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## Keeping Things Plumb in Qualitative Research

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### Abstract

As qualitative research projects are conceptualized and conducted, they can grow out of alignment as researchers make choices as to their Area of Curiosity, Mission Question, Data Collected, and Data Analysis. This phenomenon of being muddled is a natural, and sometimes necessary, part of the overall process. The important part of being in a muddle is to recognize it and to work to tidy it up. In this paper, a way to keep qualitative research projects plumb is presented. A case study is also shared to show how one project was found to be out of alignment and how it was realigned using the Qualitative Research Plumb Line.

### Keywords

qualitative research

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# Keeping Things Plumb in Qualitative Research

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## Abstract

As qualitative research projects are conceptualized and conducted, they can grow out of alignment as researchers make choices as to their Area of Curiosity, Mission Question, Data Collected, and Data Analysis. This phenomenon of being muddled is a natural, and sometimes necessary, part of the overall process. The important part of being in a muddle is to recognize it and to work to tidy it up. In this paper, a way to keep qualitative research projects plumb is presented. A case study is also shared to show how one project was found to be out of alignment and how it was realigned using the Qualitative Research Plumb Line.

## Introduction

In an earlier paper ([Chenail & Maione](#), 1997), Paul Maione and I wrote about qualitative research and the importance of sensemaking in the construction of coherent inquiries. Crucial to this sensemaking process was for researchers to understand how the research project at hand fit within the larger contexts of the literature on the topic, their previous experiences with the phenomenon in question, and the sense they were making of the phenomenon out in the field. From this perspective, this circular process of comparing and contrasting what was known of the phenomenon from field, literature, and personal experience (i.e., "The Y of the How") becomes the triangulatory engine of qualitative inquiry.

The term, triangulation, comes from the practice by which sailors and surveyors determine location by studying the intersection of three points. With the proper equipment and with careful measurements, people are able to circumnavigate the world and to construct magnificent buildings accurately within a few degrees or inches.

Triangulation in research terms ([Denzin](#), 1978) usually means that researchers use different sets of data, different types of analyses, different researchers, and/or different theoretical perspectives to study one particular phenomenon. These different points of view are then studied so as to situate the phenomenon and locate it for the researcher and reader alike. At the same time, a careful reflection of what the researchers use as the particular points (of view) to triangulate the phenomenon tells us as much about the "location" of the researchers themselves as it does about the phenomenon itself. And that's the rub!

With sailing and surveying, the object of triangulation is for you to locate where you are in relation to some other points. In research, the object of triangulation is for you to locate the meaning of some other phenomenon "out there." In doing so, it is easy to forget that you are always part of the equation, too. Lose yourself in your study and you lose your study!

If you have done at least one qualitative research study, then you have probably lost yourself at least once in and amongst that vast region located somewhere between the literature, the field, and yourself. Projects which start so simply can so often end up in such a complex muddle ([Bateson, 1972](#)). Why, or how does this happen?

Research projects, especially qualitative ones, can become muddled and do get out of line because, when the richness of our curiosities meets the richness of qualitative data, researchers can easily become overwhelmed with the choices they have to make. This embarrassment of richness can be brought to an even higher level when researchers study phenomena with which they have previous, direct experience, as is the case when practitioners study what they also practice. The posture of "not knowing" is a hallmark of qualitative inquiries. It is the wonderful strength of these approaches to research and practice. It can also become a grave weakness if researchers fail to understand how they go about "not knowing" or, said in more positive terms, researchers have to know how they go about not knowing!

Before we go on, it is important for me to say that getting into a muddle is a natural, and, probably necessary, part of every qualitative research project. Qualitative research projects that become too tidy too soon are probably ones in which researchers never give phenomena a fair chance to show their richness in variety or in which researchers are more interested in "truthifying" their theories than falsifying them.

### **Plumbing in Qualitative Research**

Having said this, I do think that somewhere along the line, qualitative researchers need to "plumb up" their projects. By plumb, I mean that there should be a basic and simple reason for doing a study; something like a mission statement or maybe, a mission question for the project, by which you can keep track to see if you are beginning to drift from your line of inquiry or if you are staying on course with your research.

After you have constructed your mission question, you should keep it in your pocket and carry it with you where ever you go in your research travels. And, every once and a while, you should pull this mission question out of your pocket, and let it dangle from your hand like a carpenter or mason's plumb line. Hold the mission question up to your mind's eye and see if your mission question is plumb with your project as it is unfolding. In many cases, you will find that things have come out of alignment.

How can such a thing happen? Well, for one, it can be fairly confusing once you enter a project and begin making operational decisions (see [Maione, 1997](#) for a fuller discussion of choice points in constructing a research project). In many ways, the project can begin to take on a life of its own. For instance, once you enter the field and come into contact with all the variety of data

that can be collected out there. It is easy to begin to gather data, which is wonderful in and of itself, but does not relate directly to your mission question.

For example, say you want to study what happens in a work group as they develop a new product. As you join with the folks in the work group, you begin to talk with them about their experiences of being members of the group. These informal talks lead to more formal interviews and you begin to collect some fantastic stories about what it is like working in the work group. It's time to take the mission question plumb line out of your pocket and see how this data is lining up with your question.

In your hand, you have the question, "What happens in a work group as workers develop a new product"? Out there in the field, you are collecting stories from the workers **about** working in work groups. This leads to an interesting question: Are stories **about** working in a work group going to help you address your mission question regarding what is going on in work groups? They might, and then again, they might not. You would have to ask yourself if collecting and studying stories about the work groups is a better way of studying group processes than collecting and studying conversations of the workers as they actually develop a project in the group. Interview data may be great stuff, but in the context of your mission question, things seem to be getting out-of-alignment and your project is drifting from its original course.

If you are not aware of the drifts which may occur in a project, you may soon find yourself far away from the project you had originally proposed. This in itself may not be a bad thing. Maybe the project as it evolves is a better one than what you had originally conceptualized. The problem arises if you are not cognizant of this growing incoherence between the project as proposed and the project as constructed.

Given this possible confusion (e.g., the talk of work groups being mistaken for the talk of the workers about group work talk or the worker's talk about group work talk being mistaken for group work talk itself), I propose a simple Qualitative Research Plumb Line to help you line up your decisions properly or to see when things have gotten out of line. In doing so, you will avoid the problems which beset many an unaware qualitative researcher.

The Qualitative research Plumb Line consists of a series of four components:

1. Area of Curiosity
2. Mission Question
3. Data to be collected
4. Data Analysis Procedure

By "Area of Curiosity," I mean the area or phenomenon you want to study in your project. For instance, an area of curiosity could be doctor-patient interaction, a village in Honduras, re-engineering in organizations, or whatever piques your curiosity.

By "Mission Question," I mean "What are the actual questions you want to address in your study?" or "What do you want to know **about** this area of curiosity?" For example, in the area of doctor-patient interaction, you may want to know "How do doctors and patients explore patients'

current states of health?". With the village in Honduras, your question might be "What are the ways in which parents and children resolve conflict?". For the re-engineering area of curiosity, your question may be "What do the members of the organization think about the current re-engineering efforts in their company?"

By "Data to be collected," I mean "What is collected or what is generated by your activities 'in the field'?" In the area of doctor-patient interaction, you could collect recordings of their conversations, review case notes, and/or interview the doctors and patients about their interactions. In the case of our Honduran village study, you could generate field notes from your observations of certain rituals in the community, you could interview key informants about these rituals, and/or you could participate in these rituals and record your experiences in a diary. With the re-engineering in organizations project, you could collect and study the company's annual reports and strategic planning documents, you could sit in on planning sessions and take field notes, and/or you could interview stakeholders both inside and outside of the organization and collect their opinions on the progress of the re-engineering project.

By "Data Analysis Procedure," I mean, "How are you going to analyze that which you have collected out in the field?" This process starts by the researcher naming that which was collected. It sounds simple, but it can be tricky. My father had an expression that he was fond of saying on our dairy farm which I think is pertinent here. He used to say, "You tell me what it is and I'll tell you what to feed it!" In the case of research, "You tell me what the data are, and I'll tell you with what to study it!" Just as it is important for you to know whether your data are ordinal or categorical in quantitative research when you make a selection of a correlational coefficients, it is also crucial for you to declare whether your data are talk or observations of talk when you make a selection of qualitative data analyses.

In our three hypothetical projects, the studies of doctor-patient interaction, a village in Honduras, and re-engineering in an organization, we could have generated and collected an endless variety of data. As we engage in this process, we should know how to name that which we collecting. From this process of making the nature of our data overt, we can then systematically go about selecting qualitative data analyses which fit. For instance, if what you collect in an interview is deemed as the other person's story, then it would follow or line up that you would want to look at those data analysis approaches which are used to study narratives (e.g., [Riessman](#), 1993). If, however, you consider these interviews to be collected conversations, you then would probably be best served by examining the choices available in the domain of conversation analysis (e.g., [Psathus](#), 1995). Then, again, you may consider this all to be discourse, so if that is the case, you should take a look at those analytical approaches from discourse analysis (e.g., [Schiffrin](#), 1994).

Of course, you can always "mix and match" different analytical approaches in your project, as well as using more than one approach to study the same body of data. My suggestion here is to keep things simple at first. Try some standard analytical approaches, ones which have been employed previously with the type of data you have so carefully collected, before you go out and try some more exotic method.

Taking the time to conceptualize these three areas is a crucial preliminary step to building a sound research project. Once those decisions are made, it is still imperative for researchers to

check how things are developing. That is where the Qualitative Research Plumb Lines comes into play. To demonstrate how this process works, I will present one research project and show how using the Qualitative Research Plumb Line helped one research team get out of their muddle and get their project re-aligned.

## **A Case Example of Plumbing in Qualitative Research**

Back in graduate school, I was part of a research group which was interested in studying referrals of young patients with innocent heart murmurs to pediatric cardiologists ([Chenail, 1991](#); [Chenail, et al., 1990](#)). We were curious as to how these referrals were being made because the pediatric cardiologists in our group wanted to know why the parents of the referred children were so stressed during the hospital visit since the kids were being referred with a relatively benign heart condition. A heart murmur is simply a "clicking" sound in the heart which can be detected during a routine checkup such as a well baby visit to a pediatrician or during physicals given to children before they are cleared to play organized sports.

From a physiological perspective, the condition was not very worrisome, but from a parental point of view, the referral seemed to be quite another story. The doctors of our research group guessed that somehow the referral process was contributing to the anxiety they were seeing in the patients' families when they came to the hospital. To address this curiosity, we proceeded to interview parents about their referral experiences to find out what, if anything, had happened in these previous doctor-patient/parent interactions which may have added to their worry over their children.

This study may sound fine to you, but before I go too far, I need to draw the Qualitative Research Plumb Line to see how things are or are not lining up.

First, I ask, "What is the area of curiosity?"

Referrals to Pediatric Cardiologists when the presenting problem is a child with a suspected innocent heart murmur.

Second, I ask, "What questions do I have about this area of curiosity?"

The Mission Question: What happens, if anything, during these referrals which may get the parents of the patients with innocent heart murmurs to become upset, or at the least, very concerned?

Third, I ask, "What data will be collected that will help me to address my question(s)?"

Audiotaped interviews of parents talking about their referral experiences.

Fourth, I ask, "What will be our method of data analysis?"

Conducting discourse analysis (DA) of the audiotape interviews to discover themes in the interviewees' talk.

Now that I have addressed all of the plumb line questions, let's see how the answers lined up:

### **First Qualitative Research Plumb Line Attempt:**

Area of Curiosity:	Referrals to pediatric cardiologist
Mission Question:	What happens <b>in</b> these referrals to cardiologist?
Data Collected:	Interviews <b>about</b> these referrals to cardiologists
Data Analysis:	DA <b>about</b> the interviews <b>about</b> the referrals

Do you see the problem? The Area of Curiosity and Mission Question line up, the Data Collected and Data Analysis line up, and the Area of Curiosity and the Data Collected are aligned. But, when you compare the Mission Question with the Data Collected, you can see that things are not quite plumb. The Area of Curiosity aligns with both the Mission Question and with the Data Collected in that all three are concerned with referrals, but the Mission Question is focused on the referrals themselves, whereas the Data Collected are the talk about these the referrals. The two are connected, but not quite the same! In this case, the talk of the referral is not the same as the talk about the talk of the referral. We had a coherence problem in the study: The key components were not lining up. We had substituted something about the thing (i.e., the interviews) for the thing itself (i.e., the referrals). Given this alignment problem, we had to decide how to plumb up our project.

In our situation, we felt that the stories of these families were very important in the overall referral process. The tales the families were telling us helped us to hear that it was just as important for people to know how families experienced referrals as it was to know just what happened in the referrals when they were made in the first place. With this in mind, we gradually shifted our focus from the referrals themselves to the experiences of families about these referrals.

### **Second Qualitative Research Plumb Line Attempt:**

Area of Curiosity:	Parents sensemaking of their and their childrens' referrals to pediatric cardiologists for innocent heart murmurs (About referrals)
Mission Question:	How did the parents make sense of these referral episodes? (About referrals)
Data Collected:	Audiotape interviews with parents who are talking about their childrens' referrals for innocent heart murmurs (About referrals)
Data Analysis:	Discourse Analysis of the audiotape interviews with the parents (About referrals)

This is not to say that studying the referrals was not important or that that would not make a great study, too. We could have kept going on the Area of Curiosity / Mission Question line and have brought our Data Collection process more in line. In our situation, we chose not to do this because we simply did not want to sacrifice the moving and informative stories we were collecting. We felt that we would rather realign our Mission Statement from "What happens, if

anything, during these referrals which may get the parents of the patients with innocent heart murmurs to become upset, or at the least, very concerned?" to "How do parents experience the process of having their children being referred for an innocent heart murmur to a pediatric cardiologist?" With this change, our project now came into perfect alignment.

## Conclusion

Believe it or not, this sort of thing happens quite often in the process of conducting research projects. Muddles can happen as you begin to make choices in your inquiries. The first step in working out any sort of this bind is to draw your plumb line early and often. Studies can get out of line at any time. Sometimes your initial attempts at defining your Area of Curiosity may need subsequent clarification or calibration. This is probably one reason why [Weick](#) (1995) says, "How can I know what I think until I see what I say." or why [von Foerster](#) (1984) states, "Doing = Knowing" (p. 60). Sometimes you just have to begin to "do" a study before you can "see" what is going on. With these words in mind and your plumb line in hand, you should be able to tidy up any muddle you encounter (or create!) in your qualitative research endeavors.

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