Recording Support Statistics in Kirk Library

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Introduction

During the 2016 - 2017 academic year staff in Kirk Library piloted a new approach to recording and analyzing statistics that record our work supporting library users. In this pilot phase we designed and tested the use of an instrument to record key data about library service interactions.

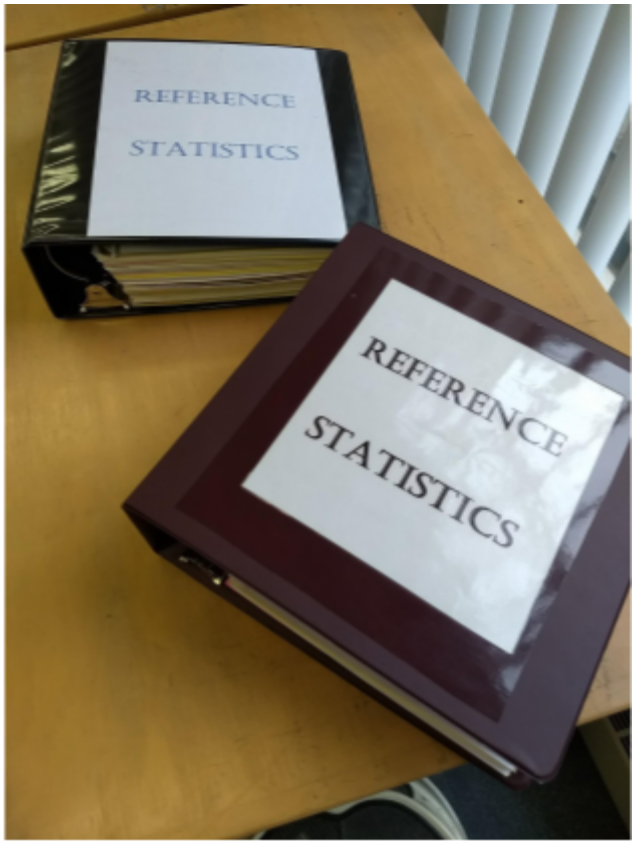
The ultimate goal of this pilot was to improve service to our users, particularly our students, by collecting, analyzing and making use of library service interaction data. To realize this ultimate goal, we first needed to determine what kind of library service interaction data will help us monitor and learn about our service, better understand our students' needs and determine patterns to their needs. Another goal of this pilot was to expand who in the library was recording and analyzing service interaction statistics. Specifically we wanted all library staff, not just librarians, to record statistics whenever they help users. Expanding statistics gathering to all staff will increase data validity and allow for novel insights into our service.

During this 2016 - 2017 academic year the service model at Kirk Library changed and evolved from the service models of years pasts. Additional service changes are planned for when we expand into the entire building. Our service model evolved gradually over the course of the academic year. Fall quarter 2016 our service model was the same as it had been in previous years. Under this model librarians and experienced staff worked scheduled shifts at the Reference Desk. In Winter quarter 2017 our service model offered a tiered support model, where first-tier support was provided by front-line library staff working at the Service Desk. More in-depth questions were escalated to librarians or eLearning staff working on-call shifts from their offices. Later in the academic year front-line staff started cross-training to prepare to answer both library and eLearning questions. As staff became cross-trained in both library and eLearning they were able to take responsibility answering more and more in-depth questions.

Given these service model changes, we also wanted to record more robust statistics so that we can better measure and understand the impact of service model changes. Since our service model changes include involving library staff in more in-depth support roles, we also wanted to include them in statistics gathering practices. Additionally, for the pilot phase, we wanted to determine the value of this new approach to recording statistics, both the information captured and the tools used. Insight into the value of the new approach will inform Kirk Library staff's decisions about how to proceed with service interaction statistics beyond the pilot phase.

Previous Statistic Gathering Practices

Prior to the 2016-2017 academic year, support statistics at Kirk Library were recorded by librarians when providing research support and by library staff when working at the Reference Desk. These statistics were recorded on handwritten sheets, then later transcribed to Excel spreadsheets. The library has retained the handwritten sheets in organized binders from 2002 up to 2016. Despite the organization of the binders there are some quarters entirely missing. The spreadsheets are unfortunately much less organized than the binders of handwritten sheets and many years have not been located yet. Thus far we have only located Excel spreadsheets for 2006 - 2010.



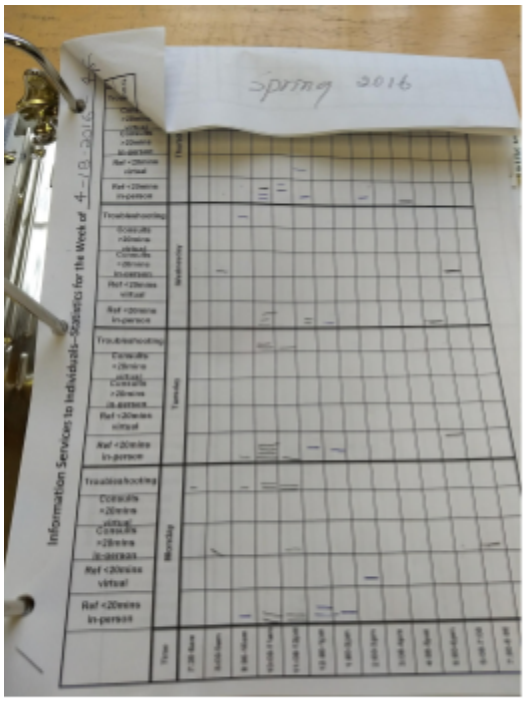
Paper-based statistics binders

When the statistics gathering started in 2002 Kirk Library staff collected information for every week of the quarter. Starting Spring Quarter 2012 the collection of statistics employed a sampling technique. This sampling technique recorded statistics only for two weeks periods per quarter. Library staff collected information during the third and fourth week of the quarter, which was chosen as a representative sample of a typical activity in the library. Around this same era it appears that some quarters were skipped, or at least their records no longer exists. Starting Winter quarter 2011, no handwritten statistics sheets have been retained until Spring quarter 2012. Other missing quarters are Summer 2012 and Fall 2013. The incompleteness issues in both the handwritten sheets and the Excel spreadsheets line up with, and are likely connected to, staffing turnover and shifting workload priorities. These gaps are problematic for long-term analysis.

Data Collected

Organized binder

Not only are there some gaps in these statistics, but the quality of the data gathered is not very robust. Initially library staff recorded questions in three categories, which were directional, instructional, and computer technology. When the library switched to the sampling technique in Spring Quarter 2012, they revised the statistics sheet to distinguish between short interactions that were under twenty minutes, and long interactions that were over twenty minutes (see Revised Statistics in 2012 picture). Short interactions were re-labelled as consults, which replaces directional questions and short instructional sessions. Long interactions were relabelled as reference. Troubleshooting remains a distinct category, but does not capture amount of time, likely assuming that most are short interactions. The new sheets also distinguished between in-person and virtual interactions. Shifting names over time is a natural consequence of a changes in work environments, but these changes make long-term analysis more challenging. Additionally, these categories and length of time details are so broad and general that they limit our current ability to understand what users needs were, how they have changed, and how the user support work in the library has changed over time. Collecting more robust data may be way to improve what can be done with this information, what kind of questions we can ask of it, and what kind of insights we may be able to gain.



Revised statistics in 2012

Limitations of Previous Statistic Gathering Practices

Prior statistics gathering approaches at Kirk Library have merits for simplicity and ease of implementation, however there are substantial limitations that initiated our interest in and exploration of more robust methods to collect support statistics. Gaining insights into user needs and the patterns of their needs with prior library statistics is limited by the limited amount of information collected. The two week sampling approach is particularly limited because it does not allow the library to accurately measure patterns of user behavior and needs throughout the quarter, nor throughout the academic year. The nature of student questions shift throughout the quarter, as do the frequency of their support requests. The sampling approach does not allow insights into how student questions change over time. Additionally, this approach is potentially fraught with under-recording errors because staff are not accustomed to consistently recording statistics. These limitations were major factors in deciding to pilot a new approach to statistics gathering that can allow us to monitor and anticipate user needs and better understand how those needs change over time.

Models to Consider

Occasionally individual librarians have collected more robust data on support. Thus far I have uncovered one spreadsheet tracking one librarian's personal support statistics recorded from February 2016 to April 2016. This spreadsheet recorded a total of 109 interactions. This librarian collected information on time of day, date, patron type, department, method of inquiry, subject of question, READ scale, and additional details. Patron type options recorded are student, faculty and community. Method of inquiry options recorded are Ask Here Desk, email, in-person, and phone. Inquiry type options recorded are technical support, locating materials, directional, print card, topic development, evaluating materials, open education, and other. The subject of question has been used to record brief descriptions that give more detail than inquiry type, for example, technical support questions may have details that help distinguish printing

help from help with Microsoft Word. The READ Scale (Reference Effort Assessment Data) is a six-point scale system for recording research support statistics that places an “emphasis on recording the effort, skills, knowledge, teaching moment, techniques and tools utilized by the librarian during a reference transaction” (2002). Ultimately the READ scale was determined to be interesting to librarians, but less so to other library staff, so for this pilot phase we did not record READ Scale indicators. We will revisit considering the READ scale at a later date. Otherwise, the statistics gathered by this one librarian are much more robust than previous Kirk Library statistics and adds some useful categories to consider.

While designing our instrument we looked to eLearning’s data collection practice as a potential model. The library and eLearning departments are closely related, and we are both adjusting our service models to blend our expertise to better serve student needs. Currently this blended model involves front-line library staff cross-training so that library staff can answer some common Canvas questions and eLearning staff can answer common library questions. When designing the statistics-gathering form for this pilot we sought to align it with eLearning’s data so that we could potentially combine and analyze both sets of data at a later date. However, during the pilot phase we did not ask eLearning staff to stop using their data collection form, nor did we ask them to duplicate their interactions in the pilot instrument. After this pilot phase we will consider fully merging library and eLearning statistic gathering into one instrument.

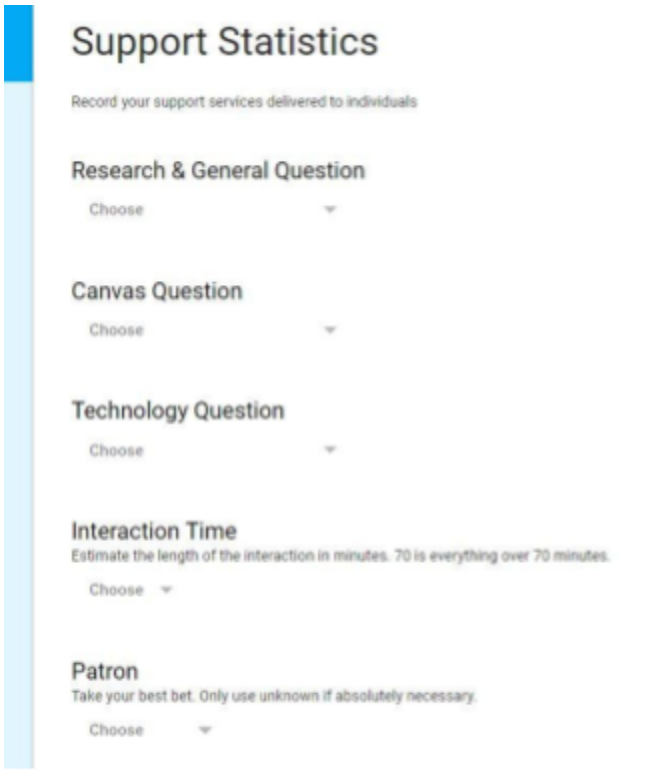
Library statistic gathering practice from other libraries has also served as an inspirational model in the creation of a new statistics recording instrument. Library literature addresses the great many approaches to recording library service statistics. Krikelas (1966) describes various reasons why libraries collect and use statistics. He identifies three usage categories from the literature of the time: to support administrative decisions, to describe library activities, and, what he suggest may be more frequent in the future, to conduct library research “to establish general principles and relationships” about library use, based on statistical data (p. 494). Rationale for collecting statistics greatly determines how the instrument is designed, what information is collected and what is ignored. Our rationale at Kirk Library diverges somewhat from the three reasons proposed by Krikelas. Library researchers in the sixties could not have anticipated the developments in our field, however our rationale to collect statistics to improve services is not dependant on advances in the field, rather it speaks to a shift towards the application of user-centered design practices in many fields, including libraries and higher education.

The library literature also discusses the difficulties inherent in developing universally understood terms and categories, which has challenged libraries for quite some time (Rothstein 1964, Gosset, Stephan, and Marrall 2012). Gossett, Stephan, and Marrall’s more contemporary research addresses the challenges of getting diverse constituents to a shared understanding of categories and terms for recording statistics. Their model is particularly useful because they explain their implementation process, which had previously been missing from the library statistics literature. This implementation process was an inspirational model because they brought diverse library constituents together. Additionally, the author previously worked at the library studied, after the statistics implementation, and brings intimate knowledge of the results

of their implementation process. Collectively these statistic recording practices from the library literature and other libraries practices informed the drafting of the statistics recording instrument for the pilot phase.

A New Approach to Recording Statistics

Starting in the fall quarter of 2016 Kirk Library staff decided to pilot a new approach to recording statistics. After some initial discussions, we identified goals for recording statistics in this pilot. One significant goal was that the new tool needed to be an online form, where staff can easily add and analyze entries. We also identified that we wanted more precise measures of time and date. Additionally, we knew we wanted to capture more information about the type of questions we support, but we were acutely aware that we would need to balance robust information with ease and speed of recording. To find the right balance we looked to models from other libraries, which provided examples of what to do, and in some cases what to avoid.



Current Statistics Recording form, a Google Form.

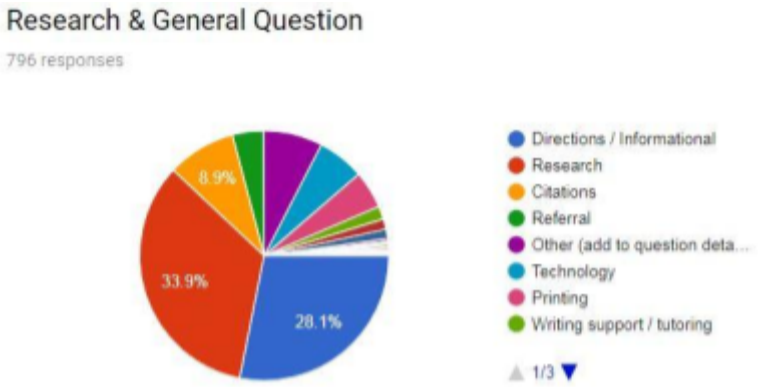
Since a goal of this pilot was to expand who in the library was recording and analyzing statistics, all library staff were involved in the drafting and design of the new statistics recording instrument. The group worked towards developing a statistics recording instrument and a process of recording that would be accommodate the range of our support work. Midway through the pilot phase, as the Library and eLearning continued to merge our support models, we incorporated more eLearning question types into the instrument to better align with eLearning statistics recording practices. Over the course of the pilot we gathered feedback from library and eLearning staff to guide the refinement of the statistics recording instrument. In some cases we made minor adjustments during the pilot. More major adjustments will disrupt the data integrity and will be considered for future revisions.

After consulting with stakeholders and analyzing models, we developed a set of information to record. We identified common question types for the range of support we deliver. Our questions range from using library and research tools, to finding campus information, to printing, to computer hardware, to Canvas support. We also record statistics for length of interaction, time and date, patron, location, and modality (such as face-to-face, email, phone). Finally we have

two free-text areas for recording more detail about the individual question and answer. See the full interaction recording instrument at [Kirk Library Support Statistics](http://libguides.centralia.edu/askhere) (http://libguides.centralia.edu/askhere).

Statistics Recording Instrument Technology

For this pilot phase we selected to use Google Forms to create an interaction recording instrument. Google Forms is a free, web-based tool that is integrated with other Google Drive products (2017). Google Forms records responses into a spreadsheet and it creates some automated visualizations (see Example of Google Forms automated graphs image). The downsides of this product are that the online forms can be long and require scrolling to complete. Librarians like Goodsett have also criticized its lack of customization options and "reporting functionality" (2013).



Example of Google Forms automated graphs.

Although Google Forms records an automatic timestamp, we wanted the ability to back-date entries, so we included fields for recording time and date. We also found analysis issues with the timestamps and Carlozzi confirms our findings that the automatic timestamp "does not translate well to analytical platforms like Excel, SPSS, SAS, or R" (2016). Although Google Forms creates automated visualizations, the visualizations for date and time are of limited use and it does not include easy ways to filter out certain types of data in a live view. More advanced analysis of statistics recorded requires making custom charts and advanced filtering, which inhibits Kirk Library staff's ability to gain quick insight into question patterns.

Findings Thus Far

After collecting support statistics for an entire academic year we have analyzed our data, gathered staff feedback, and some insights have emerged. We began recording statistics on September 26, 2016 and including Summer Quarter 2017, we have recorded statistics for 1,043 support sessions. Full interaction dataset at [2016-2017 Support Statistics](https://docs.google.com/spreadsheets/d/1nRjGSr06Ltgvq2Z1WYK13ofeqnYBcNhxU14lebYtJaU/edit?usp=sharing) (https://docs.google.com/spreadsheets/d/1nRjGSr06Ltgvq2Z1WYK13ofeqnYBcNhxU14lebYtJaU/edit?usp=sharing).

From our statistics gathered during the pilot we know that most of our interactions are five minute long, face-to-face interactions. We answer a great deal of questions related to research, directions and information, printing, Canvas login, and basic Canvas demonstrations. None of this is shocking, in fact it confirms our prior experience and knowledge. Our statistics seem to be consistent through the service desk changes, which means that student questions are still coming up and still being answered, just not necessarily by librarians. This is good because the service change was intended to free up librarian time answering directional, informational, and basic technical questions.

Breaking question types into three main categories, research and general questions, Canvas questions, and technology questions, although highly organized, is less than ideal because of the analysis complications this introduces. This also adds to the length of the recording instrument and slows down recording speed. The questions adapted from eLearning merit a redesign discussion. In their current form many sub-types are potentially confusing for novice statistic recorders and others outside of that department. Both library and eLearning staff are conducting cross-training to anticipate further refinement of our service model. This means that there will be many statistic recorders that are somewhat new to recording statistics in the cross-trained area. Considering this context, question types and sub-types need to be readily and easily understood by all staff. Staff conversations thus far indicate an interest in reducing the number of sub-types and refining the labels to be as intuitive as possible. Our current recording instrument is designed so that a user can only select one question sub-type at a time, but some student questions do encompass multiple sub-types. In these cases it would be beneficial to be able to record multiple sub-types at once.

Although question and answer details are recorded freeform and represent more qualitative data than the other data collected, there are potentially rich insights to be gained from these details. Many of our questions, like printing help or computer troubleshooting, do not merit recording details. For other question types though, details can reveal how our users are thinking of their questions and can record popular research topics, both of which can inform librarians instruction efforts. Answer details can record information that can be used for training and potentially as a knowledgebase for staff. For example, a librarian may answer a question about a particular research assignment, and the answer details may indicate a useful database for the assignment. Other staff can use this database suggestion to help other students.Or in cases when a library resource is having a technical problem, if entered into a knowledgebase, other staff will be better prepared to answer questions about the technical issue.

Limitations

As this was a pilot phase there were limitations to our new data collection practice. This approach is new for all of our staff and some participated more frequently and completely than others. Student employees face particular obstacles to developing this data collection habit, which the library will have to consider and address more in the future.

This academic year we have used Google Forms as the technology for recording statistics. Although Google Forms are freely available, easy-to-use and widely adopted for general form technology, we have discovered some limitations for our desired use. The staff-facing form for recording statistics has a very limited layout and because we want to record fairly robust data the instrument itself is overly long and requires too much scrolling to complete. This means it is perceived as taking a bit of time to complete. This perception could likely be improved if we were able to use a more compressed layout that could be displayed on a single screen. Additionally, form technology can speed up entry time by defaulting to popular choices. Although the order of questions was reached by consensus, staff report that there are times that they prefer to fill out a part at the bottom first, then complete other parts of the form. This flexible use behavior could also be better accommodated by a condensed single screen form.

Google Forms records data into their product Google Sheets, which is essentially Google's version of Excel. For analysis Google Forms includes real-time, automated reports, which are convenient and somewhat useful, although limited in their ability to segment data to analyze (see image Example of Google Forms automated graphs). In terms of segmenting, we may wish to see patterns over time of only certain types of questions. Or we may wish to compare patterns of two or more variables. To do more custom analysis it is currently necessary to work with the data in Sheets, or export to CSV or Excel, and then create custom visualizations or analysis. While this kind of custom analysis is within our means, it can be time-consuming and it can present barriers to staff getting the most out of the possible insights into the data.

Next Steps

There are a number of other products available beyond Google Forms that offer more flexible, customizable form layouts and offer user-friendly means of segmenting and analyzing data. If library staff come to a consensus about the utility of this data collection practice, then we will test out some alternative technologies to improve our recording and analysis efforts. Luckily the library literature has detailed a range considerations for various technology options, including comparing technology platforms (Goodsett 2013), creating custom programs (Carlozzi 2016) and selecting new platforms and implementing them (Gossett 2012). Beyond the literature from other libraries, this research report itself is intended to guide conversations and decisions in Kirk Library around recording library service interaction statistics.

Any recording instrument's re-design will be improved by our collective experience using it during this pilot phase. The library and eLearning service models are currently much more merged than during last year's pilot. This will make the redesign process more integrated and coordinated. Though various users bring complications in terms of what each uses most frequently. Ultimately these conversations and re-design efforts can be a further way for our units to better understand each other.

Another interesting use for recording statistics is to create a crowd-sourced knowledge base for staff. This could be really useful in Kirk Library because we have a small staff who are frequently not working at the same time. Additionally, we are looking to empower staff and student employees to answer more complex questions than they have traditionally fielded and an accessible knowledge base could help find answers to common questions. A knowledge base can also help all users find answers to timely questions, like when a class assignment is being done by several students and they may all need similar resources.

Improving service to our users continues to be our ultimately goals and this pilot project represents several positive steps to increasing our ability to do that with library service interaction data. We are now better poised to understand what library service interaction data will be useful in reaching this goal. Additionally, this process engaged all library staff in conversations and decisions about library service interaction data which will improve the usefulness of this data. When doing this kind of work it is valuable to bring staff into the process early. It is important that everyone comes to a shared understanding of why an organization wishes to record this information, how it will be analyzed and what will be done with the findings. In some ways we are still discovering this for ourselves in Kirk Library, but the pilot approach gave us a useful way to get started and give it a try. Continuing to improve community buy-in for the practice of recording library support statistics will improve the quality and utility of the information collected. With reliable, high-quality support statistics and the tools to analyze them, we can better understand, and ultimately improve our service to students.

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