

Meeting patron expectations:
Determining if librarians are knowledgeable enough
for the age of digital literacy

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Meeting patron expectations:

Determining if librarians are knowledgeable enough in the age of digital literacy

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Abstract

The purpose of this paper is to determine the needed technological ability for the librarians of the digital age to best serve their patrons regarding the use various technical devices. Data collected from patrons through an online survey was used to determine the technical knowledge of librarians and measure that against their patrons in various communities, and then determine the actual questions asked by patrons to librarians based on field research. The results found by comparing the data vary by device, but seem to favor librarians. There are areas where librarians can improve their knowledge, but the data can be used to help develop programs and help librarians (at least in these communities) determine what type of programming could be useful to the patrons and what areas of education that staff require to be valuable technical resources to patrons.

Introduction

In our increasingly digital world, it is rare to find a completely flawless digital device. Computers crash, devices malfunction and software does not always operate as it is meant to. When presented with challenges, the average person seeks out assistance for their devices if they cannot solve the problem themselves. Increasingly, public libraries are becoming a hub of technical knowledge and another invaluable resource for patrons to go to for their technical problems. This proposes a difficult task for librarians. Many librarians, due to budget or staff number concerns, cannot keep up with the demands of the public's increasingly technical questions. This leads to the question of how technically savvy does a librarian have to be in order to serve the general public?

This study use two forms of data collection to attempt to determine at what level people decide that a technical problem is out of their hands, and what level the average librarian is expected to be able to handle. With this information, public libraries can better prepare their staff for problems and questions that will be presented to them, without having to have staff learn everything operating problem of every piece of technology. This will be accomplished through a combination of data collection and a survey.

The first data will be collected by recording the technology related problems that are brought to a librarian at a given reference desk. Two or more libraries will be asked to track the questions and problems they are given with certain devices (computers, tablet devices and phones). The responses of the librarian taking the question will include what type of problem, how difficult it was to solve and, if it was not solved, what suggestions were made. These records will not need to include what was done to solve the problem,

only if the problem was solved. The idea is to get a better sense of what a librarian needs to understand in order to effectively serve the public.

In addition, a survey will be released online to library users asking them to decide the difficulty of problems on devices. Library users will rate the problems as something they can fix, something they would take to the library or something they would take to a professional repair store. Using both of these sources, this research should be able to determine the average level of technical literacy a librarian needs to serve the general public. To gauge the technological skill set of librarians, the same survey will be given to librarians for an equal measurement of the librarian's technical ability.

There is some work previously done in this area, but most research involving patrons and the use of library staff for technical assistance is limited to web searches and Internet related problems. While library staff obviously needs to be competent with the use of the Web, patrons also present librarians problems, pertaining to their devices. There are numerous articles from the Pew Research group, as well as professional journals that seek out what patrons are using library technology for and how they are using it. These reports generally focus on the patrons' relationship to technology, not the relationship between librarian and patron and technology. This report will focus on the use of devices and what level of skill the average librarian needs to be able to assist their patrons in using their devices and troubleshooting common problems.

Many of the questions presented to the librarians will most likely be library based, such as using systems like e-readers and online catalogs. However, some error messages or software messages will stump the average library user. In practice, the average librarian will have to (at the very least) be able to troubleshoot their patrons' devices in order to find the problem, but also be well versed enough to solve problems that don't

involve replacing parts or software. Understandably, damaged devices (cracked screens and damaged hard drives) will be beyond the average librarian. The average patron probably won't bring these issues to their local library, but it's hard to say what software issues that the average library user believes is within the grasp of the average librarian.

The end goal of the research will be to attempt to determine a level of competency by looking at the most commonly asked questions of the reference librarians and seeing how that relates to the answers provided in the survey. With that information, a level of skill will be determined for the various devices in question. There will most likely be some outliers, but the research will search for a single level of skill that librarians should strive for if they want to be seen as a technically advanced library that can help patrons who are not so technically literate with issues that may present themselves during their experiences with a device.

Patrons of any public library will take questions of all sorts to the reference desk. Reference librarians, as a result, have learned to efficiently use Google and catalog search programs to answer any questions that come up throughout the day. In many ways, it only makes sense for patrons to assume that librarians are skilled in using the various technologies that continue to surface for the use of the general public. With tablet devices and phones constantly changing in format as well as capability, patrons sometimes view the library as a resource for understanding this technology.

With the information gained from this special project, reference librarians may better understand what will be required of them to best serve the public. The entire library staff would not need to know how all aspects of these devices or to disassemble and rebuild a smart phone in order to best serve the public. There are some technically advanced problems that only the companies of origin will be able to solve about their

devices and that the library cannot reasonable be expected to provide. However, through casual conversation, it can be seen that many librarians differ on how advanced a librarian's technical literacy would have to be in order to best aide their patrons with whatever problems they might bring to the desk.

Sandra Ruoff, director of the Guilford Free Library, has a strong stand on staying on top of technology. From iPads to 3D printers, she prefers to have as many options for the public to experience and use technology. Guilford Free Library also offers a variety of technical classes (both in larger groups and one-on-one lessons), in which they can show the patrons solutions to common problems or give them a generalized tour of their new computer layout. The reference librarians divide the work for these classes and lessons, but there are some librarians who are more technically literate than others. As a result, there are some librarians that do more of the technical support than others. The research in this paper would not only help prepare the reference librarians for a more technical world, but it will ensure that each reference librarian has the skill set needed to serve the public. It would also provide a better scale on which to judge librarians when it comes time to promote. A library director, such as Ruoff, can decide if a current staff member or new applicant has better qualifications for working with their public, including their knowledge of technology.

Lewis Daniels (director of the Westbrook Public Library) has a very limited staff, so the results of this research would give Daniels a better idea of how skilled his staff needs to be to use technology. With such a limited staff, it would not make sense for only one person to be able to solve all of the technical problems that the problems bring to the library. Currently, Daniels is the technical specialist at the Westbrook Library. However, Daniels also serves as the head of reference and the library director. If this

study is able to generate a certain level that employees should be able to access, Daniels can use that information for recruiting to open positions and to train more of his employees through workshops or classes and provide more staff members with the ability to assist the public.

Most research done in the field of library technology discusses what the library can offer, specifically focusing on equipment and software. The research brings up technology classes, which are a very useful to patrons, but these classes only require one librarian with the technical knowledge to present these lectures. This singles out that librarian or technical specialist for library patrons and that librarian becomes the sole resource during a patron's time of technical crisis. The research done so far boasts the importance of having a technically literate staff, but there are no suggestions as to how literate the staff should be. This obviously varies from region to region, as well as patron to patron, but librarians should be given some knowledge as to what is expected of them when they claim to be technically literate people.

The significance of this project would be incredibly beneficial to librarians, so they can understand how technically literate the public expects them to be. They can provide more resources like the Guilford Free Library classes and offer a more qualified staff (as could be the case with the Westbrook Public Library). Libraries with this information can train their staff to be better prepared or better qualified as an end result.

The information this project will be able to quantify is very relevant, especially with recent library trends. Many people are starting to become more aware of the library as a technical place, housing a variety of technologies in addition to physical books. By providing this next layer of service, the library can offer another service that will make the technological resources more accessible to any patron who walks through the door.

The end goal of this research will be to provide librarians with an idea of what can be expected of them in the technical world.

Literature Review

The problem that this research report will focus on is to find the level of technical ability that a librarian needs to serve a patron who comes to the library with a typical question about a piece of technology. With the world becoming increasingly more technologically literate, the library is becoming a place where patrons bring their technology issues. Many libraries are offering some form of technical assistance, such as the “Teens, Tech and You” program offered by the Guilford Free Library in which teenagers demonstrate technology to seniors who need the assistance or the “e-navigators” in Scranton Memorial Library, offering one-to-one assistance to those who need aid traversing the web. Patrons are increasingly, through personal observations of the researcher, coming to the information desk for help with faulty technology. But the problem comes with librarians not being fully prepared to assist the technical needs of their patrons. One or two librarians on staff might be more technically literate than others, but if the librarians with more skill are not present for any reason, the other librarians may not be able to help the patrons of the library. There is no single measure of the level of technical literacy a librarian needs in order to best assist their patrons.

Most of the previous reports about the subject of technology and patrons focus on what technology libraries should offer to patrons in order to serve their needs. However, the studies seem to be lacking in the areas of how librarians can help their patrons to best use and troubleshooting problems with their technology. Pew Research Center has a few articles on the use of e-readers by patrons as well as the kind of technologies that have increased in use by patrons (*Library Services in the Digital Age* and *E-Reading Rises as Device Ownership Jumps*, Pew Research Center). The need for libraries to teach their patrons technology is also brought up in a chapter of Stephanie Gerding’s book *The*

Transforming Library Technology Infrastructure called “Transforming Public Library Patron Technology Training” (Gerding, 2011) and specifies one-to-one teaching of technology as no longer an option for libraries. However, the report focuses on workshops and assigned meetings, not how technology help can be treated more like a traditional reference question that any librarian can find an answer to.

More research, it seems, has been done on the services and devices that a library can offer their patrons than on how libraries and librarians can meet the technical needs of their patrons. While offering services and support are good for libraries, it is also important for librarians to be able to otherwise assist their public with their technological needs. However, the studies that are deemed useful for this research do not focus on the librarians as a group. The research so far can be applied to a single librarian who has been designated as the unofficial ‘tech support’ for the library staff. The research problem will be to determine what the staff librarians should know in order to answer a typical question from a patron to more evenly distribute the efforts and skills among, the library staff.

The gaps in the previous research are evident in that too much emphasis has been placed on types of technology that is used or the specific services or equipment that a library can offer. Less emphasis is placed on the librarian’s individual responsibility to be well versed in various types of technology and what it means to be technically competent in the eyes of their patrons. The research of this report will help determine the level of technical competence that the average librarian needs to have to answer a typical question brought to the desk. The research will tell librarians, library directors and students of library science how much they need to know about regular technology to serve the average patron. The research will determine if a librarian needs to know how to

reassemble a broken iPhone or if understanding how to download e-books to an e-reader is an adequate skill level to aid the majority of patrons. The research will help understand what that level of skill is so that librarians can be better prepared as a group, not relying on one or two technical specialists on staff and what librarians can do to build their own technical literacy.

Methodology

The methodology consisted of two primary parts. The first was used to determine the level of technical competence that is expected of a librarian as determined by patrons and other library users through a survey that posed a variety of situations for patrons and librarians to determine their general sense of technical ability. The second section was field observations to determine if the day-to-day service of a librarian were reflected in the results presented by the survey.

Survey:

The survey was the main data collection method of the research. A survey was distributed to patrons using popular social networks, email listings and other methods of contacting people. The survey was developed using the popular survey program, Survey Monkey. This was used because it was an effective and simple way to reach out to people of various ages, economic and social backgrounds, as well as various users of the library service, without having to spend too much time searching out these groups. Two surveys were made to keep track of responses, one for patrons and one for librarians in the field. This allowed for a comparison of the skills and expectations of the patrons and the librarians.

Each patron taking the survey was given a cover letter explaining the research project that his or her answers will be aiding in (Appendix A). Patrons were asked to identify with an age group (as that seems to be the most significant trend when dealing with technology) and asked to describe their frequency at the library (in their own terms). With a diverse group of people taking the survey, the results of the survey were meant to give a general idea of what the 'average' patron knows how to do technically as compared to what they would bring to a librarian versus a professional store. As opposed to

tracking down patrons and asking what they go to their library for, the patrons will be given a series 40 of technical problems across a range of devices: computer, tablet and smart phone (Appendix B). These problems will be rated on a scale of 1 to 5 as follows:

- 1- This is a problem I can fix on my own /someone I know can fix
- 2- This is a problem my librarian should be able to fix
- 3- This is a problem the professional store can fix
- 4- This is a problem no one can fix
- 5- I don't have this device

The problems ranged from simple email tasks to having the computer broken beyond compare. The patrons that participated in the survey were asked to identify what degree of difficulty they can fix on their own, what problems they might think to take to a librarian, problems where they would seek special outside help or whether they think the device is beyond repair. After looking at the results of this survey, the researcher should have an accurate idea of what the general library patron believes that their library is capable of doing and what problems the patron believes they can fix on their own (when examining the problem at face value). Using these ratings, patrons will be 'scored' to gain a sense of technical proficiency. Lower numbers mean that patrons have higher technical skill level than those with higher numbers. For example, if a patron identifies with a '1' on a question (this is a problem I can fix on my own), they are more technically proficient than a patron who chooses '4' (this is a problem no one can fix) for the same question. The option of 'I don't have this device' is treated as a '5', meaning that if the person doesn't know how to use this device regularly, they are expected to have less technical knowledge on the subject. The median of these scores will be considered the average of the patron sample for each question.

The same survey was sent out to librarians through the Conntech email listserv, with some differences. A cover letter explaining the significance of the report will be attached to the survey distributed to the librarians (Appendix C). The librarians each identified their age group and the title that best their job description: Head of a Department, Full-Time Librarian or Part-Time Librarian. The librarians were asked to examine a series of technical problems (Appendix D). A similar 'scoring' was determined with the same numbers from the patron survey. 'My librarian should be able to fix' was replaced with 'Another librarian should be able to fix this'.

These scores will be compared to understand the average skill level of the librarians. These scores were, again, used to determine the median level of technical competence that librarians have in a sample through the power of the listserv. Looking at the mean averages will also show slightly different results that will provide more data for the research.

The surveys were be distributed and collected for one month (all of December). The survey was closed and the research tabulated as stated above to get a proposed baseline reading for the field research that is planned. The goal was to get 100 responses for each survey in the time allotted. For the following two months, field research was done in two different locations.

Field Research:

The second half of the research collected data from field observations. Two libraries (Guilford Free Library and Westbrook Public Library) were monitored and asked to report when patrons bring devices in and to determine what the problem is (not necessarily how it was solved). Both libraries were briefed on the nature of the work and what they were required to do. The field research was conducted between the researcher

and librarians. Head of Reference Librarians of the two library locations were asked to fill out a log of technical questions (provided by the researcher). The only information other than the actual question will be whether or not the librarian was able to solve the problem brought them. When a librarian was asked a technical question, such as how to use a smart phone app or how to print a document, the librarians were asked to write down the question and whether they were able to solve the problem. This way the librarians involved can maintain their anonymity without having to report through a computer program. The location logbook also gave the researcher the chance to collect information that they may not be present for and therefore a wider range of data to observe than the simply relying on the times that the researcher is available to observe the librarians at the desk.

The researcher will keep these logbooks at the end of the research period and the researcher will hold onto the logs for the three years required (after which the pages from the logbooks will be destroyed). The interaction will be strictly between the librarian and the patron, requiring that the librarian only record the question and outcome of the interaction. Librarians will now collect verbal consent from the patrons, but the researcher will get verbal consent from the librarians who are willing to take part in the research to examine their records of reference questions.

Seeing the interactions in person (and what could be addressed by the librarian and what could not) will give the researcher a better understanding of what level of technical literacy librarians will need to best serve the public. It will also help them understand what technologies need to be focused. From there the researcher can determine if the average librarian should have a certain degree of technical competence and (more importantly) what that degree of competence is. Will a librarian need to be

able to take apart and reassemble a patron's iPad or will being able to help a patron install the Overdrive application be enough to provide patrons with the services they are reasonably requesting?

Results

Examining the results:

Looking at the first few questions in each survey, we can get a better understanding of the demographics of the participants of each group. The patron group identified primarily (47.31%) in the 19-30 year old group. The second highest age group recorded among patrons was the 51-70 year-old grouping (31.18%). The librarians surveyed mostly identified with the 51-70 year-old group (53.45%). The second largest age group of librarians was the 31-50 year-old category (27.59%). Patrons were also asked to identify their relationship with the library. The majority of patrons (72.04%) identified themselves as infrequent users, meaning they roughly visited 4-5 times a month, while a majority of the librarians were identified as full-time librarians (43.10%).

The researcher will have to analyze the two data sets in different ways. The first way will be looking be looking at the survey results. Originally, the research called for only gathering the median information. However, the survey yielded some interesting results when examining the averages.

For a full break down of each question and the median and mean averages, consult Appendix F. While the median averages don't show much of a discrepancy between the level of technical skill of the patron and librarian, the mean averages show a minor difference in each category. To understand the chart, look at the column marked 'differences'. A negative number means that the patron got a lower score than the library, suggesting high technical literacy of the patron. Positive numbers in the difference mean that librarians scored lower suggesting a higher level of technical proficiency of the librarian. A '0' in the difference column means that the librarians and patrons scored equally and represent a similar level of technical proficiency.

Looking at the results from the field research, the researcher will review the logs, finding the entries that librarians were unable to respond to and looking for patterns in the nature of these questions. Librarians appear to be mostly confident in answering the questions presented by users. A majority of the questions were based on using the Internet, such as job applications and printing from websites. Most of these were solved because librarians have a better understanding of how to use the Internet than patrons who are using the public computers (sometimes people without access to computers or the elderly).

Some questions were, as expected outside the ability of the library staff. These questions are generally referred to other professionals. For example, a patron in Westbrook came in to see if the library staff could clear the viruses from his computer and getting it running properly. The computer had so many viruses and malware that no one was able to do what the patron requested. However, the patron was given the address of a local computer repair store, which was the patron's next step. Similarly, a patron was referred to contact their email provider when they noticed that their account had been accessed by a hacker.

Conclusions:

Examining the survey results, two conclusions can be made. First, the averages (both median and mean averages) would suggest that librarians and patrons, in general, are both equally skilled with the use of technology. There are slight differences when examining the mean averages, but if the median averages are observed, the technical literacy of the librarians and the patrons are equal, or like within the margin of error, in most cases. While librarians do not seem to know more than their patrons when dealing with technical issues, the librarians appear to at least be equal with their patrons. The

evidence from the field observations supports this, since librarians were able to answer and solve a majority of the technical difficulties presented to them on a regular basis.

In addition, the survey revealed another interesting trend. Across all devices that were mentioned in the survey, librarians surveyed were more confident in the skills of a librarian than a patron was in their expectation of a librarian's ability to solve technical problems. If a librarian felt they were unable to solve a problem, it appeared more likely they would know someone in the library field who would be able to fix the problem. Looking at the chart below, the percentage of the answer “My librarian can fix this problem” was averaged for each device. The following percentages can be thought of as a representation of the difference between the confidence librarians have in themselves and their coworkers, and the expectations and level of confidence that patrons have in their librarians.

| Mean Averages for answers of “My librarian can fix this” across devices. | Librarians | Patrons |
|--|------------|---------|
| Computers | 35.53% | 16.84% |
| Tablets | 33.07% | 19.36% |
| Smart Phones | 18.10% | 5.67% |

It should be noted there were a number of individuals in the patron group surveyed who identified as 'never using the library'. The data collected would suggest a correlation between these two facts. It can be believed that patrons who don't typically use the library are simply unaware of the librarians' technical knowledge. The averages would suggest that patrons don't have as much confidence in their librarians as those librarians who actively work in the field and see their coworkers interacting with technology on a regular basis.

Discussion

The results of the survey and field observations are very telling as to the main goal of this research. The data gathered from the survey would suggest two things. First: that librarians are capable of answering the majority of technical questions they might deal with in a regular day. And second: that librarians need to find more ways to present themselves as technical resources for the public.

The evidence for the first problem is fairly encouraging. There are some areas that librarians need improvement on, but generally speaking librarians are as capable as any of the patrons who took the survey. The librarians that do not feel as capable, however, do seem to have more confidence in their fellow librarians than the typical patron surveyed. The field research also suggests that librarians (in general) are able to take care of most problems that are brought to the front desk. A theory as to why this might be the case would be that librarians are given access to more technology. Many libraries, and their librarians, try to stay as up to date as possible for their patrons. There are few libraries today that don't have at least one public computer. Additionally, libraries have had to adapt with the growing presence of e-readers (*Library Services in the Digital Age* and *E-Reading Rises as Device Ownership Jumps*, Pew Research Center). This would require librarians, at the very least, to understand the applications relating to the library on most tablet devices. Additionally, this would attribute to their (overall) much better average rating in the area of tablets, where there was the greatest difference between patron and librarian knowledge. It's important to note that, especially in the areas of smart phones and tablets, librarians had almost no responses of 'I don't have this device'. The patrons had a fair number of individuals select this category,

giving the librarians an overall edge in the end when examining the results for who was the most technically literate with these common devices.

Looking at the averages presented in the results, librarians believe that they or their coworkers are more confident in solving technical problems that may come their way than patrons believe they are capable of. The important question to ask from this data is, how can libraries and their librarians present themselves as technically literate institutions for their patrons?

Technology based programming is becoming increasingly popular as a way for libraries to present themselves to patrons as a technical resource in addition to a resource for information that they have always been associated with providing. During the period of the field observations, Guilford Library had several 'Tech Workshops' where patrons were able to see demonstrations of what technology the library had, including demonstrations with the 3D-printer, the e-readers available for borrowing through the library, and other technology focused on teens. Patrons sign up for regular sessions with the librarians to run through various devices. These sessions fill-up fairly quickly and patrons make regular appointments to keep updated on their technologies various functions and updates.

In February of this year, Westbrook Public Library began having regular weekly "one-to-one" classes with patrons to consult their technical problems and help them to better understand their technology, as well as broader technology classes for larger groups. Since the beginning of these classes, director Lewis Daniels has noticed a marked change in the number of patrons coming in specifically for help with their various technical devices, showing that these programs are a simple way to boost patron confidence in the technical ability of their librarians. There is a correlation between the

introduction of the programs and the marked rise in patrons coming in and using the library as a resource that shows the clear benefits of such programs.

Conclusions

Overall, the results of the research conducted based on the data collected would suggest that librarians are well equipped to handle the typical day-to-day problems that an individual may have with their electronic devices. The problem seems to be that the public has trouble getting informed of the library's use as a technical resource. Based on the results of the survey, the public does not have the same level of confidence in their librarians as the staff of those same libraries has in themselves. Efforts should be made to better present a stronger technical face to the public. This can be done by providing resources to the public and making these resources more available.

For example, one patron identified in the research by the research was young woman who was interested in purchasing a new tablet device. She wanted to get a better understanding of the device. When informed of the public use of these devices at her local library, she was surprised and instantly went to see the devices first hand, so she could make a better-informed decision about her final purchase of a tablet device. She was also surprised with how knowledgeable the library staff was about the devices available.

Another case where technical proficiency of the librarians offers more services to patron is easily seen with an older patron, mid-80s, who got his first personal computer, and was understandably confused and unsure what to do most of the time. However, short sessions once a week with librarians on staff supplied the patron with both the opportunity to learn and build his confidence and to better understand all that his library has to offer. He now comes once a week for lessons on his laptop and attends most workshops available.

There are a few possible reasons for margins of error in the survey research especially. For one, there are age differences between the two groups. In the patron surveys, the participants were primarily in the younger demographic grouping of the four represented. For the librarians, it seemed to be represented by a primarily older age bracket. There might be some change in the distribution of answers if a greater number of older people had taken the survey (possibly giving librarians a more technical advantage over peers of the same age grouping). Additionally, the survey was sent to individuals who had access to a computer on a regular basis. This might have made a difference, excluding individuals who don't have any technical knowledge from the survey and giving librarians less of an advantage over the patron numbers.

Librarians are more than capable of handling most of the questions that their patrons would rationally pose to them. The challenge that the modern librarian faces is how to present this to patrons. Programs, such as the technology workshops or one-to-one technology courses mentioned from the field libraries, are invaluable tools for increasing the library's reputation for being a technological resource for patrons trying to navigate their way through an increasingly digital world.

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- Survey Monkey provided the surveying software, compiling the averages and keeping track of the patron scores. Results were retrieved from surveymonkey.com on 3/23/15.

Appendix A: Patron Cover Letter

To: Survey Participant

Re: Notice of Research Involvement

By taking this survey, you are assisting in the fulfilling the research for “The Public's View of the Technical Literacy of the Average Reference Librarian.” This survey research will be used to help identify the technical expectations and understanding of the librarians that are approached about such technical problems on a regular basis. By completing this survey, you are helping to identify not only what problems that you would bring to the library, but also what problems librarians need to prepared for. Librarians are taking a similar survey to better determine if the technical knowledge that the public expects of their librarians is actually being met. From there, this research will help determine what specifically needs to be focused on by intensive field research to help librarians as a group be better prepared for when they approached by patrons with technology problems on your everyday devices. With this research, librarians will be better prepared for the types of questions and programs can be formed to better suit your needs. This survey should take 4-5 minutes.

Each of the following problems is a technical issue that individuals might bring to the reference desk (some ridiculous, but true). You are rate these problems from 1 to 5:

- 1- I don't have this device
- 2- This is a problem I/someone I know can fix on my ow
- 3- This is a problem my librarian should be able to fix
- 4- This is a problem the professional store can fix
- 5- This is a problem no one can fix

Keep in mind, the purpose of this is to guage what an individual would bring to their librarian. It is not a measure of your personal technical literacy. Please do not search for solutions online. If you feel the problem is impossible to fix, just say so. This research survey is completely voluntary and if you feel the need to leave the survey, feel free to do so at any time without any sort of penalty. Only those **18 or older** can take this survey.

Thank you for time.

Any concerns or questions regarding the research:

Nicholas Westbrook

nicholas.westbrook888@gmail.com

Questions or concerns regarding rights as a research participant:

SCSU HRPP

(203)-392-5243

Appendix B: Patron Survey Questions

Patron Survey:

Answers

Describe your relationship to the library:

Frequent User (4-5 times a week)

Infrequent User (4-5 times a month)

Never Used It Before (Never)

Please choose your age grouping

-18 19-30 31-50 51-70 70+

Please rate the following technical issues on a scale of 1 to 5

1- I don't have this device

2- This is a problem I/someone I know can fix on my own

3- This is a problem my librarian should be able to fix

4- This is a problem the professional store can fix

5- This is a problem no one can fix

Computer:

1) I would like to attach a document to an email

2) My computer screen has gone blank and won't turn back on

3) I would like to make the margins smaller on a text document

4) I can't remember the password to a social media account

5) My computer is broken in half

6) I can't connect to the internet

7) I just updated my computer and sound won't play on certain websites

8) A document refuses to open correctly

9) I want to request a book through the library website

10) I need to take a program off my computer to make space for a new

program

11) I'd like to create a email account

12) My computer has a virus and I need to clear it

13) A website says I need a Java update to play a video

14) A movie is stuck inside my computer's CD drive

15) I dropped my computer and now there's a clicking noise when it boots up

16) I need to renew a book online

17) My screen keeps flashing an error when I try to open a word document

18) My computer won't turn on

Tablet:

1) The screen on my tablet was shattered after I dropped it

2) I want to download an eBook to my eReader from the library

3) I would like to download this app to my tablet

- 4) My tablet screen is solid white
- 5) I would like to return this eBook to my library
- 6) My tablet says it needs a software update
- 7) I can't connect to the internet on my device
- 8) I want to remove an app from my tablet
- 9) My touch screen isn't responding
- 10) I need to renew an eBook from the library
- 11) I'd like to send an email from my iPad

Smart phone:

- 1) I can't download audio books to my phone
- 2) I don't hear anything when I plug in my headphones
- 3) I got a voice message on my phone and want to listen to it
- 4) I need to download music from my computer onto my phone
- 5) I accidentally had my phone in my pocket when I went down a water slide
- 6) I want to add some contacts to my phone numbers
- 7) My touch screen isn't responding
- 8) I'm not getting notified of text messages
- 9) My calls keep dropping, even when my service is good
- 10) No matter what buttons I press, my phone won't respond
- 11) My phone won't sync with my music program

Appendix C: Librarian Cover Letter

To: Survey Participant

Re: Notice of Research Involvement

By taking this survey, you are assisting in the fulfilling the research for “The Public's View of the Technical Literacy of the Average Reference Librarian.” This survey research will be used to help identify the technical expectations and understanding of the librarians that are approached about such technical problems on a regular basis. By completing this survey, you will contribute to developing a better understanding of what librarians need to know in order to be prepared for the questions brought to them by the public. This could let to better librarian education for new technologies and provide the average librarian with a better technological understanding, allowing for more equal distribution of the questions asked by library patrons about technology. This research will lead to more effective, efficient library staff and continue to give libraries a competitive in an increasingly digital world. This survey should take 4-5 minutes. Each of the following problems is a technical issue that individuals might bring to the reference desk (some ridiculous, but true). You are rate these problems from 1 to 5:

- 1- I can fix that problem
- 2- I can try to fix that problem
- 3- I will look up how to fix this problem
- 4- I might send this problem to another librarian
- 5- I would send this problem to a professional store

Keep in mind, the purpose of this is to gauge what an individual would bring to their librarian. It is not a measure of your personal technical literacy. Please do not search for solutions online. If you feel the problem is impossible to fix, just say so. This research survey is completely voluntary and if you feel the need to leave the survey, feel free to do so at any time without any sort of penalty. Only those **18 or older** can take this survey. Thank you for time.

Any concerns or questions regarding the research:

Nicholas Westbrook

nicholas.westbrook888@gmail.com

Questions or concerns regarding rights as a research participant:

SCSU HRPP

(203)-392-5243

Appendix D: Librarian Survey Questions

Answers

Describe your position at the library:

Director

Head of Department

Full-Time Librarian

Part-Time Librarian

Please choose your age grouping

-18 19-30 31-50 51-70 70+

Please rate the following technical issues on a scale of 1 to 3 (Imagine a patron approached you with each question):

1- I can fix that problem

2- I can try to fix that problem

3- I will look up how to fix this problem

4- I might send this person to another librarian

5- I would send this problem to a professional store

Computer:

1) I would like to attach a document to an email

2) My computer screen has gone blank and won't turn back on

3) I would like to make the margins smaller on a text document

4) I can't remember the password to a social media account

5) My computer is broken in half

6) I can't connect to the internet

7) I just updated my computer and sound won't play on certain websites

8) An document refuses to open correctly

9) I want to request a book through the library website

10) I need to take a program off my computer to make space for a new program

11) I'd like to create a email account

12) My computer has a virus and I need to clear it

13) A website says I need a Java update to play a video

14) A movie is stuck inside my computer's CD drive

15) I dropped my computer and now there's a clicking noise when it boots up

16) I need to renew a book online

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- 5) I would like to return this eBook to my library
- 6) My tablet says it needs a software update
- 7) I can't connect to the internet on my device
- 8) I want to remove an app from my tablet
- 9) My touch screen isn't responding
- 10) I need to renew an eBook from the library
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Smart phone:

- 1) I can't download audio books to my phone
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- 6) I want to add some contacts to my phone numbers
- 7) My touch screen isn't responding
- 8) I'm not getting notified of text messages
- 9) My calls keep dropping, even when my service is good
- 10) No matter what buttons I press, my phone won't respond
- 11) My phone won't sync with my music program

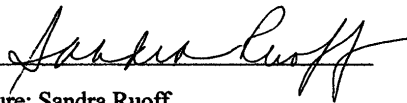
Appendix E: Consent of Research (with Director Signatures) for Field Research

Modifications to IRB Proposal

3

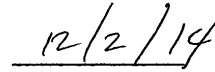
Library Documentation of Consent for Research Conduct

I, the undersigned, allow Nicholas Westbrook to conduct his field research using our library facilities. I understand that this research will be between him and the individual librarians and that, while he is using the facility, he is not required to share his information with me. The details of his research will not be open available to me and that the information will be submitted anonymously. He has explained how the research will be carried out and I consent to allowing him the use of our facilities for his research.

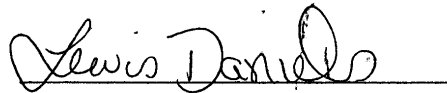


Signature: Sandra Ruoff

Guilford Free Library, Guilford, CT

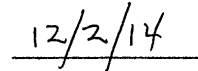


Date



Signature: Lewis Daniels

Westbrook Public Library, Westbrook, CT



Date

Appendix F: Averages for questions and differences:

Negative scores indicate that patrons have higher technical skill for these questions.

| Averages | Patrons | Librarians | Difference | Patrons | Librarians | Difference |
|-------------|---------|------------|------------|---------|------------|------------|
| Computers | Means | | | Medians | | |
| 1 | 1.08 | 1.42 | -0.34 | 1 | 1 | 0 |
| 2 | 1.91 | 1.85 | 0.06 | 2 | 2 | 0 |
| 3 | 1.18 | 1.45 | -0.27 | 1 | 1 | 0 |
| 4 | 1.31 | 1.78 | -0.47 | 1 | 1 | 0 |
| 5 | 3.68 | 3.54 | 0.14 | 4 | 4 | 0 |
| 6 | 1.62 | 1.65 | -0.03 | 1 | 2 | -1 |
| 7 | 1.95 | 1.89 | 0.06 | 2 | 2 | 0 |
| 8 | 1.54 | 1.66 | -0.12 | 1 | 2 | -1 |
| 9 | 1.67 | 1.58 | 0.09 | 2 | 2 | 0 |
| 10 | 1.35 | 1.53 | -0.18 | 1 | 1 | 0 |
| 11 | 1.18 | 1.49 | -0.31 | 1 | 1 | 0 |
| 12 | 2.32 | 2.48 | -0.16 | 3 | 3 | 0 |
| 13 | 1.31 | 1.53 | -0.22 | 1 | 1 | 0 |
| 14 | 2.43 | 2.43 | 0 | 3 | 3 | 0 |
| 15 | 2.81 | 2.9 | -0.09 | 3 | 3 | 0 |
| 16 | 1.61 | 1.6 | 0.01 | 2 | 2 | 0 |
| 17 | 1.9 | 1.96 | -0.06 | 2 | 2 | 0 |
| 18 | 2.53 | 2.53 | 0 | 3 | 3 | 0 |
| AVG | | | -0.105 | | | |
| Tablets | | | | | | |
| 1 | 3.68 | 3.28 | 0.4 | 3 | 3 | 0 |
| 2 | 2.56 | 1.74 | 0.82 | 2 | 2 | 0 |
| 3 | 2.27 | 1.6 | 0.67 | 1 | 1 | 0 |
| 4 | 3.16 | 2.81 | 0.35 | 3 | 3 | 0 |
| 5 | 2.59 | 1.74 | 0.85 | 2 | 2 | 0 |
| 6 | 2.27 | 1.66 | 0.61 | 1 | 1 | 0 |
| 7 | 2.51 | 1.78 | 0.73 | 1 | 2 | -1 |
| 8 | 2.19 | 1.63 | 0.56 | 1 | 1 | 0 |
| 9 | 3.23 | 2.66 | 0.57 | 3 | 3 | 0 |
| 10 | 2.59 | 1.76 | 0.83 | 2 | 2 | 0 |
| 11 | 2.26 | 1.64 | 0.62 | 1 | 1 | 0 |
| AVG | | | .637 | | | |
| SmartPhones | | | | | | |
| 1 | 2.19 | 1.83 | 0.36 | 1 | 2 | -1 |
| 2 | 2.55 | 2.04 | 0.51 | 2 | 1 | 1 |
| 3 | 1.66 | 1.63 | 0.03 | 1 | 1 | 0 |
| 4 | 1.6 | 1.66 | -0.06 | 1 | 1 | 0 |
| 5 | 3.53 | 3.45 | 0.08 | 3 | 3 | 0 |
| 6 | 1.62 | 1.63 | -0.01 | 1 | 1 | 0 |
| 7 | 2.92 | 2.82 | 0.1 | 3 | 3 | 0 |
| 8 | 2.42 | 2.02 | 0.4 | 1 | 3 | -2 |
| 9 | 3.15 | 3.05 | 0.1 | 3 | 3 | 0 |
| 10 | 3.22 | 2.95 | 0.27 | 3 | 3 | 0 |
| 11 | 2.35 | 2.19 | 0.16 | 1 | 3 | -2 |
| AVG | | | .268 | | | |