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Research Article

What Do Reference Librarians Do Now?

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Abstract

Objective – The primary purpose of this study was to better understand the nature of "reference" and reference transactions.

Methods – This study looked at four years of reference transaction (RT) data recorded at a small, state-owned university.

Results – The data clearly indicates that the overall number of RT continues to decline. It also reveals that, despite the use of student mentors, librarians are still involved with a majority of RT, regardless of whether or not they require the expertise of a librarian to resolve.

Conclusion – Continuing to be involved with RT which do not require the knowledge or training of a librarian (e.g., directional) can have a diminutive effect on the perceived role, work, and value of librarians. As such, it is suggested that these sorts of questions be addressed by student mentors or staff members. In turn, this will allow librarians to focus on those questions and

activities which do require their unique knowledge and skills. Along similar lines, it is also suggested that librarians explore and identify new, non-traditional ways of applying their expertise to student success initiatives and the overall academic life of the institution. With the merger of three libraries, data from this study has been and continues to be used to make informed decisions about the provision of reference services in a new, integrated library environment.

Introduction

The perceived centrality of the library to higher education has a long history in the United States. In Harvard College's 1873-74 *Annual Report*, President Charles Eliot was one of the first to observe "The Library is the heart of the University" (p. 39). For nearly 150 years, this characterization by many of the library as the "academic hub" or "intellectual center" of the university has remained firmly entrenched in the hearts and minds of faculty and students alike.

By extension, it is not surprising that the perceived role and value of librarians to higher education have remained central. The many and varied ways librarians contribute to the information-seeking process are undeniable. Thus, for many, the provision of "reference services" has continued to be the axle around which the work of librarianship revolves and is central to virtually every model of quality library service.

Recently, however, the value of librarians is coming under increased scrutiny. For example, declining student enrollments and other factors have resulted in budgetary constraints. The latter is compelling librarians and campus administrators to identify and develop greater efficiencies, especially with regard to personnel costs (Cottrell & Bell, 2015). Bandyopadhyay and Boyd-Byrnes (2016) make a similar observation stating "budget shortfalls and decreased demands for reference services have forced academic librarians and library administrators to rethink and redesign the reference service models to provide library users with a meaningful and efficient service to cater to their information needs" (p. 609).

As budgetary and other expectations for greater accountability grow, librarians are not alone in being asked to supply data which demonstrates the impact their work has on things such as graduation rates, retention, and various other measures of student and institutional success (Goss, 2022). To that end, quantitative measures alone are no longer sufficient. That is, it is no longer enough to simply equate X number of reference transactions (RT) with value.

This study examines transaction data recorded over a four-year period in an attempt to better understand librarians' roles in the provision of reference services.

Literature Review

For more than a century, much has been written about the nature of reference service. Historically, as suggested above, helping to ensure the information needs of an individual are met has typically been seen as being a key (if not the primary) role of academic librarians. A cross-section of examples include:

- 1876: Samuel Green, often referred to as the "father of reference," observed among other things that "A librarian should be as unwilling to allow an inquirer to leave the library with

his question unanswered as a shop-keeper is to have a customer go out of his store without making a purchase" (p. 79).

- 1994: Summerhill defined "reference services" as simply "a facilitation of the connection between researchers and the information they desire or need" (p. 74).
- 2008: Reference and User Services Association (RUSA), a division of the American Library Association (ALA), articulated "reference work" and "reference transactions" as being "information consultations in which library staff recommend, interpret, evaluate, and/or use information resources to help others to meet particular information needs" (RUSA).
- 2016: Sosulski and Tyckoson note that, "Whether we call it reference or research or just plain help, librarians provide personal service to make sure that each person finds the information that best meets his or her needs" (p. 88).

The Evolution of Reference Librarianship

Whether via a virtual or a physical presence, the underlying notion of reference work has been that an individual approaches a librarian for assistance because the librarian possesses some expertise or knowledge that the individual does not. That is, it is believed a librarian has the specialized training needed to identify, locate, access, and retrieve information. Historically, even if individuals were able to find information on their own, a librarian has typically continued to be perceived as being able to do so more effectively and more efficiently. As a direct result, the "reference desk" (i.e., where librarians have typically provided reference service) has long served as the focal point of the academic library. As Stevens (2013) observes, the reference desk remains "A dominant symbol of the profession but also as an actual place where librarians "do" reference" (p. 205).

The library has long-served as centralized location for storing physical information (e.g., print, microfilm). Until fairly recently, individuals would typically need to go to a library to get the information they needed because that was the only place the information could be accessed. Librarians were trained and responsible for acquiring, organizing, and providing access to the library's collection. Because most individuals didn't have access to or were unfamiliar with how to navigate the world of information, librarians served as essentially "mediators" and, as such, were a necessary and inextricable part of addressing information needs.

With the advent of technology, things began to change. In the last quarter of the twentieth century, librarians still served as mediators. However, this role was increasingly linked with helping individuals to access and navigate various technologies. For example, to access the desired information, individuals may have needed a librarian from this period to load a CD-ROM or access an electronic information service (e.g., *Dialog*). As resources became more user-friendly, however, librarians often found themselves less involved with the actual search and more involved with showing individuals how to navigate the interfaces of resources and software applications on their own.

In response, today, the look, feel, and function of reference desks continues to change. For example, many libraries now provide some form of virtual "desk" (e.g., chat, social media, email) to meet the demands of a growing number of remote learners. Many now staff the latter or the physical reference desk with student workers, freeing-up librarians to perform "higher level" tasks (Clark et al., 2020; Keyes & Dworak, 2017).

Even so, the physical reference desk still plays a central role in many libraries. The continued significance attached to the physical reference desk is perhaps best illustrated by a 2008 study by Banks and Pracht which found that only 2 libraries out of 101 respondents did not have a physical reference desk. While speaking of the ongoing efficacy of the physical reference desk, Freides' (1983) observation can be applied to virtual desks as well:

> The reference desk works best for directional questions and requests for specific factual information. It is not well designed for dealing with questions requiring interpretation or exploration, including what is probably the most common, and most important, type of reference inquiry in academic libraries, the open-ended, 'information about' request for assistance with term papers and other classroom assignments. (p. 467)

Challenges to the Librarian-as-Mediator Model

As noted above, providing research or "information assistance" has been a longstanding role of academic librarians. Whether virtual or in-person, the predominant model of and justification for reference service typically continues to reflect the assumption of the need for a librarian-as-mediator in the information-seeking process.

But questions about whether or not this is still a valid assumption have been around for years (Ford, 1986). Numerous researchers note a decline in the number of questions actually requiring the expertise of a librarian (Carlson, 2007; Ewing & Hauptman, 1995; Maloney & Kemp, 2015; Stevens, 2013). In talking about the change in the type of questions to which librarians respond, Bell (2007) states that "doling out software help and fixing paper jams, two frequent reference desk tasks these days squanders the talent and expertise of skilled librarians" (p. 1).

However, as Miles (2013) observes, "the biggest problem with traditional reference service has to do not with the model, but with changes in the world around the reference librarian" (p. 321). That is, the value of one-to-one interactions with a librarian is not in dispute. But, because of the breadth and depth of changes to the information landscape, the nature of reference services, the emphasis we place on such, and the roles and responsibilities of reference librarians must necessarily change as well.

To better understand both the causes and nature of this shift, a number of changes resulting from today's information rich, technology-laden world need to be acknowledged including the following.

Researcher Independence

At least part of the decline in and changing nature of RT can be attributed to researcher independence. As Lewis (1995) observes, "most of the tools we currently use in the library were invented by librarians. The catalog, indexes, and abstracts, even in computerized versions, were developed by librarians. Our new tools though come from outside the library world" (p. 12). Today's search interfaces are increasingly user-friendly and internet search algorithms are increasingly sophisticated. As a result, a growing number of individuals no longer need a librarian to explain things such as a "controlled vocabulary" or "proximity operators" to find the information they seek.

Declining Number of RT

Over the past decade or so, some remain optimistic that virtual transactions will slow the decline or even result in increases in reference transactions. However, the accuracy, extent, and duration of these claims remain under study. For now, reports of consistent, continued, and often large decreases in reference transactions overall continue to emerge. Among others (Banks & Pracht, 2008; Carlson, 2007; Stevens, 2013; Weber & Bowron, 2019), a study conducted by the American Library Association (2008) indicated a 50% decline in reference transactions between 1994 and 2008.

Nature of Questions

As with the declining number of transactions, there are a growing number of studies which find that the majority of questions typically being asked can be answered by staff members or even student workers. This is not a new observation. For example, more than 40 years ago, well before the "Information Age", Saint Clair et al. (1977) reported that well-trained non-professionals could handle "at least 62.l percent of all questions posed at the reference desk" (p. 151). More recently, Ryan's (2008) study of nearly 7,000 transactions suggested that "89% could likely be answered by non-librarians" (p. 389). A study by Lenkart and Yu (2017) of more than 66,000 RT revealed the majority were directional (30.9%), with just under 9% characterized as about research assistance and ready-reference. In talking about claims that reference transactions are more complex, Stevens (2013) says they are unsubstantiated and points to several studies which indicate that "only a small percentage [of research questions] are complex enough to require the help of a subject specialist" (p. 206).

Response Quality

Even before the onset of technology, the quality of service provided by reference librarians had been questioned. Ross (1998), for example, concluded that "the success rate for information service hovers in the 50 to 60 percent range" (p. 151). Smart technologies (e.g., *Alexa*, *Siri*) and a growing number of online sites and services are often able to provide quicker responses of the same or even better quality than a librarian. Shachaf (2009), for example, found that the quality of responses generated by *Wikipedia Reference Desk* were generally comparable to those of library reference services. The risk of diminished response quality is potentially even greater for libraries which use students or untrained professionals to staff the reference desk.

Reference Service at the Research Site

In January, 2016, librarians at Edinboro University of PA (EU) discontinued staffing the physical reference desk. Instead, the physical desk was staffed with "student mentors." There were three main reasons this change was affected:

1. *Decreased Availability of Librarians*
   Librarians at EU have faculty status. Among other things, this means they are not required to work when classes are not in session (e.g., Spring Break). Since 2000, the number of librarians declined from 11 to 8 (2016) to 6 (2019). Because of the latter and based on identified times of need, librarians are not scheduled to work evenings or weekends. Staffing the reference desk with student mentors was seen as a way to help to ensure broader, more continuous assistance throughout the year.

2. *Approachability*
   It was believed students might feel more comfortable approaching someone who was more "like them."
3. *Increased Professional Opportunities for Librarians*
   The change was seen as a way of freeing-up librarians, using the time they formerly would have spent staffing the physical desk to perform higher-level tasks requiring their unique skills and expertise.

During the 2016 to 2019 study period, student mentors staffed the physical desk a total of 84 hours per week during fall and spring semesters. Some of those hours were scheduled with an on-call librarian (i.e., 27 hours per week) but the majority were scheduled when no librarian was available for the reasons outlined above. Student mentors login to chat at the start of their shift under a generic, joint "Reference Desk" account. RT can be recorded automatically (chat) or manually as outlined below. Student mentors are expected to forward all "research" and other questions requiring a librarian's expertise to the on-call librarian. When no librarian is available, they submit questions to a common queue. When on-call, librarians are responsible for monitoring the queue and otherwise making themselves available for those needing assistance in-person or virtually.

Research Questions

Historically, transaction log data has been used primarily by EU for determining periods of high usage in order to make informed decisions about providing reference services. To become more cost-effective and because of a significant decline in the number of librarians and RT, maximizing the use of librarians' time and effort is crucial. With the merger of three libraries, this has become even more important and concerns over optimizing the use of librarians' time and expertise remain central.

To that end, this study examines RT recorded by librarians compared to those recorded by student mentors along four dimensions:

1. Patron Type
2. Contact Type
3. Time Spent
   a. Overall
   b. "Information Search"
4. Query Type
   a. Overall
   b. "Information Search"

Data from this study were used and continues to be used to inform decisions and to make recommendations about the configuration of *RefAnalytics* (software used to log RT as described below) and the provision of reference services locally and in the new, integrated library environment.

Data Collection and Analysis

Setting

EU is one of 14 state-owned universities which comprise the Pennsylvania State System of Higher Education (PASSHE). In fall of 2022, EU merged with two other PASSHE institutions to form Pennsylvania Western University (PennWest University).

Data Collection

As part of the evolution of reference services, EU librarians discontinued the use of a paper transaction log. Starting in 2016, they began recording RT electronically via Springshare's *RefAnalytics* aspect of the *LibAnswers* platform.

Both librarians and student mentors are responsible for logging transactions. *RefAnalytics* allows individuals to log transactions manually. Transactions occurring via the integrated chat feature can be logged automatically. When no one is available, individuals needing assistance are able to submit their questions via email, text message, or a link on the library's homepage. All submissions are automatically stored in a common queue and are responded to by the next available librarian. While monitoring the queue is primarily the responsibility of the on-call librarian, the queue can be checked at any time by any librarian on-campus or off-site. Student mentors only to respond to items in the queue which are not research-oriented (e.g., directional, hours).

Data Challenges

In attempting to better understand the role of librarians in the provision of reference services, the researcher was limited to the available data and the way in which it was recorded. However, prior to data analysis, a cursory examination revealed a number of concerns associated with the data. The primary impact(s) of each concern on recorded RT is reflected parenthetically below as Quantity (number of RT), Type (type of RT), and Time (time spent resolving RT).

- Inconsistent Coding (Quantity, Type)
  The same query was often coded multiple ways. For example, despite having a designated "Query Type" (QT) of "Printing Issue," examples of print-related RT were found in *seven* of the nine possible QT.
- Incomplete Data (Type, Time)
  Many data fields were left blank making it difficult or even impossible to determine the actual subject of the RT.
- Incorrect QT (Type)
  Some QT were applied incorrectly. For example, "Looking for a DSM5 book in reference" was recorded as "Archives" even though the query is clearly not related to Archives.
- Multiplicity (Quantity, Type)
  Sometimes two or more unrelated questions posed by a single individual were recorded as a single transaction (e.g., "I'm having trouble printing and need a book on feminist art."). This resulted in slightly reducing the overall number of actual RT.
- Duplicate Entries (Quantity)

Duplicate entries typically occurred for one of two reasons. First, sometimes referrals from student mentors were logged by both the student and the librarian. Other times, when a chat got disconnected, a new, distinct RT was sometimes created instead of the transaction being entered as a continuation of the initial RT. Duplicate entries resulted in a slight inflation of the overall number of RT.

Data Homogenization

While chat transactions are recorded automatically, all other questions and responses must be entered manually. A time date stamp and the responder (i.e., student mentor or individual librarian) are supplied automatically based on login. *RefAnalytics* provides drop-down menu options for entering additional transaction data along three criteria described in Table 1. The latter also provides the emergent codes used to homogenize the data for this study (described below).

Table 1
RefAnalytics' Drop-Down Menu Options' Homogenization

Criterion	Original Options	Coded Options
Patron Type	Community, Faculty, Staff, Student, N/A	Community, Faculty, Staff, Student, Unknown
Query Type	Archives, Catalog Search, Citations, Computer Issue, Directional, Other, Printing Issue, Reference, Remote Login, Scanning	Academic, Access, Building, Circulation, Citation, Computer, Directional, Information Search, Instruction, Other, Printing
Time Spent	1-5 minutes, 5-10, 10-15, 15-20, >20	1-5 minutes, 5-10, 10-15, 15-30, 30-60

Overall

In an attempt to generate a more consistent dataset which more closely reflected the actual nature and number of recorded RT, the researcher reviewed every RT and effected the following before analyzing the data.

1. For RT fields lacking data, sometimes it was impossible to know what transpired (e.g., Time Spent) and the field was left blank. However, for a significant number of entries, fields could be assigned by examining the actual query or other data. For example, the query "Can you tell me where the Writing Center is located?" with no recorded QT was assigned a QT of "Directional."
2. Inconsistently applied and incorrectly assigned QT were corrected whenever possible.
3. Each aspect of multi-part QT was converted into an individual RT and coded accordingly.
4. All RT for this study were then recoded and regrouped using the options noted in Table 1.

Information Search (IS)

In order to better understand the nature of those RT recorded with a QT of "Information Search" or IS (i.e., those RT presumed to require a librarian), a similar review of both the actual questions recorded and the corresponding responses was conducted. The latter resulted in identifying seven common themes: Research, Circulation, Access, Assignment Help (non-research), Formatting, Other, Blank/Unknown.

As with many other RT, the lack of specificity in the way some RT were recorded sometimes made it difficult to determine which IS transactions were "research" and which were not. For example, does a question recorded as "Photography books" reflect someone looking for that section of the collection to browse or someone doing actual research on the topic who wanted multiple books? For the purposes of this study, when the nature of an IS transaction involving searching was not clear, the quantity of sources requested was used to assign a theme. Questions and answers which clearly indicated more than one source was desired were coded as "Research" and those for which a single source was sought were coded as "Circulation."

Dataset

The result of the above process was a dataset of 5,194 RT recorded from January 1, 2016 through December 31, 2019. Due to COVID and a building renovation project, data from March, 2020 until August, 2021 was purposely excluded to help ensure a more consistent dataset and analysis.

Results

As a record of the work being performed by reference librarians, the library's transaction log was examined along various dimensions, especially the nature of transactions recorded by student mentors versus those recorded by librarians.

Total Recorded Transactions

Table 2 provides a historical summary of transactions recorded from 1999-2019.

Observations

- Except for slight increases from 2000 to 2001 and 2016 to 2017 and another from 2007 to 2009, the overall downward trend in recorded transactions over the past 20 years is consistent.
    - Since 1999, RT have declined more than 90%.
    - During the 4-year study period, RT declined by approximately 26%.

Table 2
Recorded Reference Transactions (RT): 1999-2019

Year	Recorded Reference Transactions (RT)
1999	11,593
2000	10,072
2001	10,223
2002	8,407
2003	7,485
2004	3,768
2005	1,705
2006	1,635
2007	1,249
2008	3,800
2009	8,382
2010	6,909
2011	5,533
2012	3,597
2013	3,505
2014	3,230
2015	1,673
2016	1,441
2017	1,447
2018	1,244
2019	1,062

Patron Type

Table 3 summarizes the five patron types which could be assigned to a transaction.

Table 3
Patron Type by Responder [a]

Patron Type (PT)	Student Mentors	Student % of PT	Librarians	Librarian % of PT	*PT % of Overall*
Community	22	12.9	149	87.1	*3.4*
Faculty	28	10.2	247	89.8	*5.5*
Staff	5	15.6	27	84.4	*< 1*
Student	1,507	33.7	2,966	66.3	*88.9*
Unknown	31	37.3	52	62.7	*1.6*
Total	*1,593*	*31.6*	*3,441*	*68.4*	*5,034/100*

[a] For 160 recorded transactions (40 by student mentors, 120 by librarians), no Patron Type was recorded. These transactions were not included as part of the above calculations or observations below.

Observations

- The overwhelming majority of RT (88.9%) were interactions with students.
    - The second highest category (i.e., Faculty) only represented just over 5% of all RT.
- Librarians were involved with almost 90% of Faculty RT and nearly two-thirds of Student RT.

Contact Type

Contact Type (CT) refers to the form of interaction which took place and is summarized in Table 4.

Table 4
Contact Type by Responder [a]

Contact Type (CT)	Student Mentors	Student % of CT	Librarians	Librarian % of CT	CT % of Overall
In-Person	1,488	36.6	2,577	63.4	78.3
All Others [b]	143	12.7	986	87.3	21.7
Total	1,631	31.4	3,563	68.6	5,194/100

[a] Student mentor and librarian percentages differ from other tables because the latter are missing records.
[b] Includes chat, email, phone, and no determinable contact type.

Observations

- Over 63% of in-person transactions and more than 87% of all other transactions were recorded by a librarian.
- Despite a growing number of remote learners and online courses and programs, more than three-quarters of all RT took place in-person.

Time Spent

Tables 5 and 6 present data about different aspects of Time Spent on transactions.

Time Spent: Overall

The overall distribution of Time Spent recorded by Responder is summarized in Table 5.

Table 5
Overall Time Spent by Responder [a]

Time Spent (TS)	Student Mentors	Student % of TS	Librarians	Librarian % of TS	*TS % of Overall*
1-5 Minutes	1,317	46.9	1,492	53.1	*55.9*
5-10 Minutes	219	17.1	1,059	82.9	*25.4*
10-15 Minutes	36	9.2	356	90.8	*7.8*
15-30 Minutes	7	4.2	158	95.8	*3.2*
30-60 Minutes	11	2.9	374	97.1	*7.7*
Total	*1,590*	*31.6*	*3,439*	*68.4*	*5,029/100*

[a] For 165 recorded transactions (41 by student mentors, 124 by librarians), no Time Spent was recorded. These transactions were not included as part of the above calculations or observations below.

Observations

- 55.9% of all transactions were resolved in < 5 minutes.
  - 82.8% of RT recorded by student mentors were resolved in < 5 minutes.
  - 43.4% of all RT recorded by librarians were resolved in < 5 minutes.
- 81.3% of all transactions were resolved in < 10 minutes.
  - 96.6% of RT recorded by student mentors were resolved in < 10 minutes.
  - 74.2% of all RT recorded by librarians were resolved in < 10 minutes.
- 89.1% of all transactions were resolved in < 15 minutes.
  - 98.9% of RT recorded by student mentors were resolved in < 15 minutes.
  - 84.5% of all RT recorded by librarians were resolved in < 15 minutes.

Time Spent: Information Search

Table 6 summarizes Time Spent for transactions recorded as "Information Search."

Table 6
Time Spent by Responder on Information Search

Time Spent (TS)	Student Mentors	Student % of TS	Librarians	Librarian % of TS	*TS % Overall*
1-5 Minutes	45	60.8	321	20.7	*22.6*
5-10 Minutes	18	24.3	541	35.0	*34.5*
10-15 Minutes	7	9.5	243	15.7	*15.4*
15-30 Minutes	2	2.7	128	8.3	*8.0*
30-60 Minutes	2	< 1	309	20.0	*19.2*
None Entered [a]	0	0	5	< 1	*< 1*
Total	*74*	*4.6*	*1,547*	*95.4*	*1,621/100*

[a] Because of the small number involved, the five transactions for which no data was entered for Time Spent were excluded from subsequent calculations.

Observations

- 22.6% of all IS transactions were resolved in < 5 minutes.
  - 60.1% of IS RT recorded by student mentors were resolved in < 5 minutes.
  - 20.7% of all IS RT recorded by librarians were resolved in < 5 minutes.
- 57.1% of all IS transactions were resolved in < 10 minutes.
  - 85.1% of IS RT recorded by student mentors were resolved in < 10 minutes.
  - 55.7% of all IS RT recorded by librarians were resolved in < 5 minutes.
- 72.5% of all IS transactions were resolved in < 15 minutes.
  - 94.6% of IS RT recorded by student mentors were resolved in < 15 minutes.
  - 71.4% of all IS RT recorded by librarians were resolved in < 15 minutes.

Query Type

Query Type (QT) reflects the nature of a given transaction. Table 7 summarizes the distribution of the 11 possible QT which could be assigned to transactions.

Table 7
Query Type by Responder [a]

Query Type (QT)	Student Mentors	Student % of QT	Librarians	Librarian % of QT	QT % of Overall
Academic	219	79.1	58	20.9	*5.5*
Access	3	3.9	74	96.1	*1.5*
Building	206	50.9	199	49.1	*8.0*
Circulation	37	94.9	2	5.1	*< 1*
Citation	14	16.5	71	83.5	*1.7*
Computer	162	26.5	449	73.5	*12.1*
Directional	291	56.4	225	43.6	*10.3*
Information Search	74	4.6	1,547	95.4	*32.2*
Instruction	62	51.2	59	48.8	*2.4*
Printing	519	40.7	755	59.3	*25.3*
Other	1	16.7	5	83.3	*< 1*
Total	*1,588*	*31.6*	*3,444*	*68.4*	*5,032/100*

[a] For 162 recorded transactions (43 by student mentors, 119 by librarians), no Query Type was recorded. These transactions were not included as part of the above calculations or observations below.

Observations

- Two QT, "Information Search" and "Printing", accounted for 57.5% of all RT.
- Librarians responded to more than 68% of all questions, regardless of QT.

Information Search (IS)

- Just under a third of all RT (32.2%) were recorded as IS.
- Virtually all IS (95.4%) were responded to by a librarian.
  - An average of 405.25 IS RT were recorded for each year of this study, representing an average of 7.8 per week or just over one per day.

Characteristics of Information Search (IS)

Overall

Table 8 summarizes the distribution of the seven characteristics assigned to IS RT.

Table 8
Characteristics of IS RT

Identified Theme	**#**	**%**
Research	856	52.8
Circulation	398	24.6
Access	141	8.7
Assignment Help (non-research)	82	5.1
Formatting	66	4.1
Other	44	2.7
Blank or Unknown	34	2.1
TOTALS	1,621	100.0

Observations

- 52.8% of all IS RT were associated with research.
- 24.6% of all IS RT were related to Circulation (including single source and ready-reference sorts of questions).

IS Theme by Responder

IS themes were also examined in terms of responder as shown in Table 9.

Table 9
IS Theme by Responder

IS THEME	Student Mentors	Student % of Theme	Librarians	Librarian % of Theme	*Theme % Overall*
Research	25	2.9	831	97.1	*52.8*
Circulation	26	6.5	372	93.5	*24.6*
Access	8	5.7	133	94.3	*8.7*
Assignment Help (non-research)	0	0.0	82	100.0	*5.1*
Formatting	2	3.0	64	97.0	*4.1*
Other	4	9.1	40	90.9	*2.7*
Blank or Unknown	9	26.5	25	73.5	*2.1*
Total	*74*	*4.6*	*1,547*	*95.4*	*1,621/100*

Observations

- Librarians responded to more than 95% of all RT recorded as "Information Search."
- Librarians responded to more than 97% of all RT characterized as "Research."
- Just over 90% of all "Other" IS RT were recorded by a librarian.
- Librarians recorded nearly three-quarters of "Blank or Unknown" transactions.

Discussion

Total Recorded RT

Increases

The reason for the slight increases in overall RT recorded from 2000 to 2001 and 2016 to 2017 is unclear. However, in 2008, a new University President was inaugurated. At least in part, a new admissions initiative he implemented may explain both the increases and larger numbers from 2007 through 2011 as well as the gradual decline 2009 through 2014. It is suggested that the new policy resulted in a larger student population which, in turn, translated into a larger number of RT. Conversely, when a new President arrived in 2010, the policy was revised. As a result, the decline from 2009 onward may simply reflect a smaller, more stable student population resulting from the new policy and a combination of both the graduation of and the attrition of students admitted under the previous one.

Decreases

No single factor can explain the clear and dramatic decline in recorded transactions over the past 20 years. The reasons for such are likely many and varied. Certainly, contributing to the decline is that the student population decreased from 7,079 or 6,251 Full-Time Equivalent (FTE) students in 1999 to 4,646 (3,858 FTE) in 2019, which was a decrease of roughly one-third. Another is the widespread growth of web-based forms of information. The proliferation of "Smart Devices" enabling individuals to search for information from virtually anywhere at any time, as well as increasingly user-friendly interfaces and more sophisticated search algorithms have certainly played a role as well. The role (if any) of the decline in the number of librarians and the use of student mentors is unclear. Regardless of the reasons, a significant decline in transactions is undeniable.

Patron Type and Contact Type by Responder

Patron Type

It is not surprising that the largest group of individuals seeking assistance was students. What is surprising is that, despite not being present at the physical desk, librarians were still involved with two-thirds of all student transactions. Even though it was surmised that students would be more likely to approach a peer than a librarian, the data suggest this might not be the case.

Contact Type

With a growing number of off-site learners, online courses and programs, and remote access to library resources, it was surprising to learn that over three-quarters of all RT still occurred in-person. It was even more surprising that just over 63% of all in-person transactions were recorded by a librarian. Both measures would seem to indicate that individuals still prefer a face-to-face interaction to a virtual one.

In both cases, particularly given that librarians no longer staff the physical desk, it is convenient to believe that students needing help recognize the value of librarians and consciously seek their assistance over that of their peers. However, while there may be some merit to this assumption, there are any of a number of other factors which might help to explain the significantly larger number of in-person interactions that librarians recorded. One of these is simple geography. Two librarians' offices are essentially adjacent to the reference desk and another librarian is in close proximity. This results in a lot of walk-ins when the student mentor is helping someone else or otherwise unavailable. The proximity of librarians also makes it easy for student mentors to refer patrons. At the time, there was no way to record interactions initiated by a student mentor and then transferred to a librarian. Such transactions were generally recorded by the librarian.

Two other factors which may contribute to the discrepancy revolve around the librarians themselves. First, librarians are more aware of the need for data collection and its various uses (e.g., scheduling). Therefore, they may be more diligent than student mentors in terms of recording transactions. In addition, despite employing student mentors, at least two librarians at the time continued to advocate that ALL questions, regardless of the level, should be directed to and addressed by a librarian. As a result, those librarians may have recorded more transactions than the student mentors with whom they were paired.

Time Spent by Responder: Overall

In addition to research questions, time spent addressing an individual's need is often seen as another measure of librarians' worth. The underlying assumption is that questions which can be answered by students and staff typically don't take as much time as those questions involving the expertise of a librarian. For example, informing someone of when the library's open over the weekend takes far less time and expertise than helping someone working on a research paper to identify suitable resources and develop a research strategy for retrieving source material.

Assuming the above assumption is valid, one would expect that most questions answered by student mentors (e.g., directional) would involve less time. The data from this study support this claim. Nearly 83% of all RT recorded by student mentors were addressed in under 5 minutes and virtually all (i.e., 98.9%) were addressed in under 15 minutes.

Though to a lesser extent, the time librarians spent answering questions is similar. More than 43% of all questions addressed by a librarian were resolved in under 5 minutes while more than 74% and nearly 85% were resolved in under 10 and under 15 minutes respectively. While librarians tended to spend more time answering a given question, the clear majority were addressed relatively quickly.

Time Spent by Responder on Information Search

Given the above, time spent addressing IS questions was examined in greater detail. As noted earlier, such questions are often seen as being more involved and necessitating the expertise of a librarian. In turn, the implication is that they will involve more time to resolve.

Whether or not the data from this study support this assumption or not is unclear. Nearly one-fifth of all IS questions were resolved by a librarian in under five minutes. Nearly three-quarters were resolved in under 15 minutes. Admittedly, there is no "magic number" or direct, inherent correlation between need and time spent. Too, as observed above, many RT recorded as IS are clearly "ready-reference," quick answer sorts of questions. Even so, it is difficult to argue that more in-depth needs and concerns typically associated with "research questions" and the need for a librarian can be sufficiently addressed in 15 minutes or less.

Query Type by Responder

Overall

Even a cursory review of the data reveals that many of the transactions which occur can be addressed without the intervention of a librarian. The latter was one of the main arguments for hiring student mentors to staff the reference desk. Thus, despite the fact that many of the questions clearly did not require the expertise of a librarian, it is somewhat surprising that librarians were involved with nearly 70% of all recorded RT.

Information Search (IS)

Of all the available QT, "Information Search" (IS) represents the type of transaction typically seen as "professional" and as such requiring the training and expertise of a librarian. As Maloney and Kemp (2015) observe, such questions are seen as more complex in that they require a "deeper collection

knowledge and more time to answer" (p. 961). That said, it is discouraging to learn that less than a third of all RT were actually characterized as IS. Even if all recorded IS transactions required a more in-depth consultation with a librarian, the number of recorded IS transactions only averaged slightly more than one per day of the period under study. This suggests that either not many students are conducting research or that they do not have a need for a librarian when they do.

At the same time, it is encouraging that the overwhelming majority of all recorded IS transactions were addressed by a librarian. This would seem to reinforce the traditional role of librarians in identifying possible sources of information, developing search strategies, and providing other forms of information-seeking assistance.

Characteristics of Information Search

Theme and Responder

As outlined above, the QT of IS is supposed to be assigned to questions which are "professional," requiring a librarian's training and expertise. For the most part, these questions revolve around some aspect of the research process. Despite the various challenges associated with recording transactions, it was somewhat surprising that only a little more than half (52.8%) of all transactions coded as "Information Search" actually revolved around research. At the same time, it was encouraging to note that just over 97% of "Research" questions were addressed by a librarian. This suggests that student mentors have a good understanding of which questions should be directed to a librarian.

However, the lingering challenges moving forward are threefold. First, how are "professional questions" to be determined? Where does the line get drawn between a student mentor answering a question and making a referral to a librarian? In terms of research transactions, that most "know one when they see one" is not sufficient. Most seem to understand what a non-research question is. For example, asking the location of the restroom or how late the library will be open are questions student mentors are capable of addressing. Despite some librarians' aversion to such, most student mentors can be trained to answer many traditional ready-reference sorts of questions as well as to conduct basic searches for books and other sources of information. Even so, despite the overwhelming majority of "research" questions being referred to a librarian, roughly 3% were still addressed by student mentors.

The reverse is even more problematic. That is, when a librarian is asked a "non-professional" question (e.g., how much does it cost to make a photocopy?), should these questions be referred to a student mentor? Common sense and the strong service orientation of most librarians suggest not. And yet, it is clear that librarians are often asked and address these questions even though they do not require a librarian's expertise or experience.

The third challenge to emerge from the data revolves around questions which fall outside the professional versus non-professional dichotomy. Some examples from the data include being asked to proofread assignments, formatting citations and other aspects of an assignment, assisting with completing a graduate school application, and fixing problems with remote access to resources. Admittedly, many librarians are fully capable of addressing these sorts of questions. The question is, though, should they do so and, if so, to what degree?

Clearly articulating and otherwise distinguishing between professional and non-professional questions and who should address them remain key challenges moving forward.

Conclusion

This study's title is an intentional double-entendre. One aspect is *descriptive*. Although limited to a single site, this study provides insight into the nature of RT and the "what" of reference services. Historically, the longstanding tradition of providing "research assistance" is an inextricable element of most librarians' identities. And yet, the data from this study more than suggest that not only are the number of transactions continuing to decline but the number actually requiring the expertise of a librarian are declining as well.

This brings-up the second, *contemplative* aspect of the title. Looking ahead, what do we do now that our role as mediators in the information-seeking process continues to diminish? To answer this question we must determine 1) the best way to provide "reference service" and 2) other ways we can employ our training and expertise to contribute to the academic life of the campus.

Moving forward, librarians must begin by taking a serious, candid look at "reference." It is a given that librarians will continue to play a role in meeting individuals' information needs. As Buss (2016) observes, "A more reasonable approach is to evolve reference services, not to abandon them... More appropriately, librarians should adjust their hours, service points, and reference philosophies to meet the needs of specific constituents" (p. 268). For example, perhaps the role of ready-reference has forever been relegated to the online world. But, if so, this creates an opportunity for librarians to focus even greater time and effort on research questions.

However, it seems clear that we cannot continue sitting at a physical desk, waiting for someone to ask a question. As Stevens (2013) points out, the physical desk is based on the reliance on printed information and that we must "dislodge our understanding of reference from the desk" (p. 205). At the very least, this approach is not cost-effective. Worse, as Friedes (1983) observed nearly 30 years ago and as reinforced by the data from this study, staffing a physical desk may actually be harming the profession in that librarians' value risks being equated more with "tech support" or "general information" than with our expertise as information professionals.

To a large degree, the same can be said for virtual reference services (e.g., email, chat, social media). In part, the latter are needed to meet the growing population of remote learners, and yet, we need to be cautious that our virtual "desk" is not just a physical desk in disguise. That is, we have to ask if we have added a service which truly requires a librarian or have simply added another layer or responsibility which distracts librarians from engaging in and performing other professional activities.

Adopting an appointment-based model is one alternative to explore. As Summerhill (1994) notes, "An important benefit of a consultation model is that the level of service would be clearly and directly connected to staffing" (p. 82). Inherent in scheduling an appointment is the assumption that an individual's needs require the expertise of a librarian (i.e., otherwise, why schedule an appointment?). The model offers several benefits including:

- Walk-ins suppose the availability of a librarian and, necessarily, involve a lot of idle time. Scheduling appointments ahead of time addresses these problems.
- Librarians have the ability to prepare materials, examples, and so on.
- Appointments provide an environment with limited distractions during which more time and focus can be devoted to the need in-depth.

- Individuals may feel more comfortable discussing sensitive or controversial topics they would not discuss in an open, public space.
- Not unlike doctor's appointments, scheduling an appointment with a librarian reinforces the professional nature of the interaction.
- Meeting one-to-one builds rapport which increases the likelihood of future interactions.

In addition to adopting a new perspective on the nature of reference service and how to provide it, librarians must also explore new ways of applying our education and expertise. Accessing, storing, and organizing information remain central. But, as Houston (2016) suggests, the skills of reference librarians "go beyond those included in traditional reference training: these include consulting and advising, teaching, interpreting, advocating, programming, and the ability to analyze the user experience and engage in design thinking" (p. 187). Johnson (2018) also provides a good overview of some of the existing and emergent ways we can become involved including data curation, scholarly communication, and textbook cost reduction initiatives.

To truly be successful in this evolution will likely entail a less library-centric and more information-focused perspective. The fact is that, in an age of growing expectations for accountability, we need to identify new ways of making contributions to both the individual and the institution. In a 2012 study, Detmering and Sproles found that responsibilities for many entry-level library positions still reflected "traditional duties of reference, instruction, liaison, and collection development" (p. 553). However, they also observed that many responsibilities were being listed to accommodate emergent needs including duties such as instructional designer, marketing consultant, and web developer.

Along those lines, some of the many opportunities to which librarians might apply their unique skills sets and expertise include the following:

- Using our organizational skills and technologies to create and maintain searchable databases of materials such as:
  - approved course and program proposals for use by faculty and academic affairs personnel involved in curriculum development, accreditation, and assessment
  - artwork and other special collections on-campus
  - student newspapers, yearbooks, and scholarship (e.g., theses, capstone projects)
- Participating in the development and (co-)teaching of first-year experience courses, research courses, and courses reflecting our interests and expertise with respect to information (e.g., information ethics, intellectual property, mis- and disinformation)
- Serving on the campus' Institutional Research Board (IRB) and offering to provide research assistance to faculty and students conducting research
- Advising and otherwise emphasizing and engaging in our mentorship role with students
- Forming collaborative, working partnerships with the campus' writing center, tutoring services, and other student success-oriented departments and activities

Unfortunately, since 2019, a number of local factors have limited librarians' abilities to explore any of these opportunities in-depth. First, the number of librarians has been reduced from six (2019) to just three. This necessitated a realignment of duties and responsibilities. Further, in 2020, it was announced that EU was to be merged with two sister universities in 2022. As a result, much of librarians' "free time" over the past couple of years has been devoted to integrating three library operations into one. Still, there have been some successes. The author, for example, assumed the role of First-Year Experience Coordinator and has conducted several internal assessments to assist with the integration process. This

study is but one of the tangible outcomes of the latter as we begin to operate in the new, integrated environment.

In short, as data from this and other studies seems to suggest, the need for professional assistance will not disappear. In that respect, the traditional reference model is not the problem. Rather, it is the changing nature of information and higher education which is forcing us to re-examine the provision of reference services and new ways of employing our skill sets. The degree to which we are successful with the latter will play a key role in determining our future and the value of the work we do, both perceived and actual. Librarians should continue to engage with students in the research process. However, if librarians are to avoid increasing levels of marginalization to the point of irrelevance, it is imperative that we focus more time and effort on the unique types and quality of assistance only we can provide and that we identify new and better ways of doing so.

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