Week 15 - Notes

Creswell (2013) Chapter 10 – Mixed Methods Procedures

It is Creswell’s opinion that because mixed methods is still considered a new development in research design that we need to highlight and in fact argue for its use. He, therefore, makes a checklist for what the writer needs to include regarding their explanation of the research in a mixed methods research project. Among the point made by Creswell (2013) these are the elements from the checklist that seem most important for use in our setting and with the theses we prepare.

- Provide a definition of mixed methods.
- Explain why a mixed methods approach is being used.
  This entails elaborating on the strengths (and possible weaknesses) of the mixed methods approach.
- Indicate which type of mixed methods design is used and its rationale for use.
- Note the challenges
  (Creswell (2013) harps a bit on this but I am not sure that this is relevant for an actual thesis as it may be for the type of proposal on which he seems to be focusing. It seems to be more about the researcher showing clearly that she knows full well what she is getting into and that is something more relevant for a proposal.

Types of Mixed Methods

Creswell (2013) does a thorough job of describing the different types of mixed methods approaches. It should be very clear at this point that knowing the type of study one is conducting is not only pivotal to the success of the study, but also plays an important role in the researcher retaining her sanity during the process. It is pivotal for novice researchers to realize that there are traditions, established procedures, and guidelines already out there and the time spent learning about them is time well spent.

Convergent Parallel

The convergent parallel model is rather simple in its underlying concept. In this model the qualitative and the qualitative data run in parallel. In effect, both methods are employed to capture data on the same thing. This means that both types of data collection need to address the same variables, constructs or concepts. This is the basic idea of being parallel. The convergent parallel model simply applies the idea of triangulation with the underlying assumption that different types of data provide different types of information. Thus, the goal of this is that one data source can confirm the other thus raising the validity of the findings. Regarding validity there are a few threats that need to be considered. The first of these is the sampling. Typically the sample size for the quantitative data will be much larger than for the qualitative. The researcher has to somehow deal with this. As with qualitative research in general, the pool of participants needs to be carefully chosen. If the researcher is collecting both data sources from the same pool of participants then the selection of the participants needs to be considered and explained carefully. Of course it is possible for the researcher to
conduct both types of data collection with the same number of participants but that is probably either too much work on the qualitative side or would mean that the numbers on the quantitative side might be too low.

Another tricky part to this comes in the convergence of the data. The two different data sources need to be compared and the comparison needs to be made with care. Similarities and differences need to be weighed carefully. This can be done by employing a side-by-side approach in which the results from the two data sources are discussed together. Thus, in a side-by-side approach themes that emerge from the qualitative data are matched up with the findings from the quantitative statistics and discussed. In data transformation the qualitative data is converted from descriptive terms to numerical ones. In effect the certain times a theme emerges is counted up and then treated quantitatively. Finally, the two types of data can be displayed together visually. This is usually by putting the two types of data together in a graph. This if course generally entails a transformation of the qualitative data into a form that is presentable in a graph.

Explanatory Sequential
The explanatory sequential method is the mixed method that is often used on the theses our students prepare. Creswell (2013) says that it appeals to fields that used to quantitative approaches or are new to qualitative approaches, but I thought that was every field. In any case, it centers on the idea that one data source is not enough and crucially that a quantitative method does not provide enough information, although it remains the main driver of the research. In the explanatory sequential approach the qualitative inquiry follows up and builds up on the quantitative data. Thus, the qualitative data can only be collected after and response to the quantitative data, hence the term sequential. This type of research needs to be planned and executed in two separate stages. The collection of quantitative data is planned as usual and comes first. The quantitative data is analyzed and based on that analysis planning commences for the collection of qualitative data. In essence, the results of the quantitative phases of the research determine the next step which is the qualitative. The qualitative builds on and compliments the initial findings. As a result the planning of the qualitative research is made later.

The reasons underlying the qualitative phase of the research are many and need to be considered carefully. These decisions relate to two main things; the variables and the participants. Regarding variables, the qualitative phase usually investigates the same variables but tries to generate information that sheds further light on the variables that is not clear from the quantitative phase. This often relates to causes and correlations between different variables. So, again new variable are not typically introduced but rather the qualitative is used to go deeper and show connections between variables clearer. The other important element in doing the qualitative phase involves the participants. In the explanatory sequential approach the same participants need to be used in both phases. It can involve the same numbers but typically the numbers of participants will be smaller for the qualitative phase. They need to be chosen for clear and valid purposes and, again, in relation to the results of the quantitative phase. One could choose a group that they feel is representative of the group as a whole (they performed in the center). One could choose the outliers (those at the extreme ends of the group = high/low performers). One could also hand pick individuals with interesting responses, etc. In any case, there needs to be a clear and valid reason for picking the participants for the qualitative phase of the research.

Exploratory Sequential
The exploratory sequential approach employs a different sequence. The qualitative phase
precedes and informs the quantitative phase. The Qualitative inquiry is seen as exploratory research, hence the name. The goal of this type of research design is, ultimately, to build better testing tools. Rather than simply taking a pre-existing tool and using on a certain population for which it was not originally intended and may not fit the exploratory sequence model has the researcher design the testing tool on the basis of a primary, exploratory phase. A focus group meeting or a string of interviews might help the researcher to identify variables from which she will then design a questionnaire or test or some other type of quantitative tool. This approach, provided the researcher is adept at creating questionnaires, or other tools, results in tools that are better grounded toward a specific population. There are several issues in conducting this type of research. The big question is whether the initial inquiry was sufficient in identifying variables that can be generalized to the population as a whole. The other issue centers around the researcher's ability to create testing tools on her own.

There are more complicated versions of mixed methods research in which multiple approaches are taken in more complex combinations, but these are basically combinations of what we have presented here (Creswell, 2013). Creswell (2013) also breaks this down into a series of queries regarding how one chooses a specific methods design, but this is more or less a repeat of the information also shown above.

Nunan & Bailey (2008) Chapter 15 – Putting It All Together

Nunan & Bailey (2008) pick up on a few interesting and important themes in their final chapter. This is a welcome change from cut and dry approaches to research that do not mention the challenges and the pitfalls.

Research is hard and messy.
There is a conspiracy of silence on the actual processes of research.

The divide between quantitative and qualitative research is unnecessary and unhelpful.
Do them together.

They then go on to take us through the stages in conducting a research project. As this is clear and well-written I do not think there is a need to repeat the whole process here. I will just highlight certain steps.

Creating a Research Plan
The research process begins with an area of interest or concern.
The crucial next step is to frame that interest as a research question.
The hard work of planning research design begins.
Having decided on the research question(s), the design, the type(s) of data to be collected, the type(s) of analysis to be done, the next step is to identify the informants of the study.
Another important preliminary step is to define and operationalize the key constructs underlying the study.
The process of operationalizing the constructs involves creating procedures and tools that will enable you to collect data on the constructs.
One function of the literature review is to help the researcher operationally define the constructs under investigation.
Deciding on how your data are going to be analyzed is the next step in the process. In all stages in doing research, it is important to keep the research plan and the data collection and analysis procedures constantly under review.

Nunan & Bailey (2008) then go on to propose a series of questions on pages 449-250 that can be used to help guide reflection on the research process. These questions provide some helpful guidance and review regarding different aspects of the research process. The intention is for the researcher to continue reviewing what she or he is doing and in that way prevent themselves from getting too lost in the whole thing.

And I suppose that is a fitting sentiment as we finish this course. Research is a messy business that is shown in a cleaned up product. For first time and even experienced researchers the process is messy and it is very easy to bogged down and lost in the whole fascinating venture. I will concur with Nunan & Bailey (2008) in identifying the two most important aspects in the whole process. First of all, it is pivotal that one understands what one is trying to do and that those goals are placed within a pre-existing research paradigm. One needs to understand the type of research she or he is doing. There are established traditions. In some cases the traditions can be seen as stifling but they also help to contextualize the whole process. As we have often said in other classes in relation to goal-oriented planned behavior: one needs to know where they are going in order to get there. For research, which is very complex, we can add that they also need to know how they are going to get there. The means of transportation and the partners in the process are also pivotal to the process. To make a successful journey one needs to know all these things in advance. Making stuff up as you go can be fun but that is a different kind of journey and one which almost certainly involves getting lost and maybe never finding the way.