Giovanna Badia

"Just Do It"

Using Questions to Create Professional Development Opportunities

I worked in libraries part time throughout my education, starting in high school. When I announced to my then-employer that I was accepted to the Master of Library and Information Studies (MLIS) program at McGill University, she told me something that I never forgot. She said that the degree provided the required piece of paper to get my foot into librarianship but that I would need to keep learning throughout my career to do the job well. I graduated with my MLIS degree more than two decades ago and have since engaged in a variety of professional development activities to keep my skills current and improve my daily practice. The best professional development activities have involved doing what I learned about, either during the course of the activity itself or shortly thereafter. I think of the Nike slogan, "Just Do It," when it comes to applying what I learned. I believe improving your skills and training others does not happen overnight. It is not a race to the finish line but requires taking consistent action over time. The actions can be small or not; consistency is the key. This article describes two question-centric professional development activities for library professionals from the perspectives of the instructor and learners, as well as lists other possible activities that may be appropriate for training at your own institutions.

An Advice Column with a Twist

One of my responsibilities in McGill Libraries is to provide data reference services, which involves answering data questions, providing instructional activities for our user community on finding and working with data, and supporting colleagues in answering the data questions they receive. I respond to questions sent to our library service email account.

To address a need that colleagues expressed to learn more about data sources and searching for data, I thought it might be useful to share some of the questions I received from users as well as the responses given. A large component of the knowledge I have gained in data reference is having the opportunity to answer the questions myself, which I sought to provide for colleagues. I started the "Dear Data Library" search column in July 2023, which I announced as an advice column with a twist. A real question I received from a user is posted on McGill Libraries' internal, virtual reference listserv on Mondays. The response provided to the user, with my search strategy notes included at the bottom of the email, is not sent to the listserv until Fridays to give colleagues an opportunity to try finding the answer to the question themselves during the week. Members of our virtual reference listserv include all of our public services librarians. I provide a hint or some guidance on how I found a relevant

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answer when I share the question at the beginning of each week. The column emails always contain the phrase "Dear Data Library" in their subject lines.

The column was published weekly during the summer 2023 term and changed to a monthly schedule during the academic year in response to feedback received. The column was evaluated at the end of August 2023 with a survey distributed to those on the virtual reference listserv. Some colleagues felt the weekly publication schedule was too much, did not give them a chance to try all the questions due to their position responsibilities.

I have continued the column on a monthly basis during the academic year (first week of every month) and on a biweekly basis during the summer (every 2 weeks). I have also continued receiving positive informal feedback about content presented in the column over time, such as conveying appreciation for receiving answers to certain questions. Using questions received from users and providing guidance with the question when it is posted prevents this activity from becoming labor intensive for both the creator and participants. The questions received from users are anonymized, but rather than fabricating names for the individuals who asked the questions, I use names of historical figures who have made important contributions to the field of statistics or data visualization to make it fun. I invite colleagues to research them and their contributions.

Dear Data Library - Statistics on the Black population in Canada ☺ ↩ ⇜ ↪

⊗ **Giovanna Badia <giovanna.badia@mcgill.ca>** Monday, August 21, 2023 at 8:58 AM
To: VIRTUALREFERENCE@LISTS.MCGILL.CA

Dear Data Library,

I am looking for recent government statistics on the Black population in Canada and Quebec, a recent article similar to this, "Diversity of the Black population in Canada: an overview," shall be great. I have had challenges finding recent stats similar to this.

I am specifically interested in labour market participation and integration of sub-Saharan African immigrants in Canada (specifically Quebec if possible). Having an overview of the entire Black population will enable me to make the comparisons.

Please contact me for any clarifications. Thank you!

Sincerely,
Chester Bliss

Hint: One of the relevant sources is a Statistics Canada survey with a response rate (over 95%) that Giovanna can only dream about.

An example of a "Dear Data Library" column, published in August 2023.

A Reference Challenge, with a Scoop of Ice Cream on the Side

As a complement to the "Dear Data Library" column, I offered colleagues the opportunity to participate in a 15-Day Data Reference Challenge in the summer 2024 term. This involved completing exercises that were released daily on McGill Libraries' virtual reference listserv starting in early July. Each exercise consisted of completing an online quiz with four to five data questions, which was designed to take less than thirty minutes to finish and included accompanying instructional material as well as solutions.

[VIRTUALREFERENCE] Data Reference Challenge Day 2 – Is the microdata file "to be or not to be"?

○ VirtualReference <VIRTUALREFERENCE@LISTS.MCGILL.CA>   on behalf of
⊗ Giovanna Badia <giovanna.badia@MCGILL.CA>

To: VIRTUALREFERENCE@LISTS.MCGILL.CA

Thursday, July 11, 2024 at 8:46 AM

Hello all,

The second exercise looks at the differences between aggregate data and microdata. The exercise is available for you to take at: https://mcgill-ca.libwizard.com/f/dataref_challenge2

Let me know if you have questions or comments about the challenge at any time. I wish you fun learning!

A domani with the next exercise,
Giovanna

P.S. In case you missed it, here is the link to exercise 1:
https://mcgill-ca.libwizard.com/f/dataref_challenge1

An example of how each quiz was announced.

Topics covered in the quizzes were based on data questions I received from the McGill community and included finding known and unknown datasets, working with Statistics Canada's Census of Population data, and identifying when to stop searching when an answer is not found. Colleagues were also given the chance to substitute three exercises with their

Data Reference Challenge Exercise 2: Is the microdata file "to be or not to be"?

Giovanna's Reflections or Theory:

I often receive questions about access to specific public use microdata files (PUMFs) for Statistics Canada's surveys. I didn't know about PUMFs when I first started with data reference so let's break this down. First, **microdata** is the raw data file containing the information gathered from a data collection activity, such as the responses from a survey. For example, you run a survey using Microsoft Forms and export the survey responses to Excel. This Excel file is the microdata file for your survey.

The "**public use**" part of PUMF does not automatically mean freely available to all, or even that all the data collected is in the raw data file when it is made available. Statistics Canada makes some PUMFs available to everyone (the general public) and others are only available to institutions like McGill who are part of the Data Liberation Initiative (DLI). For some of its surveys, Statistics Canada will only produce summaries of the results, such as in the form of tables, reports, infographics, etc., and will NOT create PUMFs either because they are too costly to produce and/or to protect the confidentiality of responses. Descriptions of Statistics Canada's surveys, supporting documentation, all the outputs produced (whether PUMFs and/or summaries), and access information are available on Statistics Canada's website. Statistics Canada's PUMFs (including those only available for DLI members) can be downloaded by searching the Odesi database.

Even when Statistics Canada makes the PUMF available, sometimes there are more variables described in the survey documentation than people can see in the PUMF. Again, this is due to confidentiality. Let's go back to my example of the Excel file from your survey. Imagine you had a survey question that asked for the respondent's home address, which I think of as an example of personal, identifiable information. You would remove the home address column from your survey's Excel file of responses before making it available as a PUMF for others to use. To recap, you can think of PUMFs as cleaned up or edited versions of the original data collected, and they cannot always be made available for others to use due to confidentiality reasons and/or cost to produce. It can be labour-intensive to anonymize and clean up a microdata file.

In addition to microdata, you might run into the term, "**aggregate data**." Aggregate data are "summary data" or compiled statistics. With aggregate data, you are one step removed from the raw data collected. Someone has summarized findings from the raw data for you. This summary could be in the form of a number, percentage, or table. Below are two examples of infographics produced by Statistics Canada that contain aggregate data:

- How does teleworking impact time use?
  - https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2024024-eng.htm
- Canadian potatoes, from farm to fork
  - https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2022086-eng.htm

Begin

An example of instructional content within a quiz.

own data reference questions after the tenth day of the challenge. I created the quizzes in SpringShare's LibWizard, already among our existing subscription tools, which is easy to use and allows you to immediately display feedback to the user when they submit an answer to a question.

Data Reference Challenge Exercise 2: Is the microdata file "to be or not to be"?

1. What percentage of Canadian households own snowblowers?
(required)

Note: There is a Statistics Canada survey that asks about this.

○ 4%

○ 14%

○ 24%

⦿ 34%

> Please try again. Finding a summary of the survey results will help. I first came across this statistic in a tweet by Statistics Canada, which pointed to a summary table of results from the survey.

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An example of a quiz question, with feedback displayed after the quiz participant clicked on "Next." The following quiz question expands on the previous one, asking participants to identify the name of the survey that collects information about whether survey respondents owned a snowblower.

The aim of the challenge was to increase participants' comfort level in searching for data in a short period of time through frequent practice. I wanted to offer a fun way of job shadowing my data reference work while providing instruction that colleagues could use. Accounting for summer vacations and unexpected surprises, colleagues were given six weeks maximum to complete the challenge to receive free ice cream and a personalized certificate. Both were my individual thanks for participating. I also included a cheerleader (that is, an animated gif from Giphy) at the end of each quiz to congratulate colleagues on its completion and motivate them to keep going. Each quiz had a different cheerleader, who were characters from movies and fiction showing excitement or happiness. Four colleagues completed the 15-Day Data Reference Challenge out of seven who started. Another two colleagues made it halfway through before vacations and fall term preparations took priority. Completing the challenge was the equivalent of attending a full-day, hands-on workshop on data reference.

Each quiz included a comments box at the end to provide feedback, where colleagues confirmed that the quizzes did take less than thirty minutes to complete and asked clarifying questions. I wrote two of the quizzes before the challenge started and was writing the rest during the challenge itself. This worked in my favor in that it allowed me to make changes to the quizzes based on colleagues' feedback. For example, halfway through the challenge, I wrote and released a "mid-challenge review" exercise that discussed muddy points that had been mentioned in previous quizzes and addressed quiz questions that received more incorrect answers from participants. A few colleagues expressed enthusiasm for the challenge and one colleague communicated that their comfort level with answering data questions had increased after doing the challenge.

The 15-Day Data Reference Challenge included thirteen quizzes, with one quiz taking longer to complete and counting as three quizzes for days twelve to fourteen of the challenge because it required watching a one-hour conference presentation on finding data about

marginalized and underrepresented Canadians. The entire challenge took approximately fifty hours to create (about four hours per quiz), since this comprised writing the questions, finding the solutions, inputting each quiz in LibWizard, and testing the quiz before releasing it on the listserv. I repurposed most of the quiz content I created about Canada's Census of Population for a new workshop I taught to the McGill community in the summer and tweaked three of the quizzes to deliver as do-it-yourself (DIY) online learning activities for library users during Love Data Week 2025. I also plan to use the quizzes to train new colleagues in data reference and to offer the 15-Day Data Reference Challenge again. In writing the quiz questions, I also learned more details about some of the sources I use for data reference work.

Professional Development at Your Own Institutions

The "Dear Data Library" column and 15-Day Data Reference Challenge are two examples of how I used reference questions I received from users to create training opportunities for my colleagues. The ideas for these two activities came from my experiences as a lifelong learner—from situations in which I was asked to complete assignments about what I was learning at the time. Other possible professional development activities along the same vein include the following:

- Start a search club in which a question is shared with the group before the meeting and everyone shares their search strategies during the meeting itself. Group members can take turns sharing questions and leading meetings. I once belonged to such a group, which met every month or so, and we all benefited from receiving exposure to different questions.
- Peer review answers to questions. My literature searches were peer-reviewed by my supervisor in my first professional position, increasing my skills tremendously in this area in a short period of time because I was able to connect their decades of experience in the field with the theory I learned in library school.
- Periodically meet with another professional to discuss issues in daily practice. I attended a synchronous, online, quantitative research methods course offered by the Inter-university Consortium for Political and Social Research (ICPSR) in 2022, where I met another professional with similar interests. We both analyze data at our institutions to inform decision making as part of our position responsibilities. We attracted each other's attention through the questions we asked the course instructor, and we decided to continue meeting after the course. We have been meeting two to three times a semester online (we live in different Canadian provinces) to catch up and discuss how we are currently approaching the analysis of a specific dataset to answer a decision maker's question. Having an external perspective is refreshing and leads me to try other avenues in statistical analysis.

Conclusion

My responsibilities and position titles have changed since I graduated from library school in what feels like eons ago, but answering questions has always remained a constant throughout, whether responding to library users or colleagues. Using the questions I have received to inform decisions about my own continuing education activities and to train other library professionals has become second nature to me as it aligns with my daily work and mirrors how I learn best—with hands-on practice. To conclude, this article has described several examples of activities that can be offered, or engaged in, to improve skills among library professionals. These activities are driven by user questions, which surround us and can be used to motivate our lifelong learning. ✍