(Not) Teaching Qualitative Methods and Training in Qualitative Data Analysis Software:

A Constructivist Approach to Teaching in Qualitative Research

Diógenes Carvajal
Université des Andes
Bogota, Colombie
dio-carv@uniandes.edu.co

Abstract

The formation of qualitative researchers is a challenge in higher education, particularly because it’s not well seen by some researchers. Sometimes there is the risk that students consider qualitative research as an easy alternative in regard to the analysis process, because “everything is interesting”, but there is also the risk of taking the methods as a recipe when trying to give reliability to the projects; or even worst, using qualitative data analysis software (QDAS) as the “last recipe” How can we avoid that the teaching-learning process of qualitative methods and the use of QDAS take our students to any of those two options? I believe that the constructivist theory, as a theory of learning, can be useful in this task, and I will present a possible way constructivism can be incorporated in the teaching-learning process in qualitative research.

Keywords: qualitative research, teaching-learning, constructivism, software

Traditional teaching of qualitative research

There is a conception that learning qualitative research has two basic parts: the first thing every student must learn are the philosophical foundations of qualitative research: it’s origins, different approaches, epistemological support, and so on. Then, the student must know about methods; what are methods, which ones are there and what are they for; particularly the teaching of methods is linked to two or three of them, or to a general view of many of them. How can a student deepen in methods when there are too many of them? Back in 1990 Renata Tesh in Qualitative Research: Analysis Types and Software Tools listed more than 40 different qualitative methods. This leads to another question: who decides what method should students learn? I won’t answer it here but there is that question opened.

Once a student has learned the philosophical and epistemological foundations, he/she is prepared to make qualitative research. But what I have found is the contrary: when students finish their qualitative research courses and are faced to a graduation dissertation, they have no idea of what to do! Of all those methods, which one suits their needs? And when they find an answer to this question arises another one: And now, how do I do this?

I believe traditional teaching of qualitative research is doing well its work, but it’s getting short on it. Students do not only need to know about epistemology nor methods; they do really need to know how to do qualitative data analysis; what it is to face lots of documents and decide what is as important as to be considered relevant text (Auerbach & Silverstein, 2003), and what to do with it, and specially, how can they begin to say something new from the data they are analysing.

In the search for this “how to” of the qualitative research, many students get to know about QDA software, and most of them believe that this is the answer to all of their research questions; and I mean it! Some of them believe that using a QDA software in any of their research projects will be sufficient to process the data, obtain results, and be considered qualitative researchers. At least this is what I found in my country. Let me tell you more about it.

The context of QDA software in a Southern capital city

First I would like to give a brief context of from where I am writing: In Colombia, ten years ago it was really strange to think of using software to assist qualitative data analysis. In fact, the first time I heard about it was four years after I graduated as a Psychologist, when I had four years working as a qualitative researcher. It was 1998 then. My expectations, as well as those of the research team where I belonged, were those that many novice users of computer assisted qualitative data analysis software have: how can software do qualitative data analysis? How should we import or assign the information into the software and what kind of report will the software give us? Was it as easy as just taking the reports and presenting them as part of the research final report? Even easier, was the software report the research report itself? Lots of surprises we had when we first saw the software and the things we had to do. But we were not disappointed. At least not me. I found a new passion in my academic career, and discovered the world of QDA software for the first time.

It was not strange our reaction which, as I said before (Carvajal, 2002) many novice researchers have even today the first time they hear about QDA software. But in our country there was a special situation: it must be said, we are in a Southern country; we are in the periphery of the international academic knowledge, and sometimes (specially a decade ago) we receive the advances of the North with years of difference. But that’s another topic I will develop some other time. All this story is to say that in my country only about a decade ago the use of QDA software began in a generalised way; and by generalised I mean that QDA software began to be used in the major private and some public universities, particularly in Bogota, the capital city, where most of the universities are placed.

In the beginning, the use of this software was limited to researchers and to students who were involved as assistant researchers in major research projects. But few years after that, about 7 or 8 years ago, undergraduate and, specially, graduate students, began to demand the teaching of any software to assist them in their qualitative analysis. This demand made the universities turn their head to what was new in that field and particularly to what was in use in the first world academia. That is how QDA software was included in some
universities but only as a possible way of supporting QDA, not as a tool that could be easily accessed by students. Today some students are trained in the use of QDA software, and some of them use one of these programs to assist their QDA in their dissertations.

**Teachers’ efforts and students’ demands**

That was the beginning. But, what is the current landscape of the situation? As I said before, some universities are including training in QDA software in the undergraduate and graduate programs, but it has been in a reduced manner and basically when students request it. And teachers have had to face this situation.

In this case, that of the teachers, it is curious that the inclusion of QDA software training in their courses is limited sometimes to the mention of the existence of the software, and sometimes students receive three to four hours of training in the basic tools of the program. The reason given by some teachers I interviewed is that they do not know much about the software or do not have enough time to train their students. And when they do have time the training is mostly not related to the teaching of QDA itself: it refers more to a mechanical use of the software, leading to what I called somewhere else *mechanical thinking*, than to an analytical use, in relation to the method and the systematisation of qualitative data (Carvajal, 2002).

But the less the teachers include QDA software in their courses, the more the students are interested in them. This has given origin to groups of students that organise themselves and look for and pay for training in any QDA software; specially graduate students in the social sciences who consider that it is a big lack that universities do not include that training in the basic curriculum; “we, as qualitative social researchers need to be prepared to use any of those programs when doing research, if that is what researchers in other countries do”, an MA in Anthropology student said once; she had organised a group of 12 students to pay for a training in QDA software. “It is basic to use a software when you are doing your graduation dissertation; why didn’t our teachers tell us about it?, said another student. And I would reply: Why do research students believe that it is basic to use software to analyse qualitative data?

The main reason many of them give is that it is not fair to be doing qualitative analysis the old way, i.e., by hand, when there is the possibility to save time using a program designed for that task; this perception is related to the one that using a QDA software is like using a quantitative data analysis software. Novice and experienced qualitative researchers that face QDA software for the first time expect the program to do something like what statistical software does: they think that it is only necessary to assign the data into the software, make some clicks, and get a result. In fact, in a recent training I gave to graduate students, even in the second four-hour session, some of them kept asking me what is that that the software does to *make* a network and link different elements using semantic relations…

As a result of the basic if not poor training given to their students by teachers, in QDA software, and the request, if not demand, of training in QDA software that students make, different uses of software can be found, but more of those uses are wrong ones, particularly
because students use to take the software as the method, in part because teachers who include training in QDA software present it just like something else, something that is there if researchers need it, but do not reflect about their use nor warn students about common mistakes that novice researchers do when using a QDA software for the first time. I’d like to mention only two of those wrong uses or misperceptions of QDA software.

**Misperception 1: The more codes I have the better is my analysis**

In a recent research project I had seven young researchers supporting the analysis of interviews and field notes; we had six *a priori* categories and analysts were using a software to assist their analysis, but every analyst was free to organise their data and analysis process in the way he/she wanted; the use every researcher did was not important for the research process, but the final reports. But in the end the use they did was really interesting. In a meeting with some of them, a few months ago, there was a point that generated discussion: one of them stated his concern in the way all the others were doing their analysis, by saying: “I’ve noticed that the other researchers, in their analysis, have between six and twelve codes, fifteen, maximum, and I can’t imagine how they can analyse in that way, when I have more than 200 codes! I believe you are not taking care of your process nor the quality of the data… you are simplifying it; I, instead, have a different code for every single aspect of my data”. For him there was something wrong, and it was the other analysts’ work.

I would like to establish a comparison between what it implies to systematise qualitative data and one of the changes that can arise when incorporating the use of QDA software. In qualitative analysis, the documents are fragmented and classified in diverse codes which allows the information to be regrouped according to the aspects they show, in order to reorganise all those fragments later and build a new narrative. Some researchers call it a process of deconstruct - analyse - reconstruct, and give different names to what it has to be done in the middle of the process. In traditional analysis, by hand, the number of categories is not usually too big because it could become unmanageable, which is why the use of more general codes, to which information is assigned, is preferred, and then inside those general codes there could be some others more specific. In any moment an internal checking to each code is performed in order to identify possible similarities/differences between the different ways people refer to the phenomenon that the code represents. This is perfectly possible when using software to support qualitative analysis. However, using the software allows researchers to do much more with codes.

Due to the easiness of data coding and recovery that QDA software offers, many novice researchers feel free to create codes each time they consider it necessary until they reach huge amounts of information. In this way, it is relatively easy to recover fragments of information that show specific aspects within a wider code. But this advantage, however, is seen as a risk by experienced researchers: It is so easy to create codes that there can be an overcodification, namely the existence of almost as many codes as codifications we have (codifications understood as the number of times that a segment of information is assigned to codes). In this way, we could find an analysis that contains 200 codes and 250
codifications, almost a 1:1 ratio. As such, it allows a detailed look at the codifications, but it can be counterproductive in terms of global assessment.

**Misperception 2: If I have a good network there is no need to say anything else**

By the other way, I have had two experiences reviewing the analysis made by a group of experienced qualitative researchers who were using a QDA software for the first time, and a couple of undergraduate dissertations where the students were using, also for the first time, a QDA software. In those documents both, researchers and students, used networks to present their findings; but there was a big difference between the networks and their explanation.

What I found is that the networks created were so complex that only its explanation would take a lot of pages. This can happen because people could think that the more complex the network, the better. But are we, by any chance, trying to confuse the poor reader? If I, as a researcher, present a complex network that shows multiple related elements accompanied with a paragraph (that is what the researchers I mentioned did) or, in the best of the cases, a page (in the case of the students), explaining it, I really am leaving to the reader the task to interpret my network. But if it was me who built the network as a product of a rigorous research process, it should be me who interprets the network and shows it to my readers already interpreted.

Ian Dey (1993) said that the idea of building a map (name given to what I call network here) in qualitative research is to show graphically how diverse elements emerging from my analysis relate to each other, and how these relationships allow me to show the element or phenomenon that I am studying. But in the cases that I mention here, the huge networks presented included between 20 and 30 different elements that related to each other with different semantic relationships, but the explanation for the network itself covered only few elements. When I called the attention about this issue, the answers varied from “we only reviewed the most important aspects of the network” (in the case of the researchers) to “if everything is on the network it is not necessary to write it again” (in the case of the students).

**What can constructivism do here?**

When our students are in risk of believing that they can only do qualitative research if they have access to a QDA software, and that using that software is to make the things the way the software “does”, it is time to wonder what are we doing, as teachers, that might be leading to that end. I am not saying that it is a responsibility of the teachers; in fact, the direct responsibles are the students, but we can do some little things from the academy to try to avoid that situation. And constructivism can help.

I propose the use of three constructivist principles: previous knowledge, situated knowledge, and authentic activity. In reference to the last one, Brown, Collins & Duguid (1989), state four key aspects that support the need for authentic activities in education: (1) learning concepts without the proper context is like learning vocabulary by reading a
dictionary; (2) the disciplines are knowledge networks that are socially built, and are essential to understand what is done on them; (3) many times students are asked to use the tools of a discipline without adopting its culture, so (4) learning should be seen as an inculturation process. For the authors authentic activities are the ordinary practices of a culture and are the only form that learners get to know the way the professionals of a discipline act significantly and with a purpose.

In regard to the situated knowledge, a student learns better (or gets to know something) if he/she is actively involved in a realistic instructional context; the knowledge must emerge from the activity developed by the student in the context and the culture that uses that knowledge. Though, a student will develop knowledge of a discipline only if he/she is immersed in the social context where that knowledge is going to be used. The previous knowledge is the beginning; it is what the students know about something that can be usefully used to help them learn another things.

Dewey (1925 & 1945) considers the experience as the basic element for the learning process; significant experiences will contribute to the learning process if they are supported with a reflection process about them; i.e., it is not about letting the student experience by him/herself; but the teacher must intervene to state variations of the experience under study and motivate the students to reflect about what could change in the experience if there were a variation.

A constructivist way of teaching-learning qualitative research

Bearing in mind all the aspects mentioned above; i.e., that students learn qualitative research by memorising and not always conflicting the philosophical foundations of qualitative research, that students believe that methods are a recipe, and that that recipe can be changed for a software with the same result, and finally, that if we want our students to learn for understanding, based on constructivist principles, I propose three stages through which students should go, in order to involve them in what qualitative research is, how can it be done, and what it is for.

Stage 1: Qualitative research and everyday life

Every day, every single moment, we are classifying and analysing different kinds of information, a process similar to the one done, more rigourously in research. Students do too. So, student’s everyday experiences can be the starting point to identify the classification process they use frequently and the criteria used to analyse the information that has been classified before making a decision, like what kind of jeans buy or what movie watch. These experiences will also be evidence of how some decisions imply more complex processes because involve certain aspects that cannot be measured, e.g., I have money to go to the cinemas but the problem is what movie I am in the mood to watch. The aim of this stage is to recognise the different aspects we take into account when making a decision and how those aspects are classified in any way; it would be even possible to
identify different taxonomies used to classify the information. In the end we all are going to understand that we are making research all the time.

Stage 2: Self experience with a theoretical framework

Once the students are related to the elements involved in systematising and analysing qualitative data, a problem will be presented from among their own suggestions; remember: the problem must be significant for them in order to be involved in its solution; the problem, also, must be able to be solved by qualitative data. The students are free to systematise and classify the information as they want, but always with the goal of finding an answer to the problem. In parallel, the students will begin the reading of some of the basic elements of qualitative research. And here is another change: Instead of beginning by the epistemological and philosophical foundations of qualitative research, students will be encouraged to read basic books of qualitative research, specially those that are not involved with qualitative methods but that are referred to qualitative research in general. The main goal is that students realise that their proceedings are theoretically supported by a paradigm, and that there are some rules to be taken into account. They will reflect on how close they are to those rules and what is different in their own process.

Stage 3: Qualitative research as a practice, not as a theory nor a method

“Learning to do research by doing it” has guided all this process. In this final stage this premise will be more evident: students must “build” the answers to their research problem from the data they gathered and analysed. Such answers must be supported in the data as well as in the systematisation process. And here the software appears, but only as a possible requisite if desired by the students: all of them can aid their analysis by using a QDA software, in this moment or before in the process. Though they will have access to one software they are free to decide not only when to use it but if they want to use another one or, even, if they consider that there is no need for a software to assist them. The reflection process will be twofold in this stage: by one side, students will reflect upon the need for a software in their qualitative research analysis process; by the other, and with more emphasis, they will reflect upon the place that a theoretical framework has in qualitative data analysis. This last aspect will be supported by the teacher who will give the students the chance to read different qualitative research findings reports so they can analyse them; there will be included some theoretical material about the topic, so students can compare their own reflections with those that come from the theory. In the end, the students will present their findings.

Does this Work? Two Engineers Analysing Qualitatively

Briefly I want to share with you the experience of two engineers that approached qualitative data analysis, following the process I suggest here. They wanted to know the perceptions people have about the quality of a massive transportation system; they noticed that gathering this kind of information by a quantitative technique would reduce people’s
perceptions to those they would infer as researchers. So they decided to interview some users; as they wanted in dept interviews, only interviewed three persons. Once they had the interviews transcribed they began the analysis with the support of a computer programme.

When advancing in the analysis, they made categories to store the data, and created groups of categories when finding that some of them would give information about a main topic, relevant to their interests. After a month doing so, they noticed that it was not the appropriate way to conduct a qualitative data analysis, because they did not have any methodological support: they were working from their own intuition. So, they decided to look for some books about qualitative analysis. And they called me, for one of them is a friend of mine.

They told me about what they were doing, how they were doing it, and I gave them some advice on how to continue with their analysis, and gave them a basic book about qualitative analysis. Two weeks later they contacted me again and told me: “now we know how to call what we are doing!” Basically, they knew how to analysis qualitative data; they knew how to organise and systematise the raw data, and how to connect among them different codes that emerged during the analysis. But it all was intuitionally. Once they connected to the theory they understood how what they were doing has been supported by a theory, a paradigm, with some rules and processes, all of them followed by the engineers, without noticing it!

If it works, why not to take advantage of that previous knowledge, of those daily experiences in classifying and systematising information to make decisions? Experience comes first, theory comes later. Thank you.

Bibliography cited and suggested


