**This article has been peer reviewed.
It is the authors' final version prior to publication in:**

Medical Reference Services Quarterly

Volume 39, Issue 2, April 24 2020, Pages 113-124.

Graduate Occupational Therapy Students: Communication and Research Preferences from Three University Libraries

Lisa A. Adriani

Daniel G. Kipnis

Ronda I. Kolbin

Daniel Verbit

ABSTRACT. Library liaisons from three universities distributed an anonymous survey to graduate occupational therapy students to gauge preferred methods of communication when conducting research. This article discusses three findings: whom the students prefer to turn to when seeking research assistance, which methods of communication students prefer, and how long students spend searching before asking for assistance. From 193 responses, the liaisons reasoned that students prefer consulting with their peers before seeking help from librarians or faculty or instructors and they

prefer assistance face-to-face. Additionally, the majority are willing to research from 30 minutes to 1 hour before seeking research help.

KEYWORDS. occupational therapy students; information literacy; learning preferences, occupational therapy students; communication preferences; library instruction, rehabilitation sciences; teaching

AUTHORS

*Lisa A. Adriani, MLS, AHIP, (lisa.adriani@qu.edu) is a Research and Instruction Librarian at Edward & Barbara Netter Library, Quinnipiac University, 275 Mt. Carmel Ave, Hamden, CT 06518

Daniel G. Kipnis, MSI, (kipnisd@rowan.edu) is a Life Sciences Librarian at Campbell Library, Rowan University, 215 Mullica Hill Road, Glassboro, NJ 08034

Ronda I. Kolbin, MLS, (ronda.kolbin@quinnipiac.edu) is a Public Services Librarian at Arnold Bernhard Library, Quinnipiac University, 275 Mt. Carmel Ave, Hamden, CT 06518

Daniel Verbit (daniel.verbit@jefferson.edu) is the Scholarly Communications & Digital Initiatives Librarian at Paul J Gutman Library, Jefferson (Philadelphia University + Thomas Jefferson University) in Philadelphia, PA 19129.

ORCID

Daniel G. Kipnis https://orcid.org/0000-0002-4589-5106

Daniel Verbit https://orcid.org/0000-0002-5072-9938

INTRODUCTION

This paper will capture a current snapshot of the graduate occupational therapy (OT) students' communication preferences. Graduate OT students in this study are defined as OTD post-professional degree students and MS/OTD students. The objective of this study was to examine occupational therapy graduate students' rankings of the role of peers, librarians, and faculty/educators in research assistance and communication preferences, and how long students conduct research before seeking research help. This information will help OT faculty and educators, along with OT library liaisons, understand preferences and student needs to better prepare lesson plans and support services for graduate OT students. It is not intended to measure the effectiveness of instructional or communication methods.

LITERATURE REVIEW

The idea that librarians are an important resource for health science students is not a new one, but specific studies focusing on graduate occupational therapy students are sparse. Gilman in 2011 published a study on information seeking behavior of recent occupational therapy graduates. In surveying 25 recent OT graduates Gilman found "limited search skills, difficulty in accessing literature, and a lack of available evidence to support interventions were identified as the main barriers to occupational therapists implementing evidence-based research behaviors."[1] Powell and Case-Smith in 2010 published a retrospective cohort study of occupational therapy graduates from Ohio State University also assessing their needs as graduates, but not as graduate students. Powell and Case-Smith looked to see if Masters of Occupational Therapy (MOT) students were more prepared compared to BS students in accessing and analyzing research literature. They concluded that MOT students demonstrated "higher-level"

skills in writing, focus on evidence-based practice, and use of bibliographic databases.[2]

According to Plosker in 2002, it is important to know and understand library users and their needs. He proposed that administering surveys will "reveal service issues and opportunities, identify (unmet) needs, have an implicit marketing function, utilize limited resources, and obtain input for strategic planning."[3]

User surveys can help libraries to assess the effectiveness of library services and better align programs. Zhang et al. surveyed 45 college students to find out how they seek library help, their preferences, and expectations of online help along with content format and general help. Half the students preferred "conceptual help" that emphasizes concepts and underlying principles, while the other half surveyed preferred step-by-step help. Respondents' also preferred expert help, even when online help was accessible.[4] In 2012, Pellegrino surveyed undergraduates and their library usage. The survey produced statistically significant findings indicating a strong positive correlation between students who sought help and faculty encouragement of students to ask for assistance.[5] On the other hand, the research revealed a low correlation between students who sought help and librarian encouragement of students to ask for assistance. At the graduate level, Ismail in 2013surveyed graduate social work students on their library preferences. Her findings posit that librarians are approached last for research help (the first choice being either their friends/classmates or instructors), that age does have some impact on library help seeking, with students over 40 having a stronger disinclination to texting compared to students in their 20s, and that adult distance learners still preferred to seek librarian help face-to-face if this option was available.[6]

In more recent studies, Thomas et al. interviewed undergraduate and graduate students on information seeking, and concluded that they pursue research assistance from peers and professors, and only occasionally librarians.[7] In 2016, Beisler et al.

studied the information seeking behavior of undergraduate students and determined that they most often used their peers and family members for help with papers.[8] Hvizdak et al. found that lower undergraduate students in a required first year course rarely sought help with tougher searching needs such as creating search queries, but had asked for basic help for finding books and directional questions in the library.[9]

The goal of this survey is to share the information with OT educators and librarians to help them understand the needs and preferences of graduate OT students when it comes to conducting research.

BACKGROUND

The following three universities all have graduate programs in occupational therapy, their libraries provide knowledge-based resources including access to databases along with subject and liaison librarians that are tasked with supporting the research needs of faculty and students.

Quinnipiac University is a medium-sized private, coeducational, non-profit, secular institution granting undergraduate and graduate degrees in Connecticut. The Quinnipiac University Occupational Therapy Doctorate is an online bridge program designed for registered occupational therapists who have a bachelor's degree and want to earn their doctorate. The program has minor on-campus requirements allowing for minimal disruption to the student's career. Librarians at Quinnipiac have liaison duties to the department of occupational therapy, including staffing a reference desk and answering reference questions via chat for an online program.

Thomas Jefferson University is a private university in Philadelphia, Pennsylvania. It consists of 6 colleges and schools: Sidney Kimmel Medical College, Jefferson College of Biomedical Sciences, Jefferson College of Health Professions,

Jefferson College of Nursing, Jefferson College of Pharmacy, and Jefferson College of Population Health. The Occupational Therapy program is part of the Jefferson College of Health Professions and accepts approximately 78 students per year in a traditional face to face format. Librarians at Thomas Jefferson do not serve as formal liaisons to the department of occupational therapy, they do not staff a reference desk since moving to a consultation model for reference, they do answer chat questions and support an on the ground OT program.

Philadelphia University was founded in 1884 as a small private university with more than 70 undergraduate, graduate and doctoral programs; it has offered BS/MS/OTD programs since 1998. The MSOT program features a unique blended learning model with a keen focus on innovation through collaboration. The MSOT program is grounded in the fields of science and psychology combined with creative problem solving. The MSOT program is designed for working students. Approximately 70-80% of the curriculum is delivered face-to-face through on-campus classroom sessions offered every other weekend. The remaining educational dialogue occurs online through distance learning technologies. Librarians at Philadelphia University have liaison duties to the department of occupational therapy, including staffing a reference desk, and answering reference questions via chat and email.

Research assignments from each university require that the students search databases that are pertinent for occupational therapy including CINAHL, OT Search, PubMed, PEDro, and ERIC. Each program requires a research component in order to fulfill their degree requirements. Quinnipiac OTD students are required to conduct research that culminates in a scholarly or creative capstone project on a topic of current or emerging significance in OT. Individual research projects conclude with doctoral capstone presentations to deans and faculty members. At Thomas Jefferson University

students are required to select a disease or condition and to write a research paper describing diagnosis, prognosis, and treatment options for their selected disease/condition. Student research results in capstone presentations that are systematic reviews or doctoral presentations, depending on whether the student is an OTD post-professional or MS/OTD student. At Philadelphia University each student has a client in the community with whom they worked on a variety of projects. After interviewing the client, students use the Canadian Occupational Performance Measure to identify an area of need. With this need in mind the students does research and shares this research with a collaborator from the industrial design program. Device development is based on client diagnosis/condition, area of need/level of performance in completing a specific activity identified by the client and their level of satisfaction. After this collaboration and often with client feedback students give a graded presentation on their research.

METHODS

Quantitative data about information literacy instruction was analyzed to determine several factors that reveal the relationship between OT graduate students and librarians. In 2016 and 2017, an anonymous Google survey was delivered to OT graduate students at Quinnipiac University, Thomas Jefferson University and Philadelphia University. The survey was revisiting the study conducted by Kipnis and Frisby from fall of 2004, where 87 occupational therapy students were surveyed on research habits, skills, and preferences.[10] Questions were designed to elicit responses that identified students' approaches to research support from the university library. Students were asked about their perceptions, practices, and preferences for channels of communication when seeking assistance, the amount of time spent searching before asking for assistance, and whom they prefer to turn to for research assistance.

Institutional Review Board proposals were submitted and approved. The survey included a modified Likert scale and multiple-choice questions. The surveys were administered and completed during the first semester of the information literacy classes taught by librarians. These sessions were scheduled during the first month of the academic year. Two of the universities had the students respond to the survey in-class, while the third university sent the survey via email. For the purposes of this paper, only the following question results will be discussed. The questions asked of the OT students included:

- When seeking research assistance, where do you turn first?

- Which method of communication do you prefer when seeking assistance?

- How long would you stay on a website or search a database before asking for help?

Results are reported in a quantitative description of the data.

RESULTS AND DISCUSSION

Question 1. *When seeking research assistance, where do OT graduate students turn to first*?

193 students responded to the survey. Sixty-seven students (34.7%) said classmates were the preferred source for seeking out research help. This echoes findings in the literature across many disciplines that indicate classmates or peers are sought out to help with research.[6] In the survey, 50 respondents (25.9) said librarians were the second choice for seeking research assistance. This preference for seeking humans for help with research is prevalent in the literature.[11] In third place, were professors, whom 31 students (16.1%) reported seeking for research help. Studies have shown that students prefer to seek assistance from faculty and peers rather than seeking assistance from

librarians, though graduate students more readily consulted with librarians as compared to undergraduate students.[11] In interviews with students, Miller discovered that students may not consult with librarians because they do not perceive librarians as having the subject knowledge or "insider" status of their professors and peers.[11] Another study of student-run Facebook groups also showed that students are more likely to turn to their peers for assistance before seeking out help from librarians.[12]

The fourth selection was friend (19, or 9.8%) followed by Google (17, or 8.8%), family member (5, or 2.6%), consulting research database/exploring online support (2, or 1%), first explore online-support, then library or Google search 1 and, 1 no response.

Students in the distance learning courses reported librarians are their top choice for seeking research assistance, followed by classmates. This could be because professors of distance learning OT courses highly recommend the librarians to their students. For the onsite students, classmates were the top choice followed by professors, and thirdly the librarians. Results indicate a clear distinction between the on-line OTD students compared with the on the ground MS/OTD students in how they seek research help. (See Table 1)

Distance learning OTD students (n=37) (n=156)			On Ground MS/OTD students	
Librarian	59.5%		Classmates	50.7%
Classmates	18.9%		Professor	18.6%
Professor	8.1%		Librarian	17.9%
Google	5.4%		Google	9.6%

Table 1. How do on the ground MS/OTD students compare to the online OTD students in seeking research assistance first?

It can be advantageous for faculty to understand that classmates depend on each other when conducting research. Study groups or group case presentations can foster teamwork and encourage the working relationships students have with their classmates. Another factor is group assignments outside of class where the students work together to emulate a real-life research project.

In comparison to the study by Kipnis and Frisby[10] conducted in 2004, the top three choices of the 87 OT students who answered were classmates (36%), friends (21%) and librarians (20%). The one constant is that classmates were the first choice in 2004 and also in 2016 and 2017.

Question 2. *Which method of communication do Masters OT students prefer when seeking assistance?*

Human interactions rank first in communication methods for graduate occupational therapy students, with 85 (44%) students preferring in-person communication when seeking assistance. Granfield and Robertson posit that the consulting the reference desk "continues to be the most popular method of getting help in the library," but noted that for graduate students a virtual interaction with reference librarians is favorable, considering many of them work off-campus and conduct their research off-campus.[13]

Email was the second most-preferred method of communication (53, 27.5%) for seeking assistance. The authors believe this is because email provides asynchronous flexibility when seeking answers and, if students do not need immediate answers, email is an ideal mode of communication for seeking help. In comparison, an end user analysis by Colorado State University concluded, "graduate students are the primary patrons" of reference services and "email is the preferred contact method overall" versus this survey's findings regarding face-to-face interactions.[14]

Web chat was the third option, preferred by 31 (16.1%) students. Chat is defined as "to take part in a discussion that involved sending messages over the internet by smartphone or computer."[15] With the continued proliferation of online services in everyday life this seems to be a mode of communication that is popular for personal use, but for academic activities texting does not seem to coincide with academic inquiries that are more complex. Mawhinney and Kochkina found that texting/chat services at McGill University library are seen as filling a "complimentary role" in regard to providing assistance in libraries.[16] Luo and Weak confirmed the majority of text questions were considered "ready reference" representing approximately 69.8% of 3,103 questions examined in their study.[17] "Ready reference" materials are small

collections of reference works located near a staff desk so that questions can be answered quickly.[18] In a 2017 study by Tewell et al., 27% of all students at two campuses used texting, compared with 16% of graduate OT students.[19] Web chat serves as a complementary mode of communication for graduate students, but email or in person communication are preferred modes of communication for more complex exchanges.

According to this survey's results, the telephone ranked second to last as the preferred method of communication among graduate students. This also fits the trends from other studies that concluded telephone usage was not as high as anticipated. McCain in 2007 calculated 21.4% of her reference interactions were conducted by telephone.[20] This study reflects the survey's finding that only 23 (11.9%) of OT graduate students preferred using the telephone for seeking assistance with research. The trend tends to be a move away from telephone and more towards human interactivity or asynchronous modes of communication such as email. And lastly, one student answered that they would watch videos to show step-by-step assistance.

A 2011 usability study of virtual reference involving undergraduates and graduate students at two southeastern US public universities revealed that the most preferred mode of communication for reference service was online chat reference by far (53.3%), followed by face-to-face consultation (26.7%), email reference (16.7%), telephone consultation (3.3%), with Skype video reference and text reference coming in last at 0.0% each.[21]

Mawhinney reported the results of a 2019 qualitative study on user preferences among on-campus and distance students at McGill University. The study which explored factors affecting preferences, similarly showed a strong preference for web chat, with respondents citing its ease of use and convenience, over email, which they

felt was too slow, and texting, which they felt had other drawbacks.[22]

This survey's results can be compared to the study by Kipnis and Frisby[10] conducted in 2004, in which the top three preferred methods of communication were in person (68%), email (17%) and (6%) telephone. Even though smartphones and texting have emerged since 2004, students continue to prefer the in-person interaction for preferred method of communication when seeking assistance.

Question *3. How long would you stay on a website or search a database before asking for help*?

As shown in Figure 1, 67 students (34.7%) said they were willing to spend between 0-30 minutes on their research before seeking assistance, followed by 47 (24.4%) students who were willing to search for thirty minutes to one hour.
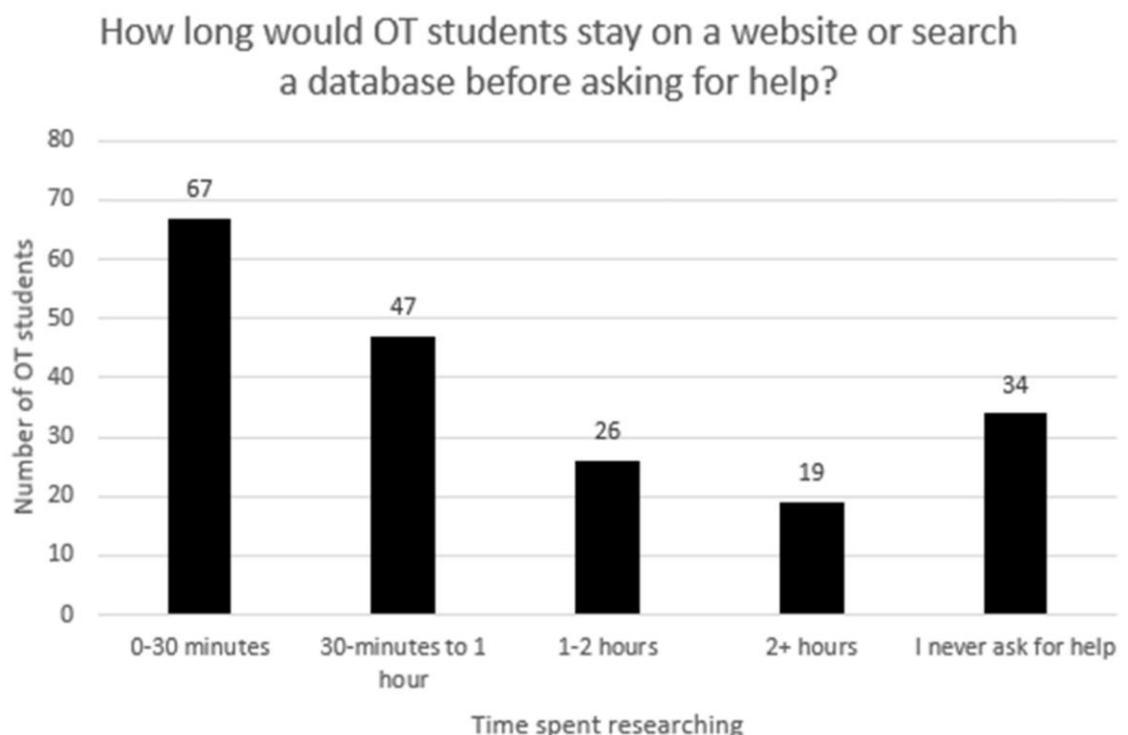

Figure 1. How long would you stay on a website or search a database before asking for help?

A small number of students (19 or 9.8%) admitted to researching for more than 2 hours

before seeking help, and 34 students (17.6%) acknowledged they would never seek research assistance.

What can be extrapolated from these numbers? The majority of graduate OT students (59%) are willing to research up to one hour before seeking assistance." This could indicate that research assignments have become more difficult and that faculty are challenging their graduate students to work longer in order to find what they need. Some graduate OT students (34, or 17.6%) seem confident enough to never seek research assistance. A future study could ask the students why they would never seek assistance with their research.

Only 10%, or 19 of the OT graduate students admitted spending 2 plus hours on their research before seeking assistance. This finding parallels the opinions of science faculty interviewed by Perry, who reported in 27% of science undergraduate students a "lack of perseverance" due to "time constraints" when conducting research. [23] The 18 faculty interviewed reported they wanted undergraduate students to see "searching as iterative and be willing to persist even when they encountered difficulties."[23] Moreover, faculty commented on student failure to recognize research as a "cognitive process."

Figure 2 is a comparison between the Kipnis and Frisby 2004 study[10] and this 2016/2017 survey's results on how long OT graduate students spend time researching before asking for research help. The trends are similar including the percentage of students who would choose not to seek help when researching.
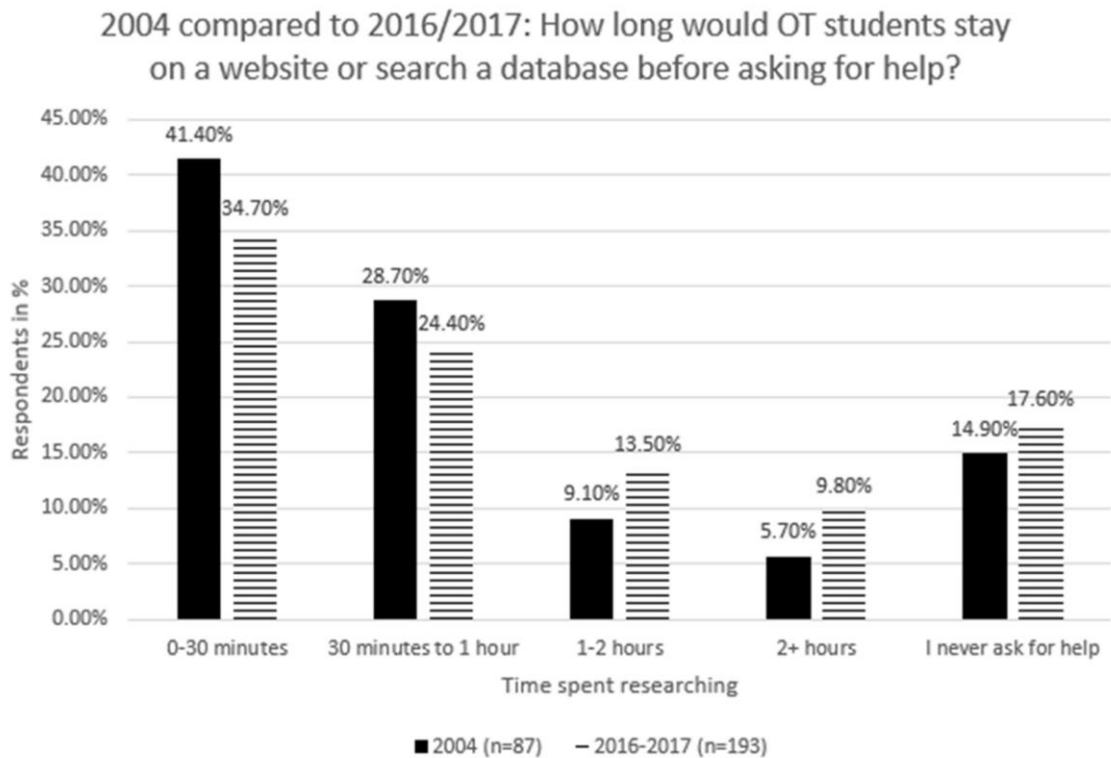
Figure 2. 2004 compared to 2016/2017: How long would OT students stay on a website or search a database before asking for help?

Limitations of the Study

This study reports on feedback from 193 students in three different OT programs on the east coast of the United States who responded to the survey. One limitation could be how and when the surveys were administered. The online surveys should have been administered at the end of the semester along with the course evaluation, rather than immediately after the research class with the librarian present in the room. The presence of a librarian while the students completed the survey could have influenced their answers. Another limitation of the study was that it was strictly a quantitative study. In the future, a mixed methods study could help clarify some responses, such as why some respondents would never seek out research assistance of any kind.

CONCLUSION

The study introduces preliminary data on how graduate OT students go about their research, providing a start in understanding how the students seek help with their research needs, how they prefer to communicate with librarians, and how long they spend on research. Understanding these tendencies can educate professors, librarians, and preceptors in how they design assignments and provide information literacy for OT students.

The study revealed that a segment of OT graduate students were reluctant to seek help with research. Interviews with the OT graduate students could reveal why they do not seek assistance from library liaisons or faculty/educators. Future studies could include qualitative ethnographic research methods to understand more about OT graduate users, and how they conduct research. How OT graduate students are being taught and where they look for research has implications for future occupational therapy patient care.

study. This manuscript has not been previously published. This project was presented, in part, at the Medical Library Association conference on May 22, 2018 in a poster titled: "Phone a friend (or a librarian): Learning and communication preferences among occupational therapy students at three universities."

REFERENCES

1. Gilman, Isaac P. "Evidence-Based Information-Seeking Behaviors of Occupational Therapists: A Survey of Recent Graduates." *Journal of the Medical Library Association: JMLA* 99, no. 4 (October 2011): 307-310. doi: 10.3163/1536-5050.99.4.009

2. Powell, Carol A. and Jane Case-Smith. 2010. "Information Literacy Skills of Occupational Therapy Graduates: Promoting Evidence-Based Practice in the MOT Curriculum." *Medical Reference Services Quarterly* 29, no. 4 (November 2010): 363-380. doi: 10.1080/02763869.2010.518923

3. Plosker, George R. 2002. "Conducting User Surveys: An Ongoing Information Imperative." *Online* 26, no. 5 (September/October 2002): 64-68. http://www.infotoday.com/online/sep02/Plosker.htm.

4. Zhang, Tao, Ilana Stonebraker, and Marlen Promann. "Understanding Library Users' Preferences and Expectations of Online Help." *Reference Services Review* 44, no. 3 (2016): 362-374. doi:10.1108/RSR-12-2015-0054

5. Pellegrino, Catherine. "Does telling them to ask for help work? Investigating library help-seeking behaviors in college undergraduates." *Reference & User Services Quarterly* 51, no. 3 (2012): 272-277. doi:10.5860/rusq.51n3.272

6. Ismail, Lizah. "Closing the Gap: Determining the Library Help-Seeking Preferences of Adult Learners in a Graduate Social Work Program." *Reference*

& User Services Quarterly 53, no. 2 (2013): 164-173.

doi:10.5860/rusq.53n2.164

7. Thomas, Susan, Eamon Tewell, and Gloria Willson. "Where Students Start and

What They Do When They Get Stuck: A Qualitative Inquiry into Academic

Information-Seeking and Help-Seeking Practices." *The Journal of Academic*

Librarianship 43, no. 3 (2017): 224–31. doi:10.1016/j.acalib.2017.02.016

8. Beisler, Molly, and Ann Medaille. "How Do Students Get Help with Research

Assignments? Using Drawings to Understand Students' Help Seeking

Behavior." *The Journal of Academic Librarianship* 42, no. 4 (2016): 390–400.

doi:10.1016/j.acalib.2016.04.010

9. Hvizdak, Erin, Jordan Prokosch, and Corey M. Johnson. "An Analysis of Help

Seeking Behaviors in a Required First Year Course." *Public Services Quarterly*

15, no. 4 (2019): 300–318. doi:10.1080/15228959.2019.1652722

10. Kipnis, Daniel and Anthony Frisby. "Information Literacy and Library Attitudes

of Occupational Therapy Students." *Medical Reference Services Quarterly* 25,

no.4 (2006):11-20. doi:10.1300/J115v25n04_02

11. Miller, Kimberly. "Students use Library Resources but are Unlikely to Consult

with Librarians during the Early Research Process." *Evidence Based Library*

and Information Practice 12, no. 4 (2017): 262-264. doi:10.18438/B8F664

12. Van Beynen, Kaya and Camielle Swenson. 2016. "Exploring Peer-to-Peer

Library Content and Engagement on a Student-Run Facebook Group." *College*

& Research Libraries 77, no. 1 (2016): 34-50. doi:10.5860/crl.77.1.34

13. Granfield, Diane and Mark Robertson. "Preference for Reference: New Options

and Choices for Academic Library Users." *Reference & User Services Quarterly*

48, no. 1 (2008): 44-53. doi:10.5860/rusq.48n1.44

14. Lederer, Naomi and Louise Mort Feldmann. "Interactions: A Study of Office Reference Statistics." *Evidence Based Library and Information Practice* 7, no. 2 (2012): 5-19. doi:10.18438/B88K6C

15. Chat. Cambridge Business English Dictionary. (2019) https://dictionary.cambridge.org/us/dictionary/english/chat

16. Mawhinney, Tara and Svetlana Kochkina. "Is the Medium the Message? Examining Transactions Conducted Via Text in Comparison with Traditional Virtual Reference Methods." *Journal of Library & Information Services in Distance Learning* 13, no. 1-2 (2019): 56-73. doi:10.1080/1533290X.2018.1499236

17. Luo, Lili and Emily Weak. 2011. "Texting 4 Answers: What Questions do People Ask?" *Reference & User Services Quarterly* 51, no. 2 (2011): 133-142. doi:10.5860/rusq.51n2.133

18. Keenan, Stella and Colin Johnston. Concise Dictionary of Library and Information. Science (2000) Walter de Gruyter: Mörlenbach, Germany. 208.

19. Tewell, Eamon, Kimberly Mullins, Natalia Tomlin, and Valeda Dent. "Learning about Student Research Practices through an Ethnographic Investigation: Insights into Contact with Librarians and use of Library Space." *Evidence Based Library and Information Practice* 12, no. 4 (2017): 78-101. doi:10.18438/B8MW9Q

20. McCain, Cheryl. "Telephone Calls Received at an Academic Library's Reference Desk: A New Analysis." *The Reference Librarian* 47, no. 2 (2007): 5-16. doi:10.1300/J120v47n98_02

21. Chow, Anthony. S. and Rebecca. A. Croxton. "A Usability Evaluation of Academic Virtual Reference Services." *College & Research Libraries* 75, no. 3 (2014): 309-361. doi:10.5860/crl13-408

22. Mawhinney, Tara. "User Preferences Related to Virtual Reference Services in an Academic Library." *Journal of Academic Librarianship* 46, no. 1 (2020): 102094. doi:10.1016/j.acalib.2019.102094

23. Perry, Heather Brodie. "Information Literacy in the Sciences: Faculty Perception of Undergraduate Student Skill." *College & Research Libraries* 78, no. 7 (2017): 964-977. doi:/10.5860/crl.78.7.964