

Does Virtual Communication Equal Virtual Collaboration? The Influence of Technology on Job Satisfaction and Collaboration

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Abstract

Library professionals are facing the same increasing pervasiveness of technology as other professions. Technology gives librarians positive new tools for managing and delivering information, but also changes modes of communication and collaboration with our patrons. This qualitative study explores the connection between the influx of virtual communication and its impact on collaboration and job satisfaction among academic librarians.

Keywords: Communication; Virtual Reference; Job Satisfaction

Introduction

Over the last 30 years, the role of academic reference librarians has changed from the gatekeeper of print knowledge to the instructor of end-user strategies and information literacy. Also evolving over the past few decades, and affecting the role of delivery of information, were methods of librarian communication and interaction. Historically, students and faculty knew that the librarian at the reference desk was there to answer questions and provide research service. In the 1990's libraries began to offer other modes for patrons to ask reference questions: email, web forms, and virtual reference chat. With the advent of online research materials, email, and search engines, the face-to-face visits to the reference desk decreased.¹

Academic libraries are re-evaluating the necessity of a standard reference desk for in-person reference consultations² and often opting to increase virtual communication with students. This is happening for many reasons, including budget cuts, staffing inadequacies, and changing reference models. Consider the student as a ubiquitous learner. The belief is that students

will require access to materials outside of the confines of the physical library at all hours of the day. Librarians are expected to provide this access. In addition, job satisfaction for reference librarians is tied to many intrinsic factors,³ and it is not apparent that different channels of communication will provide the same level of collaboration and job satisfaction. This study explores the connection between the influx of virtual communication and its effect on collaboration and job satisfaction amongst academic librarians.

Background

This report is of immediate relevance to the authors' and their colleagues at the institution. Specifically, the primary author's home library is undergoing a major renovation that has affected the roles of staff as well as the location of consultations. According to in-house statistics face-to-face consultations and transactions at the primary author's home library's reference desk have decreased 32% through the course of construction in 2014. Electronic communication at the same time grew rapidly. Virtual reference

transactions conducted by the Reference Department in the authors' home library increased 45% July through December 2014 compared to the same period in 2013.

At the same time academic librarians are interacting with their patrons in a much more virtual sense. This is true not only at the primary author's home institution but elsewhere in the field. The confluence of construction and industry trends appeared to impact the consultation methodology at this particular library. As a result, the authors sought to explore whether this form of communication influenced job satisfaction as well as affecting the collaborative nature of the librarians' role, both internal and external to the organization.

Literature review

The effect of technology on communication channels and job satisfaction has been examined in many studies across multiple disciplines.^{4,5} It has been demonstrated that the ubiquitous intrusion of communication overload (as distinct from information overload)⁶ leads to burnout, resentment, and confusion.^{7,8,9} Communication overload due to an influx of technology has also been studied in libraries.^{10,11}

It is expected that academic reference librarians will have increasingly more virtual communication with students and faculty in response to changing reference models and because many patrons prefer electronic communication methods.¹² Hendricks and Buchanan¹³ examined job satisfaction of librarians with virtual reference and confirmed previous research detailing problems with technology, the difficulty of providing complex answers to complex questions virtually, and the lack of in-person cues for a rich interpersonal transaction.^{14,15,16} Magi and Mardeusz¹⁷ observed student preference for face-to-face consultations, which supports the media richness of interpersonal contact compared to lean and impersonal forms of online media channels.^{18,19,20,21}

Faculty-librarian collaboration in instruction and collection development is well-documented in the literature.²² As well, the online presence of a librarian embedded in courses also has been examined.^{23,24} This study adds to the literature as it explores themes concerning the collaborative roles of academic reference librarians with students, faculty and colleagues in the face of increasing technology and online communication.

Methodology

This study was submitted to and approved by the Institutional Review Board at the authors' home institution. Intended as an introductory pilot study to explore librarians' perceptions of the changing communication methods for delivery of service to faculty and students, participants were recruited using convenience sampling. Reference library staff in one academic library department responded to an email sent to the group. The email explained the purpose of the focus group and assured confidentiality, and also stated participation was voluntary. Four women and one man were recruited, with varying ages, job experience, and education levels. All participants have extensive experience with face-to-face desk reference as well as virtual reference.

For this initial study, a phenomenological research design was used. Creswell states the best type of problem for a phenomenological design is one that aims to understand shared experiences of a phenomenon "in order to develop practices or policies, or to develop a deeper understanding about the features of the phenomenon."²⁵ The authors were interested in stories of reference library staff describing shared experiences of face-to-face and online interactions, and analyzing the meaning of the responses.

A focus group of five public service library staff met and discussed questions from a semi-structured script. The 55-minute session was audiotaped with the permission of the subjects. One

author facilitated the focus group and one author acted as note taker. The facilitating author provided additional clarity for the focus group when necessary and channeled the dialogue by asking limited secondary questions so as to keep the conversation on point. The note taking author did not interfere or guide the discussion in any way.

The audio recording was transcribed by the primary author. These data were analyzed using the constant comparative method, and inductive analysis was used to identify emerging themes and topics. A code book created in excel tracked the thematic analysis. The primary author assigned codes to the transcript, looking specifically at content that explicitly or implicitly addressed the questions of the study. The codes were reexamined to check the authenticity of the labels, and to find common groupings.

Three methods were employed for verification of the analysis. First, the authors independently assigned codes, developed categories and identified themes, and provided peer feedback of results. Through comparison and discussion, themes and properties were discussed, edited and merged. Negative case analysis was the second method used for verification. This method is used to refine working hypotheses when data does not fit the pattern or theme and provides a more realistic assessment of the phenomenon.²⁶ Finally, employing member checking, one participant from the focus group was asked to provide feedback on the themes identified by the author. This participant questioned one category heading, which was edited for clarity.

Limitations

The authors have worked with the participants in the sample and therefore have similar experiences regarding the influence of communication and technology on collaboration and job satisfaction. However, the authors were lateral colleagues and not in a supervisory position that

might sway or impact the opinions of the individuals interviewed. While the small sample size consisting of one focus group limits the generalizability of the themes, the study was intended as a pilot to begin exploring the topic.

Results

Two themes, (Tables 1 and 2), emerged from the analysis: 1) Negative perceptions of technology affect job satisfaction, and 2) In-person interactions are preferred but virtual communication is expected.

Table 1 demonstrates the first theme by detailing the negative perceptions librarians have of virtual communication technology. The focus group interpreted virtual communication to mean email and chat reference (also called VR or IM). The increase in volume of electronic communication and ephemeral emails filling inboxes is compounded by the expectation that an employee must be available to respond to communication at any time—day, night, weekend, or vacation-- or risk the “gotcha.” Subjects voiced concern over job satisfaction and work-life balance, with availability via email being a chief concern. However, other than filtering spam, no solutions were suggested and follow-up questions about solutions were not asked.

The group felt that virtual reference service is not the ideal medium for fielding complicated questions. Instruction in using resources is easier in person because it is essentially instruction in a process, and it is very easy to miscommunicate directions for using resources: “[Because] it’s a process. It’s showing someone and, the different resources that we are using and all of them have certain variations and the vagaries of it all [are] complicated.” Although sharing screens in real-time (via Skype for example) would help to overcome this obstacle, technology often fails to work. Interoperability problems—platforms, browsers, software upgrades and installations—make synchronous face-to-

Theme 1: Negative perceptions of technology affect job satisfaction		
Category	Properties	Data Excerpts
Accessibility	Persistent access; Gotcha/can't miss an email	"I'm feeling the culture especially in the library is moving from very collegial, collaborate to a gotcha which is why you and I feel this incredible pressure to constantly be checking our email because god forbid we miss something."
Work/life balance	Resent email checking off hours; Increasing volume of email and time wasting	"And I'm checking my email at home at night on the weekends on vacation and I'm starting to resent having to do that. "
Showing complexity in-person vs online	Show Process/error correction in person ; Customer service damaged when technology fails; problems not solved	"if you are there face to face it is so much easier to overcome any potential point of error that you would encounter with that person"

Table 1

Theme 2: In-person interactions are preferred but virtual communication is expected		
Category	Properties	Data Excerpts
Expectations	No control or choice	"Which is more valid... We're being told communication electronically. That's the message, that's where we're going."
Documentation	Email record; Script	"Email for me I just think it's better to have, as C said you have something concrete because if I just do it informally I 'm not going to remember"
Less satisfying communication	Less engagement with student; Less collaboration, collegiality; Bonding; E-communication is less satisfying	<p>"The relationship is very abrupt."</p> <p>"I feel like when I'm on IM at night I'm in it alone"</p> <p>"And I think for that short hour that they're with us you actually bond to them in some way and so they now identify me, you know we identify with one another so they may be more willing to pay attention."</p>

Table 2

face electronic communication difficult for reliable delivery of quality customer service.

Table 2 corresponds to the communication preferences of the librarians. This second theme emerged when communication preferences were discussed. In-person consultations are preferred by the focus group members not only for better process instruction, but also for the satisfaction of providing a service: "The ability to be able to do that and help the student right in that moment and help them right as they needed it just in time." Even though electronic reference services result in less engagement with students and the loss of face to face bonding, this channel is becoming the accepted and expected mode of communication. The group agreed that they were encouraged to communicate electronically rather than in person as the preferred method of contact.

While all subjects use email for establishing contact with faculty and students ("ice-breaker") and agreed on the value of email as documentation, they described the difficulty of forging a relationship electronically. The online interactions with students and faculty were described as "abrupt" or "limited." Also noted was the feeling of isolation and loss of professional collaboration in electronic reference, particularly with evening virtual reference shifts. The effect of technology and communication on the collaborative relationships, both internal and external to the library itself, is where the discussion now turns.

Discussion

It is notable that virtual communication and virtual reference services may lead to a feeling of isolation, and provide less opportunity for collaboration or engagement with faculty, students and colleagues. The increasing demand may reflect societal expectations of ubiquitous communication or the idea that our younger "digital native" students require electronic communication

and less in-person engagement. The loss of visual cues and feedback, and intonations of speech, makes digital interactions, as described by subjects, "abrupt." Surprisingly, none of the subjects offered solutions to any of the problems (except for filtering) which may reflect a feeling of powerlessness, once again, that the expectation overrides preference of email. These perceptions affect opportunities for collaboration with faculty, students, and colleagues.

Collaboration with faculty

Based on the feedback from the group, forging relationships with faculty solely by email is more difficult than in-person contact, and the result is a "less satisfying" and "limited" collaboration. Initial interaction with faculty by email is considered the "ice breaker" and is used by all the subjects in the focus group. Once contact is established, the preferred follow-up is face-to-face communication. The exception to this result was examined using negative case analysis. A STEM librarian described introverted scientists who prefer virtual communication.

In terms of communication, electronic communication with the librarian, it also depends on the nature of the discipline ... I think email is kind of like an ice-breaker in a way to create that relationship and I think for the most part within the sciences we're introverts. Face to face contact petrifies some of these people...some of the relationships I have with my faculty are only by email.

Although the idea of scientists as introverts is stereotypical, an argument can be made that faculty and students from many disciplines prefer electronic communication because of introversion.

Other possible explanations include that the type of experimental research conducted does not require the assistance of a research librarian, and local statistics do show that scientists in the Physical Sciences contact the library less often

than other writing-intensive disciplines. Faculty and students in the Physical Sciences use computers more in their work than other disciplines and e-mail is their easiest mode of communication, or perhaps they are more comfortable asking in-person questions to their research team than to librarians. As librarians are encouraged to build collaborative relationships with more and more members of the faculty using technology for outreach ("That's what they're pushing us to do"), a discipline that embraces passive communication presents an especially challenging mindset.

Collaboration with students

For the focus group, collaboration with students occurs on a basic level when students approach a librarian and ask for help. This places the librarian in a service role and when assistance is given and accepted, the interaction is a source of job satisfaction. Although this interaction can be done anonymously online, face to face consultation adds richness to the interaction that can feel like "bonding", and may lead to "repeat business." Many virtual reference encounters, after the reference specialist types detailed directions for finding a resource, will be abruptly disconnected, or receive no acknowledgement from the user. The anonymous nature of virtual reference can leave the user or librarian dissatisfied with the interaction. In essence, face-to-face communication encourages more meaningful collaboration.

The synchronous nature of virtual reference is an advantage for providing immediate customer service, and improvements in software applications that share screens or provide visual interactions (for example, Skype) may lead to a more robust interaction in the future. Presently though, the limitations and incompatibility of software platforms and programs lead to frustrated customers when the technology doesn't work. "You saw from the [technology training sessions] today it's going to take them 20

minutes to download the stupid software." As one librarian stated: "So technology to communicate, to teach, to provide that rich customer service environment in an online environment—we're not there yet."

The consensus of the group was that virtual reference (in its current state) is suited to directional, ready reference questions but not adequate for instruction or answers to complex questions.

So if I want to show you how to use Compendex and I can do it in person, [the student] can stop me as I'm going and say "Wait a minute." So we can repeat it and I can see why you're thinking that; now I can adjust what I'm going to say next.

Showing the process of database searching or navigating the library's web site is easier in-person and provides for immediate error correction and feedback.

Resistance on the part of students to engage in formal electronic communication with library staff is another complication to collaboration. As one librarian related: "It's difficult sometimes to get students to agree to the skype meeting or whatever. Not all of them want to participate that way but I think that's going to be more and more what we're pushed to." This quote reflects the perceptions of librarians and not those of students. However, the librarians in the focus group acknowledged a measure of student resistance to virtual communication channels. It is challenging enough to develop collaborative relationships with students when they are willing. The subsequent prospect of increasing virtual communication with a clientele that is not receptive creates additional obstacles for librarians.

Collaboration with colleagues

In this focus group, technology did not promote connectivity for colleagues and in fact produced the opposite effect. "I feel like when I'm on IM at

night I'm in it alone." The feeling of isolation described in that statement may be due to several factors: the anonymity of virtual reference, the provision of service during off hours, office vs home location, or the lack of immediate referral and consultation mechanisms.

The librarians also described a supportive aspect of their work environment that promotes connectivity. "Yes, the student does go by the reference desk to find me...but by chance they meet [another] reference librarian, whoever is working on the desk. And 'Oh, you should speak with so and so.'" There was an implicit assumption that the increase in technological communication would undermine the structure of this collegiality by making the interaction impersonal. As well, with increased virtual reference duties and ubiquitous Wi-Fi, staff is no longer tied to an office so they have the option to work from anywhere. This may lead to less time to plan, meet, debrief, commiserate or interact socially with colleagues.

Mitigation of concerns

One positive feeling emerged in the discussion of email correspondence. All participants agreed that an advantage of email is retaining a record of the interaction. This documentation provides information stored indefinitely, and is useful for remembering tasks and making contact with previous correspondents. However, the majority of the responses painted a negative portrayal of the impact of electronic communication on collaboration and job satisfaction. Actions to mitigate this negativity are possible.

To increase opportunities for faculty interaction, several of the librarians are proactive in establishing face-to-face communication with faculty by venturing outside the library by establishing office hours in the specific departments, through course instruction in department classrooms, and by participating in multidisciplinary pro-

jects. This is an expected part of the outreach duties of liaison librarians. However, it takes on new significance when factoring in the changes in communication patterns due to changes in technology.

The themes of this study are predominantly negative and this may certainly have an impact on the quality of service provided. An administration that expects and facilitates collaborative opportunities will empower staff and limit the negative influence of technology. This could be as simple as providing additional training and support in technological matters to developing more complex means of acknowledging extraordinary contributions made through the use of technology. Especially in disciplines where the culture naturally lowers interactive collaboration, such as some STEM fields, librarians need to believe that the library administration encourages and supports in-person outreach as an important communication channel. This high-level support is essential for collaborative success.

The responses from our (limited) focus group reflect a sense of helplessness in the face of overwhelming technology demands. An administration that encourages an organizational culture that supports work/life balance contributes to employee satisfaction. In such an environment, librarians are empowered to set limits on professional availability. Simple control measures (setting away messages during vacations, designating a rotating on-call person to respond to off-hour requests, checking email during work hours only) will contribute to job satisfaction if the administration considers work/life balance a priority.

Improving customer service in virtual reference, and decreasing technology failure, is not out of reach for academic librarians. Anticipating frequently asked questions and habitually encountered problems with tutorials and instructions that are immediately available will go a long way toward mitigating customer and librarian

frustration. Librarians should also feel authorized to set limits for virtual reference encounters, and require a face-to-face appointment if the student or question requires it.

Future Research

There are several future research opportunities that might augment this study's results.

A survey asking librarians about electronic communication usage (what devices, hours per week on work email, home vs. office, for example) would help to validate or refute the themes uncovered with this focus group. More data is needed to analyze differences in age and gender. Requesting that a small group of librarians keep a diary of electronic interactions, including personal, professional and off-hours is an additional qualitative alternative to acquire usage data. Interviews or focus groups with librarians who work with specific disciplines, combined with interviews or a survey of students and faculty in the various disciplines, would yield interesting evidence regarding communication preferences within the humanities, physical and natural sciences, and social sciences.

Conclusion

Clearly this is a pilot study and much more research on the topic must be done to draw conclusions or make recommendations. The findings intimate that electronic communication overload and expectations inhibit collaboration and frustrate librarians, leading to issues with job satisfaction. Managers and mentors must be cognizant of the influence of technology on the job satisfaction and collaboration efforts of their employees and peers.

Professional librarians make decisions every day choosing electronic, in-person, or a blend of communication channels. If the goal is to provide the best possible reference service, then communication that suits the situation, the ques-

tion, or the person should be flexible and collaborative. As stated in the study by one librarian: "Is the patron getting the assistance and instruction that they want or need? Everything else becomes moot." The service imperative familiar to most librarians surmounts all obstacles of communication; in the end, librarians provide the answer, the assistance, and the "a-ha" moment.

Endnotes

¹Theresa S. Arndt, "Reference Service without the Desk," *Part of a Special Issue Reference in the (post)Google Age* 38, no. 1 (February 2010): 71-80.

²Dennis B. L. Miles, "Shall We Get Rid of the Reference Desk?" *Reference & User Services Quarterly* 52, no. 4 (2013): 320-33.

³Yu-Ping Peng, "Job Satisfaction and Job Performance of University Librarians: A Disaggregated Examination," *Library and Information Science Research*, 2014. doi:10.1016/j.lisr.2013.02.006.

⁴Kevin B. Wright, Bryan Abendschein, Kevin Wombacher, Michaela O'Connor, Megan Hoffman, Molly Dempsey, Christopher Krull, Audrey Dewes, and Audrey Shelton, "Work-Related Communication Technology Use Outside of Regular Work Hours and Work Life Conflict: The Influence of Communication Technologies on Perceived Work Life Conflict, Burnout, Job Satisfaction, and Turnover Intentions," *Management Communication Quarterly* 28, no. 4(2014): 507-530.

⁵E. E. Kossek and B. A. Lautsch, *CEO of Me: Creating a Life that Works in the Flexible Job Age*. (Philadelphia, PA: Pearson, 2008).

⁶C. Sean Burns and Jenny Bossaller, "Communication Overload: a Phenomenological Inquiry into Academic Reference Librarianship," *Journal of Documentation* 68, no. 5 (2012): 597-617.

⁷Maria C. W. Peeters, Anthony J. Montgomery, Arnold B. Bakker, Wilmar B. Schaufeli, "Balancing Work and Home: How Job and Home Demands Are Related to Burnout," *International Journal of Stress Management*, 12 (2005), 43-61. doi:10.1037/1072-5245.12.1.43

⁸Keri K. Stephens, Cho Jaehee and Dawna I. Ballard, "Simultaneity, Sequentiality, and Speed: Organizational Messages about Multiple-Task

Completion," *Human Communication Research* 38, no. 1(2012): 23-47.

⁹Kathryn L. Fonner and Michael E. Roloff, "Testing the Connectivity Paradox: Linking Teleworkers' Communication Media Use to Social Presence, Stress from Interruptions, and Organizational Identification," *Communication Monographs* 79, no. 2(2012): 205-231. doi:10.1080/03637751.2012.673000

¹⁰C. Sean Burns and Jenny Bossaller, "Communication Overload: a Phenomenological Inquiry into Academic Reference Librarianship," *Journal of Documentation* 68, no. 5 (2012): 597-617.

¹¹Courtney Selby, "The Evolution of the Reference Interview," *Legal Reference Services Quarterly* 26, no. 1(2007): 35-46.

¹²Marie L. Radford and Lynn Silipigni Conaway. "Chattin' 'bout My Generation: Comparing Virtual Reference Use of Millennials to Older Adults," in Marie L. Radford (ed.), *Leading the Reference Renaissance: Today's Ideas for Tomorrow's Cutting-Edge Services* (New York: Neal-Shuman, 2012).

¹³Arthur Hendricks and Sherry Buchanan, "From Exhaustion to Exhilaration: Assessing Librarian Job Satisfaction with Virtual Reference," *Library Hi Tech* 31, no. 1(2013): 42-63. doi:10.1103/07378831311303921.

¹⁴Diane Kresh, "Virtually Yours: Thoughts on Where We Have Been and Where We Are Going with Virtual Reference Services in Libraries," *Reference Librarian* 38, no. 79/80(2003): 19-34

¹⁵Joyce Ward and Patricia Barbier, "Best Practices in Chat Reference Used by Florida's Ask a Librarian Virtual Reference Librarians," *Reference Librarian* 51, no. 1 (2010): 53-68.

¹⁶ Tammy Bobrowsky, Lynne Beck and Malaika Grant, "The Chat Reference Interview: Practicalities and Advice," *Reference Librarian* 43, no. 89/90(2005): 179-191.

¹⁷ Magi, Trina J., and Patricia E. Mardeusz, "Why Some Students Continue to Value Individual, Face-to-Face Research Consultations in a Technology-Rich World." *College & Research Libraries* 74, no. 6(2013): 605-618

¹⁸ R. L. Daft and R. H. Lengel, "Information Richness: a New Approach to Managerial Information Processing and Organizational Design," in B. Staw and L. L. Cummings, eds., *Research in Organizational Behavior*, Vol. 6 (Greenwich, CT: JAI Press, 1984), pp. 191-233.

¹⁹ Grunig, J. E. Grunig, "Symmetrical Systems of Internal Communication," in J. Grunig, ed., *Excellence in Public Relations and Communication Management*, (Hillsdale, NJ: Lawrence Erlbaum, 1992), pp. 531-576.

²⁰ Linjuan Rita Men, "Strategic Internal Communication: Transformational Leadership, Communication Channels, and Employee Satisfaction," *Management Communication Quarterly* 28, no. 2(2014): 264-284.

²¹ Candace White, Antoaneta Vanc and Gena Stafford, "Internal Communication, Information Satisfaction, and Sense of Community: The Effect of Personal Influence," *Journal of Public Relations Research* 22, no. 1(2010): 65-84.

²² Sue F. Phelps and Nicole Campbell, "Commitment and Trust in Librarian-Faculty Relationships: A Systematic Review of the Literature," *Journal of Academic Librarianship* 38, no. 1(2012): 13-19.

²³ Pramod Sharma, Kamal Kumar and Parveen Babbar, "Embedded Librarianship: Librarian Faculty Collaboration," *DESIDOC Journal of Library & Information Technology* 34, no. 6(2014): 455-460.

²⁴ Mehak Talwar, "Embedded Librarianship—New Horizon of Librarianship," *DESIDOC Journal of Library & Information Technology* 34, no. 6(2014): 461-466.

²⁵ John W. Creswell, *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (Los Angeles: Sage, 2013), p.81.

²⁶ John W. Creswell, *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (Los Angeles: Sage, 2013), p.251.

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