage of the ProQuest databases presented here is broken down into three parts that report total usage of all modules combined, usage by news modules and usage by periodicals modules. The researchers assigned a type to each module—either ‘periodical’ or ‘news’—based on whether the module name had “news” or “newspapers” in its name, or the description of the module said that it was a newspaper database.

The total number of hits for all modules combined, and by news and periodicals modules for all SDL participating libraries, including CLP institutions, for the period November 1998 through August 1999 is given in Figure 2.

Module Hits: All Modules, News Modules & Periodical Modules

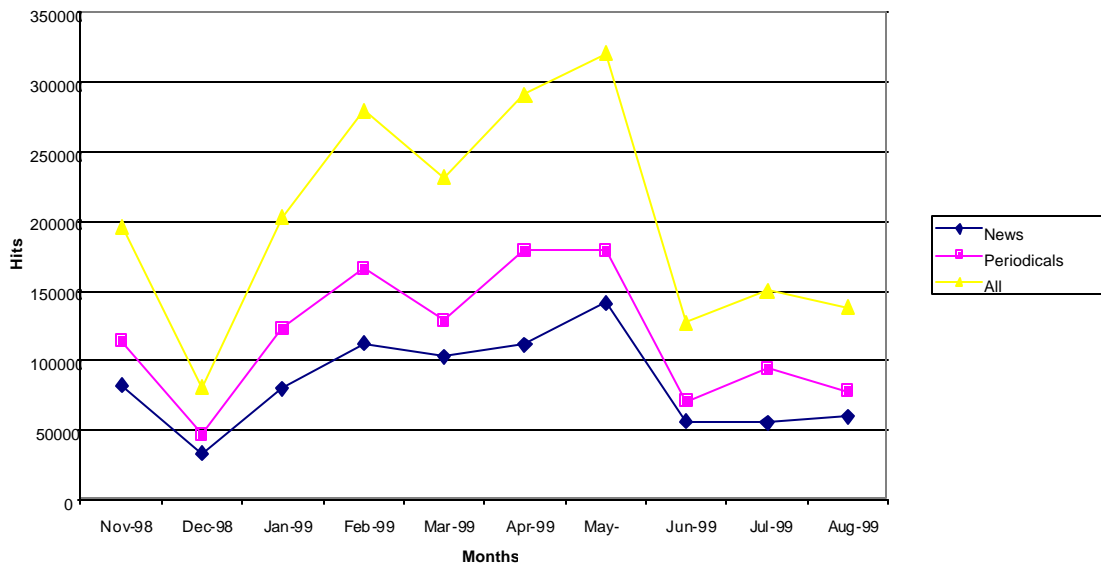


Figure 2: Usage by type of module

From the trend line of the hits in the figure it is observed that overall usage for the ten month period follows the school year pattern with peaks and valleys corresponding to end-of-term activity and school breaks. It is worth noting that the volume of use of the periodical and news modules is very similar.

The 2,018,765 hits have been generated by 2362 titles. It should be pointed out that we could not attribute with any level of certainty the use of these titles to user choices. In other words, when users search the ProQuest system a query is searched in the default modules that have been set by the library or Bell & Howell. The default is usually set to all the modules. The researchers have no knowledge of how the query is processed, which modules are searched first, and how searching affects the order of the results. Furthermore, we do not have data that indicate which modules users choose to search and what queries they use because according to Bell & Howell this information is not being collected.

Delivery Format Data

ProQuest has a variety of delivery formats which are dependent on the database searched. The formats are: (a) abstract, (b) citation, and (c) full-text, which includes the text of the document plus page images or page graphics.

The monthly total number of hits by abstract, citation, and full text during the ten month period for all SDL participating libraries excluding the CLP universities is given Figure 3. It can be seen that *full-text* is the primary format requested, *abstract* follows, and *citation* requests are trailing with a very small number. The comparison of the figures for delivery format without including CLP universities and by including them we establish that the impact of the additional usage of the CLP universities in the overall usage pattern relates to an almost uniform increase in volume over the entire period and without any change in the cyclical usage pattern.

Delivery Format: November 1998 - August 1999 (not including CLP)

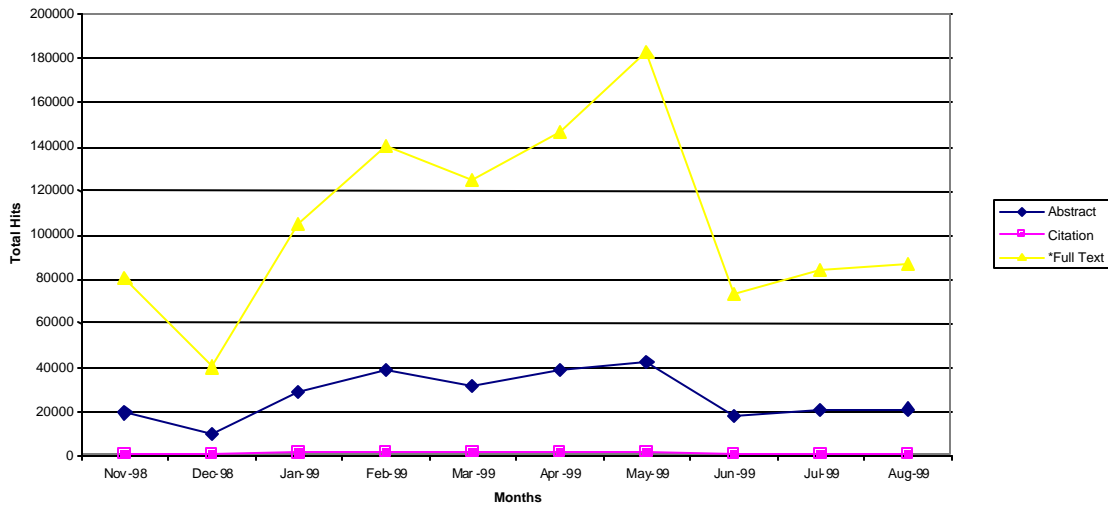


Figure 3: Usage by delivery format (not including CLP state universities)

Delivery Method

ProQuest search results can be viewed online and users can ask to receive them by fax or electronic mail. The monthly totals for the three delivery methods during the ten month period for all SDL participating libraries excluding the CLP universities is given in Figure 4. Similar results with trend lines symmetrical and with higher volume differences are obtained when CLP institutions are included. Online display is the main and dominant method of delivery and this makes sense. Through online viewing users have the capability to save the results they see by using the browser “save” option. Electronic mail and fax are the second and third best alternatives and one can speculate that these delivery methods may be used by people who search for others so they forward the information to them.

Delivery Method: November 1998 - August 1999 (not including CLP)

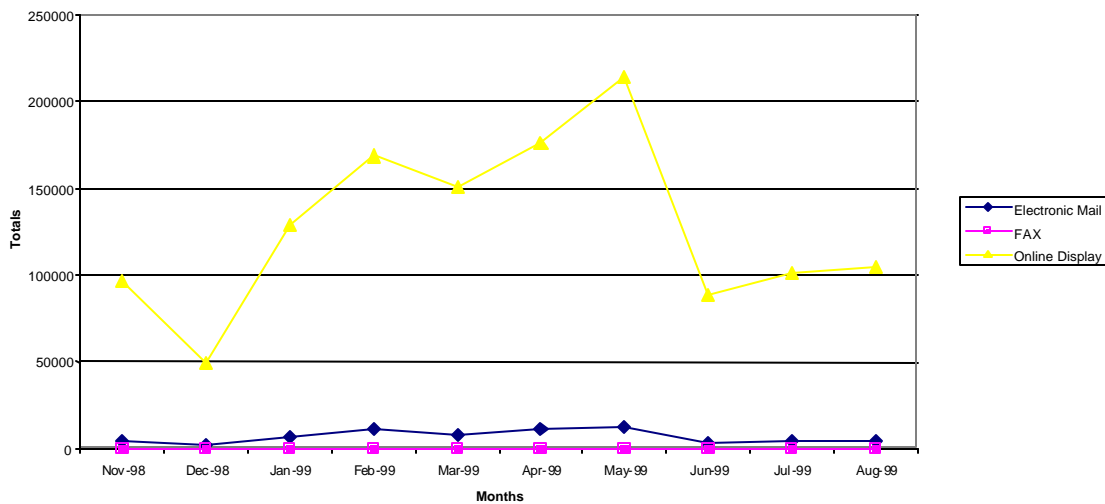


Figure 4: Usage by delivery method (not including CLP state universities)

FIELD OBSERVATIONS, INTERVIEWS, AND FOCUS GROUPS

The analysis of the individual and focus group interviews revealed a number of common issues and perceptions across the different user groups.

Librarians at Whatcom College, Rogers High School, and Mt Vernon City Library use ProQuest to help students with assignments and their research mostly on one-to-one basis. Most of the help provided is with issues relating to the search process especially the use of Boolean operators, term selection, query formulation and refinement (students indicated that they wished to be able to search using phrases or natural language). Students also need help with information literacy skills. Whatcom Community College librarians spent more than fifty percent of their reference related work in doing “digital reference”; using electronic resources, like ProQuest, to find information. ProQuest is used primarily for questions that can be answered using the “Washington Newsstand” module, which has newspapers from throughout Washington State. “Washington Newsstand” is very popular at Rogers High School also.

Librarians and patrons interviewed at Whatcom Community College Library, Rogers High School and Mt Vernon City Library are pleased with ProQuest’s currency and timeliness of coverage (e.g., one finds events that happened the day before), full-text capabilities (because it expands the library’s collection, very important for small libraries like MVCL), remote access availability and convenience. It was generally agreed that the Bell & Howell support representatives were helpful. ProQuest is considered more authoritative and reliable than some Web resources because indexed materials have been published in reputable journals.

All librarians mentioned that lack of training is the main impediment to effective use of ProQuest by library staff and patrons in using ProQuest or any other system. Librarians observed that the search interface is not intuitive for those with limited knowledge of searching and that instruction on search techniques was required. At Whatcom Community College Library, it was mentioned that some students with English as a second language preferred the EBSCO interface, at Rogers High School, the librarian thought that SIRS Researcher and E-Library had better interfaces and were better suited for students, whereas at Mt Vernon City Library, the librarians thought that Infotrac was easier than ProQuest. They did not like E-Library and EBSO was too expensive. At Whatcom Community College Library, some librarians and students thought that ProQuest is more academic and has more journals, while some librarians preferred EBSCO for articles. Users indicated that it is difficult to figure out what is in each module. They disliked the fact that the default search is for materials since 1997 and that it is difficult to select another time range. Users complained that the results’ reporting is vague; instead of presenting to the user the number of documents that have been retrieved the interface says, “at least 50 articles found.” Users found it difficult to work out how to get an article from a particular periodical and to print results. Librarians would like to receive the Bell & Howell monthly usage reports in electronic format and probably with additional data. This suggests that the content and formatting of the usage reports need to be revised to provide information that matched the needs of each library branch and library system.

Librarians at all three sites observed that the majority of the users are high school or college students. Age seems to be a major factor in determining use of ProQuest or other electronic resources.

WHATCOM COMMUNITY COLLEGE LIBRARY SURVEY RESULTS

The Whatcom Community College (WCC) library joined the SDL project in the spring of 1998, although it began participating in the trials in December 1997. The library had access to online databases prior to the project and still maintains databases in addition to ProQuest. ProQuest is used by both library staff and patrons, and the contact librarian felt there had been a significant increase in use since the database was introduced. Students primarily find out about ProQuest from librarians or instructors. Librarians do outreach to the instructors to let them know that ProQuest and other online databases are available.

Users connect to ProQuest through the library’s Web site. There is no other icon on the computer desktops. ProQuest is accessible from any computer on campus that has an Internet connection and a browser, without needing

a password. Users with the password can also access ProQuest remotely. The vendor-provided interface has not been altered.

Staff of the Whatcom Community College Library were asked to distribute a questionnaire to library patrons as they came into contact with them at the circulation desk or reference desk. Seventy three library users responded to the questionnaire. This is a convenience sample so it is inappropriate to generalize from the data collected to the broader population of library users at the Whatcom Community College. However, a range of interesting trends that relate to the use of computers to look for information and use of the ProQuest database in particular can be reported here.

Not surprisingly, the majority (67.1%) of the sample of users of the library were between the ages of 18 and 25. If we take the cumulative for the age categories 18-25 and 26-35, this majority grows to 80.8%. The age of the library users is related of course to the fact that the majority (65.8%) of the sample are Whatcom Community College students. The sample is fairly evenly distributed in terms of gender; 57.5% are male and 42.5% are female. The majority of patrons in the sample (80.8%) have a computer at home and in 53.4% of cases this computer provides the Whatcom Community College user with access to the Internet. With such a high proportion of subjects in the sample having access to a computer at home, it is not surprising that the majority of people in the sample considered themselves competent (59.7%) computer users. There were no non-users of computers in the sample. 11.1% of the sample considered themselves expert computer users and 29.2% considered themselves beginners.

Having access to computers and computer competency are two important factors in SDL implementation but the important issue is what do people do with computers. This research study focused particularly on the use of computers to search for information. It is interesting to note, therefore, the high proportion (43.7%) of subjects in the sample who indicated that they used a computer to look for information daily (Table 1).

Table 1: Use computer to look for information

	Frequency	Valid Percent	Cumulative Percent
Never	1	1.4	1.4
Once/ twice a month	20	28.2	29.6
Once/ twice a week	19	26.8	56.3
Daily	31	43.7	100.0
Total	71	100.0	
Missing cases	2		
	73		

Table 2: Visit library to look for information

	Frequency	Percent	Valid Percent	Cumulative Percent
Never	2	2.7	2.7	2.7
Once/ twice a month	34	46.6	46.6	49.3
Once/ twice a week	29	39.7	39.7	89.0
Daily	8	11.0	11.0	100.0
Total	73	100.0	100.0	

The majority of the subjects in this sample are regular users of the Whatcom Community College Library. The largest proportion of the sample (46.6%) indicated that they visit the library about once or twice a month to look for information. In the sample, 11% of the users came to the library every day to look for information and 39.7% looked for information in the library about once or twice a week (Table 2).

Table 3: Types of information searched for using in the library

	Recreation Information	Legal information	Medical information	Educational information	Community information	News and current events information	Other information types
Yes %	52.1	17.8	24.7	78.1	17.8	41.1	8.2

Given the high frequency of library use to look for information, it is interesting to note the types of information that Whatcom Community College patrons are seeking. When asked about the types of information that they had searched for in the library over the past year, users in the sample indicated that the primary types of information sought were recreational and educational. The modal categories in Table 3 relate to an answer of yes (1) or no (2). The data show that 52.1% of the library users in this sample had searched for recreational information over the past year. In light of the fact that the majority of the sample are Whatcom Community College students, it is not surprising that a majority (78.1%) also indicated that they had searched for educational information over the past year. The other interesting feature of the data is that a moderate proportion (41.1%) had also searched for news and current events information in the library over the past year. Users also searched for medical information (24.7%), legal information (17.8%), community information (17.8%), and other types of information (8.2%).

A small number of subjects in the sample indicated that they had searched for other types of information in the library over the past year. Of the six subjects who reported that this was the case, only two specified the information type that they were seeking. Both reported that they had been looking for information about email.

During the in-depth interview stages of this study, the researchers were made aware of the fact that a course called Introduction to Library Research (Library 201) was offered to students of the College. In this course the instructor/librarian introduces the ProQuest databases to students. The majority of the surveyed sample (75.3%) had not taken Library 201. Nevertheless, 49.3% of the sample had used the ProQuest database.

Table 4: Used ProQuest - Taken library 201 Cr oss tabulation

		Taken library 201 course			Total
			Yes	No	
Used ProQuest	Yes	Count	15	21	36
		% within Taken library 201 course	83.3%	38.2%	49.3%
	No	Count	3	34	37
		% within Taken library 201 course	16.7%	61.8%	50.7%
Total		Count	18	55	73
		% within Taken library 201 course	100.0%	100.0%	100.0%

Having taken the Library 201 course is clearly related to use of ProQuest. As the data in Table 4 indicate, 83.3% of the users in the sample who had taken this course reported that they had also used ProQuest. 61.8% of the patrons who had not taken the course had also not used ProQuest. This relationship is statistically significant at the .001 level. The coefficient for this relationship (.389) is moderate.

Table 5: I Don't use ProQuest because

	Frequency	Valid Percent	Cumulative Percent
Haven't heard of it	30	83.3	83.3
Didn't know the library had it	3	8.3	91.7
Haven't needed it	1	2.8	94.4
Don't have enough time	1	2.8	97.2
Other	1	2.8	100.0
Total	36	100.0	

The relationship between active dissemination of information about ProQuest and its use by patrons in the sample is further verified by the data below. When asked why they had not used the ProQuest database, the overwhelming majority (83.3%) of patrons in the sample who had not used the database indicated that they simply had not heard of it. And for those users in the sample who had used ProQuest, the largest proportion (85.3%) had heard about the ProQuest database from a librarian (44.1%) or at school (41.2%).

Patrons had not only heard about the database from a librarian. In many cases (35.3%), patrons in the sample indicated that they learned to use ProQuest with the assistance of a librarian. An equal proportion (35.3%) of subjects in the sample indicated that a class instructor had assisted them. There may be some confusion here due to the fact that librarians were acting as class instructors for the course "Introduction to Library Research."

The data are less ambiguous later in the questionnaire when users in the sample were asked if they ever request help from a librarian when using ProQuest. A majority of subjects who had used the database (52.9%) indicated that they had asked a librarian for help. It is clear that librarians are a vital part of the implementation of the SDL(SDL) initiative both in terms of awareness and use.

The researchers were also interested in finding out how often patrons of the Whatcom Community College use the ProQuest database. The importance of the SDL initiative lies with access to full text databases within libraries but also access to these databases from off-campus or remote locations. The data in Table 6 indicate that subjects in the sample are more likely to use ProQuest on campus rather than off campus. The largest proportion of users in the sample (38.9%) reported that they had used the ProQuest databases 2-4 time on campus.

Table 6: How often have you used ProQuest on-campus & off-campus

	On-Campus	Cumulative Percent	Off-campus	Cumulative Percent
Never	8.3	8.3	35.3	35.3
Once	8.3	16.7	14.7	50.0
2-4 times	38.9	55.6	26.5	76.5
5-10 times	25.0	80.6	20.6	97.1
More than 10 times	19.4	100.0	2.9	100.0
Total	100.0		100.0	

About a third of those who had used ProQuest (35.3%) indicated that they had never used the database from an off-campus location. A reasonably large proportion (47.1%) of users indicated that they had accessed ProQuest from an off-campus location 2-4 times (26.5%) or 5-10 times (20.6%).

It is interesting to note that using the ProQuest database appears to be fruitful for the information searcher at Whatcom Community College. Only one person out of the thirty four people in the sample who had used the database indicated that they never found what they were looking for. The majority (67.6%) of users in the sample reported that they often found the information that they were searching for.

This begs the question—what types of information are the Whatcom Community College Library users searching for on ProQuest? It is not surprising to note that the majority of people in the sample (97.1%) who had used the ProQuest database at Whatcom Community College indicated that they were looking for education related information. Few users in the sample indicated that they had searched the ProQuest databases for legal information (8.8%) or community information (11.8%). A moderate proportion of the Whatcom Community College users searched for medical information (32.4%) and information about news and current affairs (41.2%).

This research was also aimed at finding out the impressions that users have of the ProQuest database. The questionnaire was designed to tap into these impressions both negative and positive. Subjects were asked to respond yes or no to each impressions For the negative impressions surveyed in the questionnaire there was no instance where the majority of the users report that yes this was the case. . Negative impressions included finding that ProQuest was confusing to use (29.4), frustrating (23.5%), provided not enough full text materials (44.1%), was slow (20.6%) or unreliable (8.8%), or simply provided too much information for the user (8.8%). This may indicate that on the whole, people who had used ProQuest at Whatcom Community College Library had a reasonably positive impression of the database. The data show mixed impressions, however. Users in the sample were clearly not impressed by the speed of the database. Although 79.4% of the sample does not think that the database is slow, this does not mean that they think ProQuest is fast either. In fact, only 5.9% of the users in the sample reported that they think that ProQuest is *fast*. Of the positive impressions surveyed, 47.1% of the users think that the database is *up to date*, 38.2% think that it is *convenient*, 35.3% think that the database is *credible*, and 29.4% think that it has *lots of full text* and is *accurate*.

Overall the impressions of the database gained from those using ProQuest at Whatcom Community College do not provide a resounding endorsement. In some ways the style of the questionnaire may have biased the data slightly in the negative. Respondents were asked to check the words that describe their experience with ProQuest. The analysis is based on the assumption that where a subject did not check a particular word this implies that he/she does not have that impression of the database. For some subjects in the sample this may not be the case. For example, some

subjects may not have checked a particular word because they have no opinion or were unable to judge this impression in relation to ProQuest. This weakness in the questionnaire design may have caused the ambivalence that is suggested by the data.

There is nothing ambiguous about the patrons' preference to continue to use ProQuest, however. A large majority (82.4%) indicated that they will. It seems that, having used ProQuest, Whatcom Community College patrons in this sample see the database as an integral part of the information environment that they would like to continue using. The desire to want to continue using ProQuest is not based on the fact that it is the only database available or indeed the only database the library patrons in the sample are using. As the data indicate, 54.7% of the sample use databases other than ProQuest.

The data collected from the sample were also examined for association using bivariate analysis. There is an assumption that people who have access to a computer at home will be more likely to regard themselves as competent computer users and be more inclined to use computers to look for information. The data in Table 7 indicate that this may be the case for Whatcom Community College patrons. The survey revealed that 49.1% of the sample who have a computer at home look for information using a computer every day. This compares with the 21.4% of the sample who don't have a computer at home but look for information on a computer every day. When we look at the data for less frequent use of a computer to look for information, this observation is reversed. We see that 42.9% of Whatcom Community College Library patrons who don't have a computer at home reported that they searched for information using a computer about once or twice a month. Only 24.6% of the patrons who have a computer at home indicated that they used a computer to search for information once or twice a month. It seems from this data that having a computer at home is related to the frequency that users in the sample search for information using a computer. People who have a computer at home will search for information using a computer more frequently than people who do not have a computer at home.

Table 7: Use computer to look for information - Computer at home Crosstabulation

		Computer at home		
		yes	no	Total
Use comp. to look for info.	Never	Count	1	1
		% within Computer at home	7.1%	1.4%
	once/ twice a month	Count	14	20
		% within Computer at home	24.6%	42.9%
	once/ twice a week	Count	15	19
		% within Computer at home	26.3%	28.6%
	Daily	Count	28	31
		% within Computer at home	49.1%	21.4%
	Total	Count	57	71
		% within Computer at home	100.0%	100.0%

The trend in the data is not statistically significant if the alpha is set at .05. The data revealed a moderate correlation (.323) between the two variables but the P Value .06 just exceeds the limits set by this research study. The trend, however, does suggest that further investigation is warranted.

The second part of this assumption concerning having a computer at home and the likelihood of using computers or computer based resources for information seeking is corroborated by the data. 57.6% of Whatcom Community College Library patrons who have a computer at home, have also used ProQuest. 85.7% of the users in the sample who do not have a computer at home have also not used ProQuest. This association is moderate (correlation coefficient = .341) and it is statistically significant.

The researchers were keen to pursue a particular dimension of computer use at home—access to the Internet and how this might affect use or non-use of the ProQuest databases. The data reveal that there is a slight trend towards associating access to the Internet at home and use of ProQuest for the sample of Whatcom Community College Library users in this study. 53.8% of the sample who had Internet access at home had used ProQuest whereas 44.1% who did not have access to the Internet at home had used these databases. This is reinforced by the fact that 55.9%

of the sample who did not have access to the Internet at home had not used ProQuest compared with 46.2% who had the Internet but had not used the databases. The association is not statistically significant.

CONCLUSIONS AND RECOMMENDATIONS

This study represents a good beginning in the efforts to evaluate the impact of the SDL project on participating libraries. However, many avenues of research remain to be explored or maximized. Within the study timeframe we did not have enough time to truly address the questions of “how the database has made a difference in people’s lives,” or “what kind of impact having access to a database has had in users’ lives.”

The analysis of the ProQuest usage data provide an overview of use of the resource during the first ten months of the SDL initiative (November 1998 to August 1999). Because of this it is not appropriate to generalize the results and infer statewide usage patterns. The results should provide information to support the publicity of the service and expand its use.

Most libraries that participated in the SDL project also offer a number of similar electronic resources to their patrons. In today’s Internet environment, with high volume statistics, one may argue that the 2,018,765 hits over ten months (with mean = 200,000, min = 80,000, and max = 320,000) found by the study reveal low volumes of use. However, this result should be considered in light of the fact that:

- (a) the SDL database is accessible only to Washington State citizens who have a library card,
- (b) the population of Washington State is small (about 5.5 million),
- (c) competing products are available in most libraries,
- (d) there is a lack of usage data for competing products to facilitate comparisons, and
- (e) these usage figures represent the first ten months of the service and are the result of very little marketing effort.

The analysis of Bell and Howell use statistics does reveal that the SDL databases are being used mainly in education. The heaviest use of ProQuest is in K-12 and academic institutions. There are similar patterns of use for public libraries and K-12 schools indicating the importance of public libraries in K-12 education.

The survey data presented are based on a convenience sample of 73 Whatcom Community College Library patrons. As such, the results cannot be generalized to the broader population of Community College users in Washington State but this was not the intention here. This research was exploratory. The aim was to present a snapshot of the impact of the SDL initiative in particular contexts. In this case, the data collected from Whatcom Community College draw attention to a number of characteristics of library patrons and the way they use information services and computers. The data suggest various recommendations for the process of implementing Statewide Database Licensing.

The conclusions that can be drawn from the survey data collected from Whatcom Community College draw attention to the importance of implementation and promotion strategies. Although the data are not generalizable, there are a number of trends that are of particular interest to the Statewide Database Licensing initiative. These relate particularly to the accommodations that people make towards computers and information seeking. The computer and information appear to be firmly linked in the minds of users of Whatcom Community College library. Computer literacy or competency also appears to be widespread. At the very least, the users of the College library are confident of their ability to use computers to access information and do so on a regular basis. There is an expectation that library personnel will assist with this process when required and will inform library users of new, innovative services as they become available. Many of the patrons in this survey who had not used ProQuest indicated that they did not know that the library had the database. There is a strong suggestion that if they did know of its existence in the library, they would experiment with the database and, if it proved useful, would incorporate it into their information seeking repertoire.

Although the purpose of this study was not to determine how the State Library of Washington might improve the SDL project, in the course of the investigation, several key elements arose. The SDL project might benefit from further investigation into the areas that are listed below:

- A survey of how library staff throughout the state have reacted to the SDL project in general and the ProQuest database in particular.
- A survey of those Washington libraries that have chosen not to participate in the SDL project.
- The marketing of the SDL project
- Training in the use of the ProQuest database.
- What is the State Library's role in educating the individual librarians and users about this resource? Is it enough to simply negotiate access?
- Is ProQuest the best choice for all types of library?
- Could the State Library serve as a broker for library consortia wishing to subscribe to the database of their choice at a reduced price? There are two issues: libraries banding together to get a bulk discount and the State Library subsidizing subscriptions.
- How much money is being saved through the SDL initiative?

It is difficult to prescribe what might be the best next steps for the SDL initiative in Washington because each library community has different needs and will benefit from different State Library services. Many factors contribute to a library's different needs. For example, whether the librarians at that library have the skills, education, and training necessary to facilitate access to databases; the level of economic support at the library; and, the type of user community the library is serving. After talking to the librarians included in this study, it seems the State Library should be more active in providing education and training at the professional level. The most important role that the State Library can assume is the implementation of promotional and educational programs that will increase librarian and library user awareness of the databases that are licensed statewide and enhance the information and technology literacy of library patrons and library professionals. Information and technology literacy is the key.

While many Americans are embracing computers and the Internet, there are many others who do not realize that this technology is relevant to their lives. We need to reach out to these communities and let them know why they should care—how new technologies can open new opportunities for them and their children (NTIA, 1999).

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