MIRO VIRTUAL
SYMPOSIUM

February 2022

Qualitative Data and Analysis in Institutional Research

Symposium Registration Form Questions & Answers

Q1: Can you share some insights or suggestions for designing interview questions?

Georgeanna

Q2: Can you talk about how MIRO designs open-ended questions? Do you use more general questions or specific ones?

MIRO: It depends on the purpose of the survey. If the survey is to gather the feedback on students' campus experience, like our campus experience survey, we make the questions as general and open as possible, such as "please share with us in what ways your semester is not going well.".

Since everyone's experiences and situations are different from others, if we make the questions too specific, we may overlook important information. However, if we want to gather qualitative data for a more specific issue, then we can design more specific questions, such as "In what ways can the university improve your internship or practicum experience?"

Q3: Can you share your tips for transcribing Interviews, especially data from group Interviews?

Georgeanna

Q4: What do you do to generate conclusions or find distinct themes in qualitative feedback without bias?

MIRO: On our web app, we display the percent of comments that each theme and indicator is mentioned. It gives us an idea of what issues are mentioned the most by the respondents, so that we can find potential issues. However, the main purpose of the web apps is not for generalization, but to help people be more aware of each other's experience and the ways to make improvements, regardless of how often those issues are mentioned. In terms of the concern about bias, we used the grounded theory to identify emerging issues from the narrative responses. Those are the genuine voices that need to be heard, no matter how frequent the issues are mentioned. We agree that the way we generate the themes and indicators is influenced by our own educational background, experiences, and interests, and we continue to improve our framework with new data and the feedback from our users. We also remind our data users that they are reading the results through the lens we created. The ultimate goal of our web apps is to help our decision makers gain a better understanding of people's experience and make improvements.

Q5: Can you talk about what software you use in your qualitative study, if any?

MIRO: Before we developed our own data tools, we researched the available qualitative data software and did not find anything that suits our needs. So, we created our own product based on how we envisioned that qualitative data should be organized and disseminated. We used python and the structured query language, or SQL, to clean and analyze qualitative data, used Hypertext Preprocessor, or PHP to develop the dynamic website, and HyperText Markup Language, or HTML, to display information on the website.

Q6: can you talk about what methodologies do you use for coding qualitative data?

MIRO: We used Natural Language Processing for data cleaning and data conversion, and grounded theory and comparative analysis to identify keywords and organize data in a clickable theme-and-indicator framework. After we had the framework, we built a data dictionary to store the categorized data and wrote a program to extract information from the data dictionary and display the word cloud and categorized comments on the web apps.

Q7: How do you comment on the phenomenon of "devaluing qualitative data" both in university management and in higher education research? (For example, some people consider qualitative research not "scientific or representative" enough).

MIRO: First of all, I want to say that we believe everyone's voice matters and should be heard. In the industry and in higher ed, Artificial Intelligence has been heavily used to direct policies based on numbers. What we are trying to do is to bring **humanity** out of data, build trust, and improve understanding. After all, we should treat each other as human beings, not numbers. It's not that we do not want to learn about each other's experience, but the difficulty is how to efficiently analyze and display qualitative data. That's why we have made so much effort to address the data display issue and make it easy and fun for people to read the qualitative data. We know it is hard to change the phenomena, but no real changes are easy to accomplish, we will continue to work on that.

Q8: Do you find the campus community receptive to your data gathering efforts and resulting research?

MIRO: Knowing our own capacity as a small office, we have been focusing on working and helping offices that showed clear interests in qualitative data. When people read the comments, many are touched and awed by the real voices from our community members. It is also obvious that qualitative data is actionable. While reading, people always realize that there's something they can do to improve the situation and hence love the web app. Most of our collaboration is through word of mouth.

Q9: How do you organize and present qualitative data in a clear and concise manner, without sacrificing the variety/breadth of information presented? Also, how do you display qualitative data in the most compelling and interesting way?

MIRO: It is like librarians indexing each book. Readers can easily find a book among hundreds of thousands of books. At MIRO, we indexed each response and linked it to the theme-and-indicator framework, so data users can easily find the information in their own interest. The word cloud is also a useful and visually appealing tool to quickly identify key issues mentioned by survey respondents. By providing viewpoints in breadth and depth, we help offices to connect the dots from the both quantitative and qualitative data.

Q10: What's important to report on once the qualitative analysis is completed?

MIRO: Our goal is to inspire readers with actions they can take to make positive changes, so we like to focus on practical and constructive suggestions emerging from the results. Using our data tools, we can easily focus on a specific student population or a topic of interest. The web apps will narrow down thousands of pieces of narratives to only the ones that are relevant. Usually, it's a much smaller number. Then we read the comments and take notes on key issues people mentioned. We summarize what we have learned to a few main issues because people are not attracted to a laundry list. A tip is that we always add a few quotes under each issue, to help people truly understand and feel the words from survey respondents.

Q11: We find the turnaround time for producing qualitative Analysis is often prohibitive. Any tips on how to be effective but still systematic?

MIRO: We totally agree that qualitative analysis could be very time consuming, and that is probably the biggest barrier for those who want to collect and use qualitative data. Our strategy is to use **programming** to do as much work in data cleaning, analysis, and display for us. We spent much time at the beginning to build the web apps, and once it's built, the turnaround time was much less later on. Programming also helps us to keep the procedures standardized and systematic.

Q12: How do you find time to do qualitative research?

MIRO: There are a few things you can think about. First, think about how to make your current IR projects more efficient. At our office, we streamlined the common data set and external surveys process, which saved us a tremendous amount of time so that we can work on new projects like qualitative studies. You can also consider working with graduate students or collaborating with colleagues who share similar interests. Once you have some capacity to start a qualitative survey project, we recommend that you start small. You can consider creating a short open-ended survey or interview study to collect data, or just reviewing and analyzing the qualitative data which is already collected from existing surveys. You can also find paid or free software, such as Envivo and Antconc, to help with coding the qualitative data if you don't have an in-house IT specialist. You can also make good use of available resources from the IR community, for instance, at MIRO, we will be happy to answer your questions and offer help.

Online Questions & Answers

Q1: How do you manage respondent consent and privacy in regards to visualizing, reporting and sharing their verbatim comments? In some cases, it may be possible to identify the student based on their comments. How do you manage those situations?

Georgeanna: As soon as I begin transcription, I mask identifying features for students. I provide them with pseudonyms, and hide parts of their comments that could make them identifiable. For example, if a student stated that they were the only student of their race in a small department, but they identified both their race and their department, their transcript would turn this information to look like this: "As the only [student of my race] in [my major]". I mask factors like which sports teams they are in, if relevant, friend's names, advisor's names, residence halls, and other pieces of information that, in aggregate, could indeed lead people on a small campus to work out who the speaker is. Also, in reporting quotes or vignettes, I do not include specific experiences that would be identifiable or distinct to individuals. Instead, I keep quotes and vignettes to a more generalized, broader level of experience that any number of students may have.

Yang Zhang: We read all the comments multiple times to make sure data is ok to display and conduct data conversion when necessary. It is the most manual part of the web app development process and takes up a lot of time. Because of this, we are unable to conduct open-ended question surveys every year unless we have more resources.

Q2: Do all MIRO surveys now include open-ended Qs? How can campus & MIRO encourage under-represented demographics to participate in surveys that will generate "qualitative" data.

Yang Zhang: Yes, all MIRO's homegrown surveys include multiple open-ended survey questions. To encourage people to participate in surveys, we collaborated with the communication's office, deans, chairs, and directors on various survey promotion strategies. Some of those offices' missions aim to specifically support under-represented students and they have their own respective outreach strategies.

Georgeanna: Some of the studies I have conducted at Grinnell are specifically designed to investigate the experience of under-represented demographic groups. Often, individuals in these groups appreciate being heard and are willing to be interviewed.

Q3: Fantastic presentation! How does MIRO disseminate survey data among your campus stakeholders? Sounds like they have access to your web app, so maybe your office does not need to take the lead to disseminate the results?

Yang Zhang: Thank you! Yes, the student web apps are open to all faculty and staff, the employee web app is open to deans, chairs, and directors. We have conducted many presentations and information sessions. We also encourage people to look at the qualitative data when we address their data inquiries.

Q4: At MIRO, does the web app do the data analysis (e.g. coding) or you analyze the data manually, then input the results (e.g. key words, indicators, themes) into the web app?

Yang Zhang: Everything is programmed so, once we have new survey data downloaded, the programming can display data on the web app in minutes. However, we usually have new data display issues which take some time. Depending on the data display issue, we also need to create new web apps–and that process happens manually with the help from our IT specialist. The most tedious part of the web app display is converting inappropriate or personal identifiable information, which is still a manual process. Although we have been improving the programs to help us identify comments that we need to pay attention to, we still need to read all the comments multiple times to find comments that were not picked out by the programs and to manually convert data.

Q5: Earlier in Georgeanna's presentation, she showed part of their Qualitative research involving students who are considering leaving the University. For this and similar study focuses, how do you ensure you obtain these students for the interview studies? It seems to me it may be difficult to get results from a target population that may be hard to reach or respond to.

Georgeanna: In our institutional model, the individually-advised curriculum is very important. Therefore, all our students have multiple advisors: academic (for each major or concentration they are taking), co-curricular, and within the Center for Careers, Life, and Service. It is not unusual, therefore, for students to discuss with one of their several advisors plans to transfer. This is how we were able to recruit participants for that particular study—these students had considered transferring but ultimately had stayed, and their advisors were aware of this fact.
