



Up to the Challenge

Big Data, Small Agency: Relational and Relatable *From the theory to the practice to the practical*

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Congratulations! You received grant funding to do an amazing innovative project. Now you're facing the daunting task of having to capture something imperfect when the research guidelines are only set up for ideal case scenarios, and everyone participates in your intervention exactly as you planned according to your guidelines. You're the one delivering the service and collecting the data on the ground level, but then you also have to be accountable to your research partners who may not be as familiar with the complexities of doing work in the trenches. How do you bring these two worlds together? How do you ensure fidelity in a world that is unpredictable?



DATA COLLECTION TOOLS

The first thing you must do once your research guidelines have been established is create your data collection tools. Ideally you will be doing this within a relational database, there are many products available online. If you aren't ready to purchase yet, you may be setting up your data collection efforts in Excel, and that can work too. If you have someone on staff who is responsible for database building and set up, make sure you engage them at the process right from the very start. If you do not have this person, chances are YOU are the one tasked with building these forms, which is why you're reading this article right now. Welcome! If you're feeling like this is beyond your comfort level, make sure that you ask for assistance from your evaluators or community partners who have done this work. There may be someone dedicated to this type of work at a partner agency who will be able to provide guidance around formatting and set up. Your evaluators undoubtedly will have experience setting up survey collection tools, they should also be able to guide this process if you're feeling out of your depth.



COMMUNICATION

We can't stress enough how critical communication is in this building process. The way in which your evaluators envision the data is most likely very different from how a database manager or a program coordinator may envision it. Remember, everyone has their own experience and expertise and it is important before you start building to have all parties share their vision, come to an understanding about what is possible, have a shared language, and get crystal clear about the specific details of your data collection. Trust us, no detail is too small.

Study Example

When we initially created the form to track attendance in our relational database, the field where staff entered which units of curriculum they taught that day was set up as a text box. It wasn't until the first data transfer that it was brought to our attention that this would be an issue for analysis. It was an amateur mistake and something that ended up taking a lot of time to fix once everyone agreed upon a solution. Instead of a text box, we added three drop down menus with all of the units of curriculum listed. The questions were labeled "First educational module completed," "Second educational module completed," etc. Once the solution was set up, the program staff had to go back and edit every attendance record they had entered in the past year. No one likes data cleaning, especially when it something that could have been easily avoided simply by having better communication and clarification at the beginning.

Once you've come to a common understanding of your data collection efforts and you've built your forms, it's time to share them back to the group. Taking a little time to sit down and review them now will save you headaches later—trust us. If you skipped the example above, now is a good time to reference it.

You've hammered out all the details and it's time to collect, collect, collect. Your project is rolling.

Which is the best approach at this point?

- A. Wait until you've collected a bunch of data and then review it in one swoop. It'll be a more efficient use of your time.
- B. Painstakingly review the data on a monthly or quarterly basis with your team, to look for themes, challenges, and successes, which will enable you to make mid-course corrections.
- C. Never review the data, it's boring anyway.

If you picked B, you are correct. While time consuming, it is important to review your data frequently throughout your project. There is nothing worse than getting to end of a project and realizing that you didn't achieve your goal.



A SMALL BUT IMPORTANT TANGENT

If you take on a research project, please keep in mind that buy-in and value for data is essential at the higher levels of a small organization because nothing degrades the quality of a project more than a leader who shrugs their shoulders at the sight of data. You will be looking for front line staff members who are able to perform the intervention while also keeping up with the data and project design demands. This is a very dynamic type of role. We don't think that we would be wrong in saying that in normal social service delivery, the service part comes front and center before the data entry that substantiates it. Basically, if there is only enough time in the day to either take the client to the food pantry, or make sure that you logged all of your work in a spreadsheet, you're taking the client to the food pantry. And perhaps the next day when you come into work, another crisis arises that you have to deal with immediately, and so on. Day after day your data entry falls to the back burner because it's not "the work." Most likely, the staff that you hire will come from backgrounds like this. It may take some conditioning to get them to a place of understanding that in a research environment the data logged is just as important as the intervention. That means that data entry has to be prioritized and done in a timely and consistent way. This again loops back to the need for senior staff to be invested in the value of data.

You've consistently reviewed and cleaned your data throughout your project and now you're ready to send the final dataset to your evaluators. Things are about to get very confusing. If you've been sharing data throughout the project, we can guarantee that you will have inconsistencies and mismatched ID numbers. Don't panic. Everything is going to be all right. It turns out that people often mislabel things, or forget a number, or write the wrong name. This part of the project will require some detective work. You will need to identify ALL of the inconsistencies between your data and the evaluator's data. Then you will have to dedicate some time to searching, questioning, and determining what the true or at least best answer is. Some of these mysteries will go unsolved. There will be a baseline survey missing for your star participant. There will be 5 participants that you never asked about their racial or ethnic background. There will be a follow-up survey that someone labeled as ID number 22345 that was supposed to be 21345. These things will happen. It doesn't mean that you didn't try your best to make sure that your dataset was clean and complete. It is just the nature of this work.

Once this data reconcile is complete and your evaluators have all of the data, you're done right? Wrong. Now is the time to write down every single inquiry you've had throughout this entire project. How does gender impact this intervention? Does being a parent make any difference in participant outcomes? Are 17-year-olds more likely to participate than 18-year-olds? You've labored over this dataset! Now is the time to make sure that you ask the evaluators all of the questions that you've wondered about. Get your money's worth! Understandably, they will not follow up with every inquiry you have but they should be able to tell you whether your questions are worth taking the time to look at, or if their preliminary findings indicate anything related to your questions.



DATA RECONCILE

Study Example

In our research design we agreed that participants who attended all of the required units of curriculum would be considered "completed." Our staff entered data into two separate forms, one for class attendance for everyone, and another for identifying which participants completed all of the required units and could be considered "completed." The funny thing is, when you compared class attendance to the list of participants who the staff identified as completed, they did not match at all. And we did not do this comparison until we were near the end of the project – after we had experienced staff turnover. This made the data cleaning process much more difficult. Had we reviewed the data scrupulously throughout the research project, we could have caught this data entry issue earlier and pushed on the staff to be more detail focused in their data entry.

So now you've reached the end of this long road. You have your findings, you answered (some of) your questions, and you are most likely left with more questions than answers. What now? Write a brief like this one and try to figure out how to transition a research project into a service without losing the elements that proved to make the biggest difference. But know you aren't alone and there is a way to make that happen too!



WHAT NOW



QUICK TIPS

- If you need assistance building your data collection tools, use the network of people around you. Mine your community partners and evaluators for their valuable experience and knowledge.
- Get on the same page. Make sure that all parties involved in the research project have the same vision of how the data collection will happen.
- Check and check again. Make sure that you're still on the same page once the data collection tools have been created and data collection has begun.
- Review your data regularly throughout the project.
- Make sure that you either start with, or work to cultivate staff and management buy-in and value for data.
- Commit to the detective work of tracking down missing data and reconciling inconsistencies in your dataset.
- Outline what you want to find out from the data. Discuss with your evaluators.
- Share your findings.



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