Perceptions and behaviours of first year health sciences undergraduate students conducting online research

Health Sciences Library | McMaster University

Susanna Galbraith

June 3, 2023

CHLA Conference 2023, Halifax

Justifications

Exploratory research to gain a deeper understanding of the perceptions and behaviours of undergraduate students conducting online research

To explore the intersection of user experience and gaining skills and increased experience

Methods

- 1-hour semi-structured Zoom recorded interviews in September
- 15-minute Zoom recorded interviews in January
- Ethnographic survey instrument
- Transcripts emailed to students for verification
- Thematic analysis

Fall Interviews

Who were the participants?

- 13 first year students, all 18 years old.

- Students attended secondary school in Ontario, British Columbia and Manitoba

- 2 students attended elementary school internationally, in Korea and Suriname.

- Majority had no experience with databases, and very limited library resources in high school.

- Most relied on Google, Google Scholar and YouTube. All of the students used Google as part or all of their online research process.

- 2 of the students were part of a specialized program called International Baccalaureate Program which aims to prepare students for university. These same students were also specializing in sciences in high school.

Fall Interviews

Perceived expectations

Impact of high school specialization programs

Tensions between time, trust, confidence and validation

Fall Interviews

Research goals and types

- Research to learn or solidify an understanding
- Research to find credible sources to backup an argument in an essay

Fall Interview Themes

Perceived Expectations

- The library will save us
- You want us to do what?
- I can do this myself

Tensions between time, trust, confidence and validation

- Online communities provide validation
- Credibility is paramount

Impact of high school specialization programs

- Comfort with scientific literature
- Appreciation of literature databases

FALL INTERVIEWS

THEMES	NUMBER OF TIMES MENTIONED	PERCENTAGE OF PARTICIPANTS WHO MENTIONED THIS THEME
Credibility is paramount	36	100%
You want us to do what?	17	79%
The library will save us	16	79%
I can do this myself	9	54%
Online communities provide validation	11	31%
Comfort with scientific literature	8	31%

Credibility is paramount

"It was like embedded in like all of us that whatever you do don't go with Wikipedia. You know if it has an author listed then that's probably trustworthy. "

"And like usually websites that's .org, I usually check them out but depending on what it is I don't usually cite it. Like I just read it like to learn more about it. I personally don't think it's that credible. "

"I wouldn't really go towards anything that could be like peer edited or changed by anyone on the Internet. "

You want us to do what?

"A lot of the time when I'm doing research like run into an article that's just way more in-depth than I need it to be. But I can't really find anything else. But reading it I'm kind of just lost. So I'll like have to read it all for the ten percent that I can understand and that doesn't feel great."

"I mostly use Google. But I found it's kid of hard to find specific stuff on Google... I found a lot of the time when I would ask questions I had to do all my stuff separately and then put it together myself. "

"We didn't really receive any information about how we properly do research. We only learned how to do like citations but like how we did the research was mostly just Google like those kind of search engines."

The library will save us

"I think maybe learning to access the Health Sci library will help. And maybe like I think that would be a more reliable source. Just because it would be a collection of like credible sources to use.. "

"It was also on the Health Sciences Library website like at the top. So that was helpful. It brought you to a site that had reputable sources. "

"Going forward I'll probably use the database more. It might be easier than Google just because you don't have to do like a CRAP test...You're less likely to run into garbage."

I can do this myself

"I feel like I was definitely taught how to kind of assess if something is credible. I wasn't usually super overwhelmed by a general search because I could kind of be like, yeah that's not really what I'm looking for."

"I think it was instincual like to not use anything that could be easily disproven or easily changed by anyone who doesn't have the credentials to kind of be talking on the topic. "

"I grew up like in a time where we were taught to use like laptops and computers as part of our education really commonly. "

Online communities provide validation

"...this little trick, I sometimes use Reddit. Like I search up my question then I type 'Reddit' at the end of it because that provides answers from people. Like I guess sort of an unfiltered way to get peoples like opinions that isn't like a formal website."

"There's a Reddit community for IB participants. So that really helped us hearing like other people's stories....it was interesting to see how other people approached the same problem."

Comfort with scientific literature

"We were just kind of exploring what research exists in the field just to get background knowledge on whatever we'd be presenting or discussing. We would read a lot of research study like abstracts. Um just to kind of get like a sense of what existed....so like general consensus articles would be typically what we would read."

"[The IB program] definitely influenced how I do research. I had a lot more experience finding like more scienfitic articles and looking at more scientific journals. "

Winter Interviews

What has changed for them?

- 10 students from the original 13 agreed to a second interview

- Learned a lot of database searching skills

Winter Interviews

Choosing own path

Frustration increases and decreases

Tensions between library research as saviour and burden

Winter Interview Themes

Choosing own path
- Not using library resources
- Format preferences guide choices

Frustration Increases and decreased
- The library did save us
- This is too much work

Tensions between library research as saviour and burden
- I love my new skills
- There must be more to learn

WINTER INTERVIEWS

Themes	Number of times mentioned	Percentage of participants who mentioned this theme
The library did save us	36	100%
I love my new skills	17	79%
This is too much work	16	79%
Not using library resources	10	50%
There must be more to learn	10	40%
Format preferences guide choices	4	20%

The library did save us

"I think that using the database is just better for specific research. So if I want to do a search that is on one very narrow topic. It's better to do a database search and get just few results, rather than doing a Google search and getting millions of results. "

"databases makes it more reliable"

"I've been using textbooks a lot. And even just in general. I just notice that there's a lot of great books in all the libraries at McMaster."

I love my new skills

"Also being able to find specific information which I think was what I was struggling with. I didn't want to put in the effort to learn to use the databases, but I did eventually and I love them."

"I've been forced to really evaluate the quality of every resources more and making sure they're like relevant and comparable."

"Also being able to find specific information which I think was what I was struggling with. I didn't want to put in the effort to learn to use the databases, but I did eventually and I love them."

This is too much work

"Sometimes using like a database is really tedious and kind of like, it gives you like great results but it's like a longer process. Sometimes it's tempting to just like, go on your phone and use Google rather than getting on a laptop and typing in all your searches and like putting them together and combining them and stuff. "

"It's also super interesting though to like realize how much thought should go into a research question, and like the actual search for it. So it definitely is like tedious. Which makes it frustrating at times."

"Like the pure amount of time you have to invest in going through all the sources that come up on databases, because there's so many, even with the relevance. And then I think the research process itself, like searching is so much easier and faster. But I think the results that you get you obviously can't use all of them. So it's yeah, it's going through to the results, reading the abstract. "

Not using library resources

"I would say I still use Google, but I try to use like Google Scholar when I'm trying to look for credible information and stuff.."

" I would still start with Google, probably especially if on the topic that I'm not familiar with yet. Or I don't have a set topic that I want to look at.

There must be more to learn

"I always get sort of overwhelmed by like how much information is just popping up and like how much like even just seeing the number of results that come up for like relevant scientific journals."

"It would be great just like getting started with like very like surface level beginning research. Because like I said before it's like oh it's hard to search for good resources when I don't really know like the terminology. I don't have a good surface level understanding yet, so I'm not sure if that's something that could be like a library resources where it's like broad topics on transportation or whatever."

Format preferences guide choices

"I like to read and listen to articles which I think a lot of the databases have like they can read it to you."

"So I think it's definitely just like the time it takes in like the tedious nature of typing and everything."
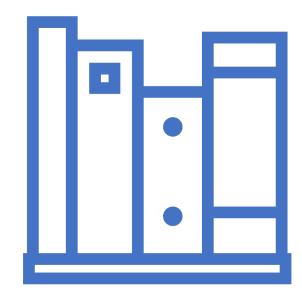
Conclusions

- Using an ethnographic user experience inspired survey instrument can provide a new perspective into student perceptions.

- Understanding how students perceive the library can help us with buy-in for the skills we provide.

- Looking to the future, some thoughts on the technology designed for information retrieval: dictating search, desire for audio formats can inform our vendors how they design their search interfaces.

- AI?

Questions?

References

- Asher, A. and S. Miller (2011). "A Practical Guide to Ethnographic Research in Academic Libraries." https://www.erialproject.org/wp-content/uploads/2011/03/Toolkit-3.22.11.pdf

- Braun, V. and V. Clarke (2022). "Thematic Analysis : a Practical Guide. London." SAGE, Print.

- Karahanoğlu, A. and Y. Bakırlıoğlu (2022). "Evaluation of the usefulness of path of long-term user experience model in design process." Behaviour & Information Technology **41**(4): 777-795.