

The Impact of Serial Solutions' Summon™ on Information Literacy Instruction: Librarian Perceptions

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**ABSTRACT**

*Web-scale discovery systems, such as Serial Solutions' Summon™ Service, are replacing older federated search technologies as the tool for users to access library resources quickly and easily. The impact of Web-scale discovery systems on instruction is not known. This study of instruction librarian perceptions of Summon's impact on instruction and student information literacy skills is based on a survey. The survey reveals librarians' ambivalence toward Summon. While some librarians agree that Summon has the potential to change the way librarians teach information literacy skills, it has not been fully integrated into the classroom.*

**KEYWORDS** *Web-scale discovery systems, Serials Solutions Summon™, information literacy, library instruction, librarian perceptions*

**RUNNING HEAD: LIBRARIAN PERCEPTIONS OF SERIALS SOLUTION'S SUMMON**

## INTRODUCTION

Library instruction is continuously changing. As new tools and updated interfaces are introduced, librarians teach users to navigate through available tools to find the ones they need. Because the proliferation of online library resources presents such a challenge for users trying to find the right tools, vendors and librarians have been working for years to improve and streamline access to library resources (Eliason, McKinstry, Fraser, & Babbit, 1997). One early solution was the federated search engine.

When federated search engines made cross-database searching possible, there were conflicting views about what effect these tools would have on library instruction. On one hand was the notion that student information literacy skills would suffer, because students would no longer have to learn how to select and use appropriate research tools (Frost, 2004). On the other hand was the idea that federated search offered new opportunities for librarians to teach users to “advance their skills beyond the basics” (Zimmerman, 2004, p. 54). There was an idea that federated searching would be so easy for users that it would free library instructors from teaching the tool. In practice, librarians found significant issues with federated search, such as slow retrieval times, impaired ranking of search results, and the inability to search all library content (Lauridsen & Law, 2009). Federated search tool performance is inherently hindered because search queries are sent to a number of content databases and must run in each of them separately. Results are returned at different rates and are not unified. Users and librarians, accustomed to better performing search engines such as Google, have high expectations for “one stop shopping” search tools. Federated search, unable to meet those expectations, became another tool to teach among many, rather than the single solution to the problem of streamlining access to library content.

Web-scale discovery products such as Serials Solutions’ Summon™ are a new development in the library environment. Like federated search tools, Summon allows a user to search across library content from a single search box in a way that resembles a Google Scholar search. Unlike federated search systems, which broadcast searches out to a number of targets, Summon searches across a centralized index of pre-harvested content (Serials Solutions, 2011). The architecture of Summon

addresses problems of federated searching by turning the model on its head. Instead of going out to search databases, Summon “displays only search results for content accessible by that library, whether it is content sourced from publishers and aggregators or content harvested from the local library” (Lauridsen & Law, 2009). An early review of Summon praised it as a “bold and innovative attempt” to connect users with library content (Seaman & Pawlek, 2011, p. 74). The promise of Web-scale discovery is that library content of all types can be retrieved in a single search, and users can seamlessly move from their search to full-text content. If Web-scale discovery delivers on its promise in a way that federated search could not, the effect may be broader than merely teaching a new tool; it may mean real changes in what instruction librarians teach.

This article is an early exploration of librarian perceptions of Summon and the impact it may have on library instruction and information. This study informs librarians about student information literacy concerns that arise with the implementation of Summon or other Web-scale discovery systems.

## **LITERATURE REVIEW**

Most articles and reports on Web-scale discovery systems describe specific products and/or their implementation. For example, a special issue of *Library Technology Reports* defines Web-scale discovery and describes several products (Vaughn, 2011). An interview with Jane Burke highlights the workings of the Summon product (Brunning & Machovec, 2010). Dartmouth College, an early adopter of Summon, conducted a thorough evaluation of the tool and its implementation as described in their 2009 report (Dartmouth College Library, 2009). Michael Klein’s article “Hacking Summon,” provides technical details on customizing the Summon interface (Klein, 2010). Garrison, Boston & Bair (2011), present the details of a Summon implementation in conjunction with a VuFind catalog installation.

In a study at Grand Valley State University, Doug Way (2010) found use of full-text online content dramatically increased in the year following the implementation of Summon. The outcome of Way’s study is early evidence that Summon can indeed improve users’ ability to seamlessly discover and

retrieve library content. While it is clear that the adoption of Summon is growing and showing early success, the effect on library instruction has not yet been examined.

The one article addressing the impact of Web-scale discovery systems (in this case, Summon) on instruction looked at experiences within a single library (Howard & Wiebrands, 2011). The authors describe responses of Edith Cowan University librarians to Summon. The major instructional change they report is that librarians needed to invest significant time to “rework existing training and support materials” (Howard & Wiebrands, 2011, “Information Literacy,” para.1). They also raised concerns about the impact of Summon on student research skills; specifically the potential the tool has to simplify or “dumb down” research (Howard and Wiebrands, 2011, “Simplification vs. Dumbing Down”).

Because little has been written about Web-scale discovery and instruction, we looked at studies of librarian perceptions on federated search to shed light on how librarians might integrate Web-scale discovery systems into their teaching. To explore how librarians used federated search technologies in instruction, Lampert and Dabbour conducted a national survey in 2007. They found that librarians’ perceptions of federated search were mixed. Of the 33 respondents, 61% reported not teaching the federated search system implemented by their library. Reasons for not teaching the federated search tool included complaints about precision and recall and the absence of advanced search features, such as controlled vocabulary and limiters. Some librarians thought it would be too time-consuming and confusing to teach in a 50-minute session. In addition, librarians disliked the fact that many subscribed databases were unavailable via federated search (Lampert & Dabbour, 2007, p. 261). Those who taught the federated search system liked features that helped introduce students to information management principles, such as the ability to save citations and search strategies. Some library instructors used drawbacks of the tool as teaching opportunities by asking students to compare the federated search tool with specific databases and identify differences and advantages of each. Lampert and Dabbour’s study clearly shows that librarian perceptions, assumptions, and willingness to adjust teaching practices are important aspects in the adoption of new tools.

McCaskie (2004) investigated the implications of federated search for information literacy training in higher education. One of the interview respondents in this study indicated that federated search altered instruction sessions because less time had to be spent on how to select appropriate databases, and more time could be spent discussing search results (McCaskie, 2004, p. 52). McCaskie's overall conclusion was that "...the tool itself does not make a user more or less information literate: it is the way it is used" (McCaskie, 2004, p. 66). This conclusion is echoed in at least two other papers directly focusing on federated searching and information literacy (Cox, 2006; LaBelle, 2007).

Both Cox (2006) and LaBelle (2007) used the Association of College and Research Libraries' *Information Literacy Competency Standards for Higher Education* as a framework to explore the implications of federated search on instruction. Cox concluded that, "[b]ased on analyses of the standards, it seems obvious that, with proper instruction, federated searching products will not have a significant impact on students' information literacy" (Cox, 2006, p. 262). LaBelle stated, "[r]esistance towards federated searching's place within the information literacy spectrum emanates from the false notion that these tools eliminate the need for students to select the most appropriate investigate methods and information retrieval systems" (LaBelle, 2007, p. 247). He concurred with Cox that federated search is itself neutral and recommended that librarians "... modify current instruction practices..." to accommodate the tool and "initiate the learning process" (LaBelle, 2007, p. 250). In a later article, Cox (2009) deepened his exploration of federated searching and information literacy by laying out specific instruction activities for each learning level from first to fourth year.

Federated search tools were thought to have a neutral effect on student information literacy, provided the tools were taught. However, negative perceptions of its performance and appropriateness kept many librarians from teaching federated search. Web-scale discovery tools seemingly address the performance issues librarians disliked with federated search. If librarians find Web-scale discovery tools to perform better than federated search systems, those positive perceptions may lessen resistance to teaching Web-scale discovery.

Since Summon was launched in 2009, many libraries have adopted the system and presumably incorporated it into their instruction programs. In this paper, we report on the results of a survey of instruction librarians using Summon. We view librarian perceptions of Summon as one way to explore the potential for Summon to have a transformative effect on library instruction practices and student information literacy skills.

## **METHODS**

Oregon State University Libraries (OSUL) selected Summon in late 2009 as the system to replace a federated search tool (Chadwell, Boock, Buck, Nichols, Reese, 2009). When OSUL purchased Summon, we invited our instruction librarians to participate in a series of discussions examining potential impact(s) of the product on teaching practice. The themes generated by these discussions directly informed our research questions and the survey we subsequently developed to address them. We wanted to find out:

- Where, when and to whom librarians teach or demonstrate Summon.
- What change, if any, they perceive in their instruction since their institution acquired Summon.
- What potential impact librarians see Summon having on student information literacy skills.

We developed an anonymous online survey with 21 quantitative and qualitative questions. The first part of the survey queried for demographic information on institution size, the length of time Summon had been in use, and if the respondent had instruction or reference in their job duties.

The rest of the survey addressed the research questions. We wanted to know where respondents were teaching or demonstrating Summon (reference desk or classroom), to whom they were teaching it (course level and population), and how often they were teaching it. We also asked if they taught Summon alone or in combination with other tools.

To determine if Summon is changing instruction practices, we asked if Summon changed the amount of time spent on particular topics in the classroom. Finally, we asked if they perceived any impact on their students' information literacy skills since acquiring Summon. Most of these questions included a comment field for participants to elaborate on their responses.

We compiled a list of institutions that had implemented Summon, restricting the list to those in English-speaking countries, including libraries in the United States, United Kingdom, New Zealand and Australia. We targeted instruction librarians at those institutions and sent them the survey with a request to forward it to colleagues in library instruction. The survey was sent to 60 libraries. In addition, invitations to the survey were sent to two discussion lists. A link to the survey was posted on the Information Literacy Discussion list (ILI-listserv) asking librarians with Summon to complete the survey. An email was sent to the Summon client listserv with a request to forward the survey to individuals likely to be teaching Summon. The survey was open for three weeks and we sent two reminder emails. Of the 111 participants who responded to the survey, 74 completed it. We did not track which libraries responded or how many librarians may have responded from a single institution. Institutional Review Board approval was granted for this project.

Survey results were analyzed in Excel. Researchers independently coded the qualitative data into the following categories: content, results, interface, instruction and information literacy, population, perceptions and attitudes, and technical issues. Each of these categories has a bearing on the larger research questions.

## **DEMOGRAPHICS**

Responding librarians represented mostly medium (8,000-13,000) to larger sized (20,000-30,000) institutions. Fifty percent reported a student population of over 13,000. The majority of the institutions had Summon less than one year (60%), while 5% had it for 3 or more years. Ninety-five percent of the respondents had instruction or reference work as part of their job. Those responding librarians who did



not have reference or instruction as part of their job (5%) were routed out of the survey. Eighty-six percent of the remaining librarians with instruction in their job description taught or demonstrated Summon in a classroom (10%), at the reference desk (14%), or both (62 %). Fourteen percent did neither.

## **RESULTS**

The results, a combination of the quantitative questions and open-ended comments, are organized into three sections. In each section we address, as appropriate, the coding categories described in the methods. The first section deals with reasons respondents chose to teach or demonstrate Summon and to whom they taught it. We look at perceptions respondents expressed about Summon and how they thought their users regarded Summon. The second section explores the Summon's effect on instruction practices. In the third section, we examine respondents' perception of Summon's impact on student information literacy skills.

### **Reasons to teach or demonstrate Summon**

The survey included an open-ended question about how respondents determined if they would teach or demonstrate Summon and a second open-ended question about their likes and dislikes of teaching Summon. In 18 out of 43 comments (42%), responding librarians indicated always including Summon in their classes, regardless of course level or discipline. For the rest, the decision to teach or demonstrate Summon at the reference desk or in the classroom was based on the content and scope of the product and the course level or population. The decision was often made on a case-by-case basis. There are slight differences in how librarians chose to teach or show Summon at the reference desk or in the classroom.

### **Reference Desk**

When using Summon at the reference desk, survey respondents targeted the tool to undergraduates (12%) and users new to online searching (6%). Many reported showing the tool to students at the reference desk

without determining their course level or user status. Primary reasons for recommending Summon at the reference desk were the cross-disciplinary nature of Summon and the multiple content types included in the database. Summon was frequently referred to as a “good starting point.” Respondents suggested Summon when the student needed “just a few articles” or sources, and liked to refer students unfamiliar with their topic to Summon. They considered recommending it if there were no appropriate subject databases available for the discipline. Only a few respondents noted Summon as a good place for known-item searching, and even fewer (4%) mentioned immediate access to full-text as a reason to demonstrate Summon at the reference desk. Table 1 illustrates the different reasons librarians have for teaching Summon.

**TABLE 1:** Reasons to teach Summon

<b>At the reference desk N=51</b>	<b>In the classroom N=42</b>
Cross-disciplinary (35%)	Appropriateness of the tool (43%)
Starting point (29%)	Course level (26%)
No good subject database (10%)	Nature of assignment (19%)
Need just a few articles (8%)	Ease of use (10%)
Unfamiliar topic (6%)	Cross-disciplinary/breadth (7% )
Known item (6%)	No good subject database (5%)

## **Classroom**

Those who taught or demonstrated Summon in the classroom reported doing so at all course levels, but not in equal measure: 84% taught it to lower-division undergraduates (100-200 level courses), 51% to upper-division undergraduates (300-400 level courses) and 30% to graduate students (500+ level courses). Only a few respondents (5%) said they directed graduate students or faculty/researchers to Summon because they felt advanced users could deal with the volume of results better than novice users. One respondent pointed out that Summon can be “useful for researcher[s] with cross-disciplinary topics, though they are already experienced users.” In general, respondents sensed that faculty would not find the results specific enough. Tables 2 and 3 detail in which courses librarians teach Summon and in how many.

**TABLE 2:** In which classes are you most likely to teach Summon?

Answer	Response	%
My lower division (100-200) level classes	N=36	84%
My upper division (300-400) level classes	N=22	51%
My graduate level classes (500+)	N=13	30%

**TABLE 3:** In how many of your classes do you teach Summon?

Question	0	>25	26-50	51-75	76-100	Responses
Lower division undergraduate	3%	12%	12%	18%	56%	N=34
Upper division undergraduate	10%	16%	16%	16%	42%	N=31
Graduate	34%	14%	3%	14%	34%	N=29

Additional reasons for teaching or explaining Summon in the classroom were: appropriateness of the tool in relation to course content and the nature of the assignment. Summon was found to be most appropriate to teach to lower-division students and two survey respondents specifically mentioned first-year writing courses as their target audience. A few respondents mentioned demonstrating Summon in graduate courses. In those courses it was preferable to teach subject databases.

Responding librarians also chose to teach Summon when students in the same class were researching a wide variety of topics. Courses for which there were no appropriate subject databases available were also good candidates. Some used the nature of the assignment as a determining factor for teaching Summon, testing students' topics to determine Summon's appropriateness. Only a few responding librarians (10%) mentioned Summon's ease of use as a reason to recommend it, although, based on comments, it is something they definitely liked about the product. In addition, survey respondents liked the convenient aspects of Summon – a one-stop shopping tool covering all topics and including all content types. They also appreciated that students liked Summon and could always find something in it.

### Reasons not to teach or demonstrate Summon

While content and scope were major reasons to teach or demonstrate Summon, they were also reasons *not* to. Coverage of particular disciplines, large results sets and lack of relevant results were some of the top reasons for not teaching it. Of the 11 respondents who said they did not teach Summon at all, forty-five percent noted that Summon did not cover their discipline well – nursing, education, and law were mentioned specifically. One respondent commented that s/he did not find it helpful for “most questions in the field of education, perhaps because there is a good database already with a controlled vocabulary. Also educational terminology tends to be 'general' so most Summon searches produce far too many false hits.” Table 4 illustrates the reasons why respondents do not teach Summon.

**TABLE 4:** Reasons not to teach Summon

<b>In class or at the reference desk</b>
Too many results (73%)
Content (does not include certain subject areas) (45%)
Irrelevant results (45%)
Cannot search by discipline/subject heading (45%)
Inappropriate for population (18%)
Technical problems (9%)

Eight of the 11 respondents (73%) who did not teach or demonstrate Summon, gave large results sets as their reason for not teaching it. Respondents thought students found the results display confusing because of how Summon determines relevancy. Many (45%) of those who did not teach Summon judged that relevant results displayed lower on the screen, which has to do with how Summon weights certain content types. The results display combines all content, making some respondents call the results list “unpredictable.” One participant wrote:

[Users] don't know what they have found in the list and [they] prefer books and articles separated out. They can click on books or articles in setting up the search but they don't usually see that or bother because they don't realize they are going to get such huge sets.

Even responding librarians who said they taught or demonstrated Summon (45%) noted students' difficulty in limiting searches to a discipline or by a specific vocabulary. Limiting was also considered difficult to teach and a barrier for undergraduate students. A source of confusion was how Summon defines "scholarly." Summon offers a checkbox to limit the search to "articles from scholarly or peer-reviewed journals," but several respondents pointed out that even when using this checkbox, Summon results include non-scholarly materials.

Another source of criticism was difficulty in performing more advanced search techniques. Summon has an advanced search screen which, while lacking some of the specificity of other databases advanced search options, allows users to search in a specific field (title, creator, publication, date, format) and limit to a certain collection, content type or location. For most survey participants, however, the advanced search was inadequate, especially for experienced user populations who wanted to be able to limit by specific fields or disciplines.

One advantage of Summon is that it is designed to give users immediate access to full-text content. However, technical problems with linking Summon and full-text sources made some respondents hesitant to teach or show Summon to students. "The links through to the full text are the most chancy [*sic*] part of Summon, it can be confusing to students to actually GET the material they've identified." said one participant.

Despite negatives expressed by respondents, they reported overall user reaction to Summon as positive. Responding librarians felt that undergraduates were most positive about it. Almost half of the respondents perceived undergraduate users to be either satisfied or very satisfied. The satisfaction levels with Summon are illustrated in Table 5. They felt that graduate students and faculty were less satisfied than undergraduates. Survey participants had conflicting levels of satisfaction with Summon. Comments ranged from very positive to very negative. "We love it! It helps put a positive spin on the library and on the research process," said one. Another said, "Providing services like Summon is a dereliction of duty reference librarians have towards their users." Clearly librarians have divergent opinions of Summon.

**TABLE 5:** User group reactions to Summon as perceived by librarians

Question	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Sub-total Dissatisfied	Neutral	Somewhat Satisfied	Satisfied	Very Satisfied	Sub-total Satisfied	N/A	Responses
By undergraduates	0%	7%	5%	12%	12%	19%	19%	30%	68%	7%	57
By graduate students	5%	4%	11%	20%	11%	16%	18%	16%	50%	18%	55
By instructors/faculty	4%	9%	15%	28%	9%	15%	16%	18%	49%	15%	55
By librarians	9%	2%	24%	35%	5%	31%	16%	9%	56%	4%	55

### CHANGES TO INSTRUCTION

One of the key features of Summon is that it pulls many resources into one tool. The consequence of this could be that librarians would choose to teach or demonstrate Summon over other online tools such as the catalog or the online databases. When asked about integrating Summon into instruction, only two (4%) respondents reported teaching Summon exclusively to lower-division courses. None reported teaching it only to upper-division or graduate courses. Only 4% taught or demonstrated a combination of Summon and the catalog (no databases) in lower-division classes and none in upper-division or graduate courses. The most popular combination was to teach Summon, the catalog, and the databases together. Table 6 details the respondents' level of integration of Summon into the classroom.

**TABLE 6:** Respondents' integration of Summon into the curriculum

Question	Lower division undergraduate	Upper division undergraduate	Graduate	Responses
Only Summon	2	0	0	N=2
Summon plus the Library Catalog	2	0	0	N=2
Summon plus other databases	7	9	4	N=20
Summon, Library catalog and databases	30	27	21	N=78
Library catalog, databases, no Summon	2	4	10	N=16
N/A	2	4	6	N=12

In 12 out of 41 (29%) comments, respondents indicated that their instruction had not changed. For them, the introduction of Summon simply meant the addition of a new tool to teach; their instruction remained fundamentally the same. In a few cases (5%), Summon had replaced a federated search product. Some simply stated their instruction had not changed (15%) without further explanation.

Twenty-four of 41 (58%) respondents believed Summon had changed their instruction. For those respondents, the most frequently mentioned change was how much time they spent in class on one topic over another. Those respondents who emphasized Summon found they could focus less on choosing a database (26%) or catalog (36%) and focus more on other topics such as refining a search, research as an iterative process, or “high level search skills,” as one respondent wrote. Forty percent of respondents reported spending more time on broadening/narrowing searches. They also spent more time on identifying scholarly versus popular journal articles, evaluating sources, choosing keywords, presenting research as an iterative process, peer-review process, citing sources and reading a citation. Only a few respondents (5%) reported spending more time on Boolean operators; 37% spent less as seen in Table 7.

**TABLE 7:** Percent of time spent in the classroom on library instruction topics

Question	More time	Same amount of time	Less time	N/A	Responses
The library catalog	2%	55%	36%	7%	N=44
Online databases	0%	70%	26%	5%	N=43
Keywords	16%	72%	7%	5%	N=43
Plagiarism	0%	74%	2%	24%	N=42
Evaluating sources	17%	71%	5%	7%	N=42
How to read a citation	10%	67%	12%	12%	N=42
Boolean operators	5%	51%	37%	7%	N=41
Broadening/narrowing a search	40%	48%	7%	5%	N=42
Peer-review process	7%	85%	5%	2%	N=41
Scholarly v Popular journals	19%	76%	2%	2%	N=42
Citing sources	5%	80%	7%	7%	N=41
Research as an iterative process	14%	67%	12%	7%	N=42

### **LIBRARIAN PERCEPTIONS OF SUMMON'S IMPACT ON INFORMATION LITERACY**

One aspect of Summon that has not been explored is how it affects student information literacy skills. For 27% of respondents, it was too soon to tell what, if any, impact Summon has had on student information literacy skills. Not enough time had passed to measure impact or, as some noted, they had not determined how to measure it. Four percent thought Summon had no impact on information literacy.

Summon was viewed as detrimental to student information literacy skills to various degrees in eleven out of 48 comments (23%). Some of this negativity was related to content issues discussed earlier; search results are very broad and confusing to students. Some respondents also felt it promoted the concept of “good enough” and that students were not learning basic search skills. A small number of comments (8%) were more positive. Because students no longer have to decide which tool to use and figure out each individual database’s search method, the participants thought Summon allowed them to concentrate on selecting and evaluating search results.



Most respondents (38%) found the effects of teaching Summon to be mixed or neutral. While Summon was easy to use and gave students a broader selection of information, students were also confused by Summon's search results. Respondents reported that students were challenged to refine searches appropriately and to correctly identify types of sources retrieved.

## **DISCUSSION**

It is clear that the responding librarians, while generally positive about Summon, are somewhat ambivalent about the product. Their ambivalence stems from a number of issues. One issue is that respondents did not always have a good understanding of what Summon is and where the content comes from. A number of respondents referred to Summon as a federated search tool which, in fact, it is not. One wrote, "A lot of the databases I teach are not part of Summon." Another respondent said, "I'm neutral about Summon. Federated searching has a lot of potential. I don't know that Summon is at or will reach that potential." The respondents also found students and researchers were unclear about what is in Summon. In addition, some respondents disliked not knowing the way enhancements are implemented.

Some of the uncertainty about Summon stems from a lack of understanding about how specific features work. Users can narrow a search by subject but where subject headings come from was unclear and made librarians a little skeptical. "There has been some concern about the Subjects limiter among our Librarians. Where are these subjects coming from? They don't always make sense, nor are they consistently applied to all resources," said one respondent. Librarians want to know how a tool works to teach it most effectively. Howard and Wiebrands (2007, "Coverage," para. 1) found similar situations at their institution when they implemented Summon. A lack of understanding of the product, what it contained, and how it was updated, were all major challenges during the implementation process.

Another cause of ambivalence is a perceived requirement to let students know about Summon because it was the default search on the home page, not necessarily because it was the best or most appropriate tool. No respondents indicated that their institution actually had a policy of teaching Summon,

but some felt they were pushed to by their administration. Some respondents also felt they needed to teach or demonstrate it because the students were going to find it anyway and this made them feel more negative about the tool. Giving librarians the option to teach the tool may increase their interest in teaching it, since they can choose to teach it when it seems most appropriate.

Many of the participants who reported teaching or demonstrating Summon regularly had some concerns about it. Some felt that Summon did not work as well as the online databases. Unlike many federated search products, Summon does not group results by database or limit the number of items retrieved. It simply lists all the results, regardless of content type, in the results page. There are facets on the left side of the screen to refine the search by content type, subject heading, language, date and location. While this is similar to the way Google displays results, respondents were more likely to characterize the results display as confusing than helpful. In particular, they felt the large number of results and the mixing of content types made interpretation difficult for users. They were also unhappy with the advanced search options. One respondent summed up the situation as follows,

My colleagues at the library, on the whole, seem to be uncomfortable with the kinds of results that Summon produces. Some librarians are satisfied while others are not, but the ones [that] are dissatisfied tend to be very hostile to it.

Despite some of these drawbacks, the survey respondents were teaching Summon to all levels but were clearly targeting lower-division students because they saw Summon as a good starting point for novice researchers. Many of the respondents did not consider Summon an appropriate tool for upper-division and graduate students and they preferred to teach discipline-specific databases. One librarian wrote, “I might mention it in passing in upper-division or graduate courses, but generally they benefit more from a focus on subject-specific databases.” “I do not think this is the right system for most of the people/classes I deal with. One gets WAY too many hits,” another respondent wrote.

Web-scale discovery tools like Summon have the potential to shift the way librarians teach library instruction but responding librarians have been somewhat cautious about integrating Summon into their curriculum. This study shows that librarians are adding Summon to their teaching tools rather than

replacing other tools (databases, catalog). When we asked respondents how they decide to teach Summon, a number were careful to distinguish between teaching Summon and simply letting people know it is available. One respondent wrote, “By ‘teach’, I mean referring to Summon as a piece of the broader menu of research tools available here. I may run a sample search and demonstrate the limit fields. I don't concentrate on Summon for a large segment of a class.” Other respondents did report taking the time to introduce the various facets and features of the program but the level of integration into the classroom varied.

Even so, some of the respondents registered hints of instructional change. Because Summon includes content from the catalog, databases and other sources, we anticipated that librarians would see a shift in the amount of time they spend in class instructing students in selecting and using databases to other “higher order” skills such as evaluating sources. For most areas, responding librarians detected little or no change in the amount of time spent teaching certain topics.

For some, the shift in instructional topics has been positive. One respondent said, “I spend less time on the 'database hokey-pokey' (work-arounds for each database) and can spend more time on discussing how the research process is iterative and search techniques such as refining.” Others felt the same way. One respondent explained,

I think that I'm focusing less on the \*click here, do this\* sort of thing, and giving students more opportunity to explore how to narrow their searches. This is great, because they don't want to listen to a talking head yammering on and on. I'm doing more of the working session type classes, showing them Summon, using a course libguide [*sic*], and letting them work on their topics while the professor and I circulate and offer help.

Others found that Summon had a broader impact.

It's allowed us to spend more time teaching the more complicated subjective stuff - keywords, evaluation, research process, etc. - to students, instead of concentrating on the rote of 'this database does this, this one does that.' We still teach the separate databases and will continue to do so, but we view Summon as a great way to help students pick some of that up for themselves - it's easy to use, so they teach themselves a bit about how searches work simply by using it, and are then automatically better at using the more complicated databases once they get up to that point. They also understand more about the subjective stuff because we've had time to teach it, so that helps them deal with more complex and specialized databases too. In many ways, we're still

teaching the same core skills, though, it's just the tools we're using and the time we spend on each bit that has changed.

How much of a change there is can also depend on the course level. A librarian who teaches both undergraduate and graduate courses said:

I feel like it has opened up more time with lower division classes, since I can focus more on the search process rather than trying to include many different research tools in the one shot class. However, I'm still trying to effectively incorporate it into my upper division/graduate teaching. These groups use Summon too, so I feel like I need to touch on it, but they still need the more specialized research skills, so adding Summon has taken time away from those other areas to some extent.

For a few, the change has been less positive because “it means juggling more in the same amount of time.” Others found they had to spend more time describing Summon and dealing with the technology and linking issues that arose. One stated:

We've had to struggle with showing them Summon and hoping they don't ever run into trouble connecting to the full text or finding relevant results, vs. showing how to tract [sic] down a citation ‘the old way’ through electronic journals, for those times when that is needed.

The impact of Web-scale discovery systems on information literacy skills has not been previously explored and no studies have measured student's information literacy skills after using Summon. At this time, the only other study on librarians' reaction to Summon has been Howard and Wiebrands. They found at their institution the biggest impact of Summon in information literacy instruction was the need to revise their instructional materials (Howard & Wiebrands, “Information Literacy,” para. 1). They did not specifically address librarian perceptions of student information literacy skills, although they did note librarians' concerns that Summon would lead to a “dumbing down” of students search skills (Howard & Wiebrands, “Simplification v. Dumbing Down,” para. 1).

This concern was also expressed by the librarians responding to our survey. The effect respondents have seen on student information literacy skills is based on their perceptions in the classroom and reference desk. One respondent wrote,

It's too early to say, to be honest, as we've not actually run it through a full year yet, but I will say cautiously that I think it is positive. Because it's easier to use than most databases, more students are actually looking articles up, which means they're exercising those skills more, which will hopefully lead to improvement.

The respondents observed that students searched Summon the same way they searched Google. They felt the way students searched Summon was a reflection of how they already search. One librarian said, "It doesn't lead users to think or act differently than they do with other databases." The respondents were concerned it did not teach students to evaluate their sources since "they use it as an alternative to Google and Google Scholar, but because of the 'Limit to articles from scholarly publications' check-box, they are less motivated to learn how to evaluate sources on their own." The responding librarians felt that the mixed content types had both a positive and negative impact on students' information literacy skills. "By default," one commented, "teaching Summon adds in the component of knowing what type of source you are looking at." One participant wrote,

I'm not really sure what effect it has had yet. I would like to think it is positive, but I also worry it could blur the line between understanding what their sources are. For example, a search could retrieve a newspaper article, a book, a journal article, and a digital collection of primary documents and it may be less clear to what it is they are actually viewing.

Thirty-three percent of the respondents who thought the impact of Summon was mixed were concerned that it did not promote or aid student evaluation of sources. For other respondents, the issue was that students were pretty much guaranteed to find something in Summon. They felt that students considered their results "good enough" and did not bother to take the time to find the best sources. This was compounded by the issue of relevancy. "It has," one stated, "the potential to fool students about the possibilities, since it doesn't have the means for finding the most relevant information first." Respondents also expressed a fear that students would not bother to learn the other research tools available to them.

Some respondents, concerned about the impact that tools like Summon might have on student information literacy skills, acknowledged that library instruction may have to change. "I think Summon slightly inflates student perceptions of their own Information Literacy skills, and it will take a little time

to adjust our teaching methods accordingly,” one wrote. Many of the respondents said that Summon is useful but “it still takes teaching them to know what they are looking for.”

Survey comments illustrated the challenges the responding librarians had in integrating Summon into the classroom. One clear issue was the lack of understanding about how Summon actually works and what it actually contains. A good understanding on the product’s content and features are likely to help library instructors teach Summon more effectively.

The responding librarians were cognizant of Summon’s strengths and weaknesses in an instructional setting. Summon has some clear strengths. Two frequently mentioned advantages of Summon were using it as a starting point for research and for cross-disciplinary searching. Focusing on these aspects of the product is likely to be more successful in the classroom.

Several respondents recognized Summon’s weaknesses afforded instructional opportunities. One wrote, “Summon has many caveats that I need to explain. Actually, its flaws are excellent learning opportunities.” Another said that the linking issues were frustrating but s/he used it “as an opportunity to show them how to read the citation and look it up using the journal title in the catalogue instead.” Summon does not always distinguish clearly between scholarly and popular journal articles. At OSUL, knowing that Summon does not distinguish well between scholarly and non-scholarly journals, freshman year English course students are asked to verify Summon results by going to the journal Web site to determine whether it is peer-reviewed. No doubt as more libraries incorporate Summon, additional ideas and techniques will emerge.

### **FUTURE RESEARCH**

Since Web-scale discovery is new, many areas still need to be explored. As more libraries look to Web-scale discovery tools to provide easy access to their content, we will need to continue to think about how best to integrate it into our instruction and consider its positive and negative impact on students’ information literacy skills. Future research is needed to determine how Summon affects students’

acceptance and use of other sources. If students are not going beyond Summon, we will need to consider how to combat the “good enough” syndrome.

We asked our respondents about the time they spend teaching certain topics. Their responses are purely perceptual but indicate that there is a slight shift towards improving search strategy and evaluation. Is there a way we can really determine if Summon is having an impact on what we teach in the classroom? Does it really allow us to concentrate on “higher order skills”?

Some comments from the respondents made it clear that while they generally have a positive feeling about Summon as a research tool, integrating it into their instruction has not been easy. For some, it has been the issue of having to add another tool to an already long list of tools to teach. What do we need to do to make the integration of Summon and by extension other Web-scale discovery tools easier to teach and more successful in the classroom?

## **CONCLUSION**

Librarians want to teach tools that work, which they understand, and that will help students gain valuable information literacy skills. Users want tools that are easy and fast. This inherent tension between research tools that are complex but effective and easy tools that may pull up irrelevant results makes it difficult for librarians to accept and then integrate tools like Summon into their instruction. For librarians to want to teach this tool, it needs to meet their expectations, not just that of the students.

Many of the concerns expressed by the survey respondents are similar to those voiced by librarians about federated search tools. Some studies have shown librarians rejecting or minimizing federated search tools in their instruction and continuing to teach the catalog and online databases as before (Lambert & Dabbour, 2007; McHale, 2009, Tang, Hsieh-Yee, & Zhang, 2007). This early survey suggests that Summon is more acceptable to librarians than its federated search predecessor, although, given that most of the responding libraries have had Summon for less than a year this statement cannot be considered conclusive. Our survey showed 86% of respondents teaching Summon, while only 21% of

Lampert and Dabbour's (2007) survey respondents were teaching the federated search tool. Summon works better than federated search; it is faster, easier to use and includes more full text. Students reportedly like Summon, and while librarians are not as happy with it, they seem to be more amenable to Summon than they were to federated search tools. As one respondent stated:

As librarians we're all pretty enthusiastic, but like always we wish it did just a bit more or a bit differently, so although we are very pleased that we chose it, we're probably a bit less satisfied than the students.

At this point, most librarians are not viewing Summon as a replacement for other tools, but as a supplement, and they are teaching it in combination with other sources. Despite misgivings, the overall feeling towards Summon on the part of the responding librarians is positive. One participant said, "Summon is the only resource that really seems to grab some of our students' attention." Far more respondents are teaching Summon than are not teaching Summon. As Summon improves, it is likely that more librarians will begin to integrate it into their instruction which will lead to changes in how we teach. As student search behavior changes and our tools change, librarians will need to adjust.



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## Appendix 1: Survey Instrument

1. What is the size of your institution?
  - <1,500
  - 1,500-4,999
  - 5,000-7,999
  - 8,000-12,999
  - 13,000-19,999
  - 20,000-29,999
  - 30,000+
2. How long has your institution had Summon?
  - Less than 1 year
  - 1-2 years
  - 3+ years
3. Is library instruction or reference part of your job?
  - Yes
  - No
4. Do you teach or demonstrate Summon in any of your library instruction sessions or at the reference desk?
  - Yes, I teach Summon in all or some of my instruction sessions
  - Yes, I demonstrate Summon at the reference desk
  - Yes, I teach and demonstrate Summon in the classroom and on the reference desk
  - No, I do not teach or demonstrate Summon
5. When are you most likely to demonstrate Summon to a patron at the reference desk?
6. Are there specific reasons why you choose not to teach Summon in your classes or demonstrate it at the reference desk?
7. In which classes are you most likely to teach Summon?
  - My lower division (100-200) level classes
  - My upper division (300-400) level classes
  - My graduate level classes (500+)

8. Do you teach

	Only Summon	Summon plus the Library Catalog	Summon plus other databases	Summon, Library catalog and databases	Library catalog, databases, no Summon	N/A
Lower division undergraduate						
Upper division undergraduate						
Graduate						

9. How many classes on average do you teach each quarter or semester?

[illegible]

Graduate									
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10. How do you decide if you are going to teach Summon in a particular class?

11. Since you have started teaching Summon, do you feel you are spending more time, less time or the same amount of time teaching other skills or sources?

	More time	Same amount of time	Less time	N/A
The library catalog				
Online databases				
Keywords				
Plagiarism				
Evaluating sources				
How to read a citation				
Boolean operators				
Broadening/narrowing a search				
Peer-review process				
Scholarly v. popular articles				
Citing sources				
Research as an iterative process				

12. How do you think your instruction has or has not changed since your institution implemented Summon?

13. What do you like or dislike about teaching Summon in your classes? Are there things that work well and other that do not?

14. Do you add Summon to your course web pages or guides?

- ☐ Yes for undergraduate level courses
- ☐ Yes, for graduate level courses
- ☐ No, I do not add Summon to any course pages or guides

15. Are there specific reasons why you choose not add Summon to course web pages or guides?

16. Do you actively promote (e.g., send out flyers or emails or discuss it at a faculty meetings) Summon to course instructors?

- ☐ Yes, to most or all of my instructors
- ☐ Yes, to some of my instructors depending on the course or topic
- ☐ No, I do not promote Summon to instructors

17. How do you promote Summon to course instructors?

18. To whom do you promote Summon?

- ☐ Undergraduate level course instructors
- ☐ Graduate level course instructors
- ☐ TAs or RAs

19. Since your institution implemented Summon, how would you describe the reaction of students, instructors, and librarians to Summon?

	Very dissatisfied	Dissatisfied	Somewhat dissatisfied	Neutral	Somewhat satisfied	Satisfied	Very satisfied	N/A
By undergraduates								

By graduate students								
By instructors/faculty								
By librarians								

20. What kind of feedback have you had from your students, instructors or librarians? Can you provide specific examples? What is it your patrons/librarians like or dislike about Summon?
21. Do you think Summon has had any impact on your students' or users' information literacy skills? If yes, do you consider it positive, negative or neutral? Please explain.
22. Are there any other comments or thoughts you would like to share about Summon at your institution?