



When Methods Meet: Qualitative interviewing and Randomised controlled trials

Mhairi MacKenzie (University of Glasgow) and Laurence Moore (University of Glasgow), in conversation in Glasgow, June 2016.

In this 15-minute film Mhairi MacKenzie and Laurence Moore discuss the challenges but also the potential benefits of bringing together the method of qualitative interviewing with the classically quantitative method of randomised controlled trials. The strengths of the former that are highlighted include the capacity to capture wider contextual information in order to understand people's behaviour and the opportunity to ask broader questions, while the strengths of RCTs that are emphasised include the confidence that any results are not brought about by selection bias in the study, and that the research generates results in a form that policy-makers can act upon straightforwardly. The discussion brings out that qualitative researchers may feel that they are left playing 'second fiddle' when the two methods are combined, because of the status attached to working with large numbers of cases, and that quantitative researchers can feel criticised for not asking a broader range of questions. However, these are not insuperable problems and various examples are given of how the two methods have the potential to be combined productively in research that asks both how and why people behave in the ways that they do around interventions in health, policing and other policy-relevant fields.

Transcript of conversation:

MM: The method I make most use of would be qualitative interviewing, so often in the context of evaluation, but not only.

LM: So what kind of research questions would you use that for?

MM: Most of my work is concerned with health inequalities, so often it's about using the method as part of an evaluation of an intervention that has a stated aim around tackling health inequalities for example looking at the assumption that if health visitors had more direct access to information about families living circumstances, the material circumstances, then they would develop a more robust understanding of the social determinants of health.

And the qualitative study suggested that that didn't happen particularly, by the end of the study there were health visitors who still had a rather clinical and medical model. So the quasi experimental study showed very little impact of the intervention.

LM: Were the qualitative methods – did you actually measure outcomes? Did the qualitative data really tell you whether it had worked or not in terms of outcomes?

MM: The survey told us that it hadn't worked in terms of outcomes,

LM: So that was the qualitative data in the survey?

MM: Yes, so the qualitative component was able to identify some of the issues and why the intervention may not have been successful.

LM: Yes, and I mean my thing, I come from more of a quantitative background where it's not necessarily the most important question you are asking when you are doing an evaluation, but one of the most important questions actually, does this intervention work? You know the reason why you've invested in an intervention is to try and bring about a difference in whatever the outcome might be. Whether it's trying to help people give up smoking or whether it's trying to help people lose weight, so there is always I think an important part of what you are doing in an evaluation is not just understanding what is going on which clearly you are picking up through the interviews, but really has this made a difference?

MM: I am uncomfortable with many aspects of experimental designs, one of the problems is that often when there are studies which bring together randomised controlled trials with qualitative components you say that the primary question isn't always does it work? But of course from a funding point of view, it tends to be the question that is given salience and it's the method that is given salience. So sometimes I think that can be awkward for qualitative researchers even if it's not the original intention you can end up playing second fiddle to a design that doesn't feel to be capturing all of the salient questions.

LM: Yeah, I mean the kind of study design I use quite a lot is a randomised controlled trial which is like an experimental type design. And the beauty of that is that it's very simple, but if you do a randomised trial well, then actually it really helps you, makes some quite strong inferences about whether or not there is an effect of the interventions. And the beauty of the randomisation is that once you have recruited people into the study, whether or not they receive the intervention or not is purely determined by the toss of a coin or the roll of a dice. And so what is really good about the randomisation is that it does ensure that they two groups are the same apart from differences that might have occurred due to chance. All the women in the study might be randomised to one group and all the men to another group so that you can get a chance for differences like that, but that is fairly unlikely.

And I think it is a powerful way of answering that kind of question. It has a very high internal validity because you have taken out those potential differences between the two groups that might be due to selection biases or other biases. You have to be very careful that the process of data collection isn't a big dose of intervention itself.

MM: So if you were including a qualitative component, qualitative interviewing for example, would you undertake work looking at context and implementation in the site receiving the intervention as well as the site not receiving the intervention?

LM: Yes I would, I think that it is really important to do that. But you have to make sure that you are not introducing any other differences between the groups through your research

methods, a lot of people are sometimes tempted just to do some kind of intensive interviewing with people who are in the intervention group and not do that in the control group, and you are then bringing in quite a big difference between what the two groups are being exposed to. So the intervention group is getting the intervention plus lots of interviews, and the control group is not getting the intervention or the interview. So if you collect the interview data in both groups, then that is not a difference, not a bias that you are introducing.

MM: That's interesting then because you answered that question viewing qualitative methods themselves as a possible confounder. So what was lying behind my question was whether you have been involved in studies which have investigated, have used qualitative methods in comparison areas, in order to unpick mechanisms in the comparison areas. It's not a means of levelling out the research input in the two areas it's for more fundamental reasons.

LM: What a lot of people think about a randomised controlled trial is that you can only really use it if you've got a very simple question, and that is often where you are using an RCT design to really identify causal relationships. So for example in many psychology departments the students partake in experimental psychology type experiments where a very uniform group of people would take part in the study and then half of them would be given a very specific dose of something like caffeine and others would be given another dose of caffeine,

MM: I've been that experimental psychology student!

LM: Right, so just like, so pretty much like a guinea pig situation,

MM: Yeah,

LM: And it's one powerful use of experimental methods, of strict experimental designs, randomised controlled trial. But the kind of studies that I do are where you have got a lot more noise, a lot more kind of variation, and so an example of a study I did was to evaluate the introduction of fruit tuck shops in primary schools to try and help increase fruit consumption of young children by having tuck shops that just sold fruit.

We didn't in that study collect much qualitative data, what is so often the case in a randomised trial is that it only answers one question, it just says does this work? Does this not? So do kids in those schools eat more fruit than kids in those schools? A randomised trial identifies whether the outcomes are different in the two groups. But it doesn't know why. So if you find a big difference it doesn't know why, if you don't find the difference it doesn't know why the intervention hasn't work as you might have thought.

So that's really because the level of inference from a typical randomised trial, particularly in these experimental psychology type trials is very positivist, it's just at the level of the numbers really.

I myself am more of a critical realist. So I would like to understand what is going on behind the numbers. I think you can do trials that can not only give you that number to indicate whether the intervention works or not, but can also begin to explain why.

MM: So this was a study that was looking, that was trying to understand how in two de-industrialised areas in Scotland the health had become very poor and circumstances had become very poor. And this is a, this is a miner talking here,

'I was going and standing on top of a coal bing to stop neighbours of mine heating their house, so there I had come full circle, I am even against my own neighbours now, and just before the minimum wage came in, it came into roughly four pounds or something, it was quite high, it wasn't too bad when it came in. And the week before it came in my highest wage, and I was a supervisor remember, a supervisor, my highest wage was only two pounds an hour. And the bad thing about it but I didn't know this at the time, I was on top of a coal bing, it's a cold place sat on top of a coal bing I can assure you. One of the bosses from the coal company came up in his land rover and he stopped beside me, and he said have you got many coal thieves on? I said no it's kind of quiet. The rain was steadily hammering down at the side of my face and he says do you know something, it's bloody terrible, the security dogs are making more money than what you are.'

I read that particular quote out because for me it exemplifies what you get from qualitative methods. An aspect of structural context that I think often mixed methods approaches tend to downplay. So even where you have qualitative interviews as part of a mixed method experimental design, I think sometimes context is quite narrowly conceived. One of the things that occurred to me then was whether when we are thinking about mixed methods, should we be thinking more broadly about context? Or indeed can we be thinking about mixed methods, not necessarily in terms of individual studies, but it would be really nice to see qualitative literature reflected more in the kind of papers that are written about experimental trials.

LM: Well that is very powerful data and I think there is no doubt that what you learn from it, you couldn't pick up from a primary quantitative study at all. And as you say it's really trying to understand context and what is going on rather than obviously what a trial is about is trying to see what is making a difference, or what could make a difference.

MM: It's a different sort of power,

LM: Yeah and I try, I am not necessarily saying I am always successful, I try to make sure that all the perspectives that you bring together in a team, including the qualitative researcher person who is really, or it should be the whole team who is really thinking through the theory of the intervention and continually thinking about how is the data that we are collecting, whether it be qualitative or quantitative, how is that developing my understanding from a theoretical perspective what is going on here is really important and all of those different disciplines and research methods and perspectives need to be equally respected in a good interdisciplinary research team.

I see a huge number of benefits of qualitative methods, particularly when they are done in conjunction with quantitative.

You have talked about some situation where you think it's really only qualitative methods that can help, so really understanding context and particularly the meaning of that context and the power and resources available to people and how that impacts their lives. I can see you can really identify that that's, that these needs are occurring or this developmental process of carrying through qualitative methods, but how does the data you collect and the way you can interpret the data, how does that then directly inform a decision maker, what kind of research do we need to do to help them really understand what they need to do to make a difference. And I guess sometimes I wonder what does qualitative research on its own really offer? More consequential research...?

MM: Well I've, I am just thinking a CSO final report which uses qualitative methods and some routine data from an intervention which was trying to open a channel of

communication between the police and general practice in relation to domestic abuse. So what we were doing was we were auditing a pathway by which women would be identified as at high risk of future victimisation, very early on we realised that the pathway was not working. So using the constructs within normalisation process theory we were able to make some very specific recommendations to Police Scotland about how such an intervention would more likely become embedded within routine police practice.

LM: So I can see,

MM: So the quantitative data allowed us to say this is not working. And then qualitative theory that had been developed through the qualitative approaches helped us to make as I say specific recommendations.

LM: But then you don't really know whether those recommendations have made a difference?

MM: Well those haven't been tested, but they easily could be.

LM: So often when you have qualitative and quantitative researchers come together, it's like they are gearing up to have a war because it's always set up in such an oppositional way that you have to choose between the methods, particularly in evaluative research you know you can get so much richness by bringing the two together both in sequence, both by having rich qualitative understandings informing intervention design that can then be tested. But equally they can be used at the same time. And I think we've both come up with examples where the most exciting findings that we've got from our studies is because we've had the qualitative and the quantitative methods to inform each other.

MM: And of course in terms of evaluation research it would be almost impossible to find a study that didn't involve mixed methods.

LM: I think that's true in our field. I think though if you were still to look in other fields, it is still hugely predominantly trying to control the complexity and heterogeneity out of their study designs rather than using the opportunity to embrace that heterogeneity and use mixed methods to really understand what is going on and how context relates to interventions to produce outcomes. And those outcomes might vary across population groups and context and I think that kind of research is really interesting, and that is really adding value to our interdisciplinary understandings of phenomena which is what is so important in science nowadays rather than just focussing down on one simple thing in a simple way.

MM: Which is why I have put as much clear water in-between myself and an undergraduate psychology degree as I possibly can!

Contributors

Mhairi Mackenzie is Professor of Public Policy at the University of Glasgow and her website is <http://www.gla.ac.uk/schools/socialpolitical/staff/mhairimackenzie/>

Laurence Moore is Director of the MRC/CSO Social & Public Health Sciences Unit at the University of Glasgow and his website is <http://www.gla.ac.uk/researchinstitutes/healthwellbeing/staff/laurencemoore/>

References and further reading:

M. Mackenzie, C. Collins, J. Connolly, M. Doyle, and G. McCartney, 'Working-class discourses of politics, policy and health: "I don't smoke; don't drink. The only thing wrong with me is my health"' in *Policy and Politics* (2016) (doi:10.1332/030557316X14534640177927)

M. Mackenzie, C. O'Donnell, E. Halliday, S. Sridharan and S. Platt, 'Do health improvement programmes fit with MRC guidance on evaluating complex interventions?' *British Medical Journal*, (2010: 340, c185), (doi:10.1136/bmj.c185)

C. Bonell, A. Fletcher, M. Morton, T. Lorenc and L. Moore, 'Realist randomised controlled trials: a new approach to evaluating complex public health interventions', *Social science & medicine*, (2012 75(12), pp.2299-2306) (doi:[10.1016/j.socscimed.2012.08.032](https://doi.org/10.1016/j.socscimed.2012.08.032))

L. Moore and K. Tapper, 'The impact of school fruit tuck shops and school food policies on children's fruit consumption: a cluster randomised trial of schools in deprived areas', *Journal of epidemiology and community health* (2008: 62.10: 926-931) (doi:[10.1136/jech.2007.070953](https://doi.org/10.1136/jech.2007.070953))

G.F. Moore, S. Audrey, M. Barker, L. Bond, C. Bonell, W. Hardeman, L. Moore, A. O'Cathain, T. Tinati, D. Wight and J. Baird, 'Process evaluation of complex interventions: Medical Research Council guidance', *bmj*, (2015 350, p.h1258), (doi:[10.1136/bmj.h1258](https://doi.org/10.1136/bmj.h1258))

Suggested questions for seminar discussion:

How should a researcher go about answering the question, 'Does this intervention work?'

What is 'selection bias' and why does it matter?

How does capturing wider contextual information help in the understanding of people's behaviour?

What sorts of information about a) fruit tuck shops and b) domestic violence might be generated by randomised controlled trials and by qualitative interviewing? How readily might these two types of data be brought together?

How does theory come into the process of understanding what RCT and qualitative interview data can tell us?